Document of
The World Bank

FOR OFFICIAL USE ONLY

Report No: _____

GEF PROJECT BRIEF

ON A

PROPOSED CREDIT

IN THE AMOUNT OF US$220 MILLION

AND

A GRANT FROM THE

GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF US$5.25 MILLION

TO THE

SOCIALIST REPUBLIC OF VIETNAM

FOR A

RURAL ENERGY II

PROJECT

Energy Sector Unit
Infrastructure Department
East Asia and Pacific Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective May, 2004)

Currency Unit	=	Dong
1 dong	=	US$.0000641
US$1	=	15,500 dongs

FISCAL YEAR
January 1 to -- December 31

ABBREVIATIONS AND ACRONYMS

ADB	-	Asian Development Bank
BTP	-	Bulk Transfer Price
BOT	-	Build, Operate, Transfer
BOO	-	Build, Own, Operate
CAS	-	Country Assistance Strategy
CEG	-	Commune Electricity Group
DAF	-	Development Assistance Fund
EIA	-	Environmental Impact Assessment
EIRR	-	Economic Internal Rate of Return
ESMAP	-	Energy Sector Management Assistance Program (UNDP-World Bank)
EVN	-	Electricity of Vietnam
HH	-	Households
IDC	-	Interest During Construction
LDU	-	Local Distribution Utility
LRMC	-	Long-Run Marginal Cost
LV	-	Low Voltage
MOC	-	Ministry of Construction
MOF	-	Ministry of Finance
MOI	-	Ministry of Industry
MPI	-	Ministry of Planning and Investment
MV	-	Medium Voltage
DP	-	Displaced Person
PC	-	Power Company
PSC	-	Provincial Steering Committee
PIP	-	Project Implementation Plan
PECC	-	Power Engineering Consulting Company
PMU	-	Project Management Unit
PPMU	-	Provincial Project Management Unit
RE	-	Rural Electrification
RP	-	Resettlement Plan
RMV	-	Resident Mission in Vietnam (World Bank Office, Vietnam)
ROW	-	Right of Way

Vice President:	Jemal-ud-din Kassum
Country Manager/Director:	Klaus Rohland
Sector Manager/Director:	Junhui Wu
Task Team Leader/Task Manager:	Hung Van Tien

VIETNAM

RURAL ENERGY II

CONTENTS

Annexes:

Map: IBRD No. _____

VIETNAM
Rural Energy II

GEF Project Brief

East Asia and Pacific Region
EASEG

Date: June 15, 2004 **Team Leader:** Hung Tien Van
Sector Manager/Director: Junhui Wu
Country Manager/Director: Klaus Rohland
Project ID: P074688
Lending Instrument: Specific Investment Loan (SIL)
Sector(s): Power (100%)
Theme(s): Rural Services and Infrastructure (P)

Global Supplemental ID: P080074 **Team Leader:** Richard Spencer
Sector Manager/Director: Junhui Wu
Lending Instrument: Specific Investment Loan (SIL)
Focal Area: C - Climate change
Supplement Fully Blended? Yes **Sector(s):** Power (100%)
Theme(s): Rural services and infrastructure (P)

Project Financing Data
[ ] Loan [X] Credit [X] Grant [ ] Guarantee [ ] Other:

For Loans/Credits/Others:
Amount (US$m): 220

Proposed Terms (IDA): Standard Credit
Grace period (years): 10 **Years to maturity:** 40
Commitment fee: 0.35 % **Service charge:** 0.75%

Financing Plan

	Local	Foreign	Total
BORROWER	69.55		69.55
IDA	141.10	78.90	220.00
LOCAL COMMUNITIES	34.70		34.70
SUB-BORROWER(S)			-
GLOBAL ENVIRONMENT FACILITY	2.25	3.00	5.25
Total:	247.60	81.90	329.50

Responsible agency: MINISTRY OF INDUSTRY, ELECTRICITY OF VIETNAM
Ministry of Industry
Address: 54 Hai Ba Trung St., Hanoi, Vietnam
Contact Person: Mr. Hoang Trung Hai - Minister
Tel: 84-4-934 9411 Fax: 84-4-934 9412 Email: bqlppi-bcn@hn.vnn.vn
Other Agency(ies):
Electricity of Vietnam
Address: 18 Tran Nguyen Han St., Hanoi, Vietnam
Contact Person: Mr. Dao Van Hung - General Director
Tel: 84-4-825 5659 Fax: 84-4-824 9462 Email: tienptt@evn.com.vn

Estimated Disbursements (Bank FY/US$m)

FY	2005	2006	2007	2008	2009	2010	2011
Annual	5.0	20.0	55.0	60.0	55.0	20.0	5.0
Cumulative	5.0	25.0	80.0	140.0	195.0	215.0	220.0

Project implementation period: 2005-2011
Expected effectiveness date: 12/31/2004 **Expected closing date:** 12/31/2011

A. Project Development Objective

1. Project Development Objective: (see Annex 1)

The overall development objective of the proposed project is to improve access to good quality, affordable electricity services to rural communities, in an efficient and sustainable manner to support Vietnam's efforts towards socio-economic development.

The development objective of the proposed project would be achieved through: (a) major upgrading and /or expansion of rural power networks in about 1200 communes; (b) conversion of current ad-hoc local electricity management systems to local distribution utilities (LDUs) as legal entities recognized under Vietnamese law, to improve management of power distribution in rural areas, improve financial sustainability, and better enable future mobilization of private funds; and (c) capacity building assistance for the LDUs, provincial authorities, participating regional power companies, and national authorities involved in the planning and regulation of rural electrification.

The proposed project would improve access to energy to about 2 million households in Vietnam, including many living in some of the poorest communes. The project also will enable supply of large increases in electric power for expanding productive uses in rural areas, alleviating a major constraint to local economic growth.

2. Global Objective: (see Annex 1)

The global objective is to reduce greenhouse gas emissions by improving and sustaining the energy efficiency of LDUs.

3. Key Performance Indicators: (see Annex 1)

The output indicators of project performance will be: (i) increase in number of the rural households with affordable, reliable, improved quality electricity supply; (ii) number of ad-hoc local management systems converted to legal forms; (iii) financial sustainability of LDUs; (iv) increased regulatory capacity of MOI and the provinces in rural electrification; and (v) reduction of carbon emissions.

The poverty impacts of rural electrification are being studied as part of ongoing research covering 1,200 households in 42 communes, some of which are covered in IDA's Rural Energy 1 (RE1) Project. The baseline study has been completed and follow up studies are planned for 2004 and 2006. Anticipated results include: (i) measurable increases in the incomes of households that have access to electricity; and (ii) increase in productive uses of electricity.

B. Strategic Context

1. Sector-related Country Assistance Strategy (CAS) Goal Supported by the Project: (see Annex 1)

Document number: Report 27659-VN (January 22, 2004) **Date of latest CAS discussion:** February 19, 2004.

The project is in full compliance with the Bank's Country Assistance Strategy (Report 27659), which sees IDA's role for the power sector as filling an important niche not covered by other players in the sector and directly assisting the government in its poverty alleviation efforts. The CAS sets out three broad objectives: (i) high growth through a transition to a market economy; (ii) an equitable, socially inclusive and sustainable pattern of growth; and (iii) adoption of a modern public administration, legal and governance system. Among the core CPRGS/CAS goals is ensuring pro poor infrastructure development. The monitoring benchmarks for these goals, under the Millennium Development Goal (MDG), are the number of communes connected to the national grid and proportion of rural households with basic infrastructure. The CAS Progress Report notes the importance of improved access to electricity in the disadvantaged areas and the role of the proposed project in meeting the CAS objectives.

1a. Global Operational Strategy/Program Objective Addressed by the Project:

The project will achieve and sustain significant improvements in the technical efficiency of a major proportion of Vietnam's power distribution utilities by removing the barriers to these objectives, and is thus consistent with GEF Operational Program # 5 – Removal of Barriers to Energy Efficiency and Energy Conservation. The project will promote the restructuring of electricity distribution utilities into technically, commercially and financially viable entities. It will also build the capacity of managers and staff of the LDUs to operate them efficiently. As the restructured utilities move towards full commercial operations, they will become self-sustaining and 'bankable'. The project will support the reform of the power distribution sub-sector, by introducing a new regulatory framework for the LDUs, and building the capacity of the regulator. The regulatory framework will provide incentives for the distribution subsector to work at optimum levels of technical, commercial and financial efficiency. It is thus also consistent with GEF strategic priority S3 – Power sector policy frameworks supportive of renewable energy and energy efficiency.

2. Main Sector Issues and Government Strategy:

Background: By the end of 2003, total installed generation capacity in Vietnam reached 9088 MW, of which 4108 MW (45%) was hydro capacity, 2829 MW (31 %) was fueled by gas, 1989 MW (22 %) was coal-fired and oil-fired thermal and 111 MW (1.2%) was in small diesel sets. About 816 MW (9%) was provided by independent power producers. Total generation was 41,275 GWh of which hydro represented 46 %, gas fired 29 %, coal and oil-fired thermal 25 %.

Electricity of Vietnam (EVN) is the dominant electric power provider in the country, operating the bulk of the generation capacity, the transmission and medium voltage distribution system, and low voltage distribution to the main urban areas and some rural areas. Internally, EVN is divided into a number of operating companies, including seven distribution entities known as the power companies (PCs), of which three are regional companies, and four supply the major urban areas of Hanoi, Haiphong, Ho Chi Minh city and Dong Nai. In addition, there are a number of other subsidiaries including generation, load dispatch and transmission, consulting companies as well as a telecommunications subsidiary. In generation, there are a growing number of independent power producers (IPPs), particularly centered around the Phu My complex in southeastern Vietnam. This complex will eventually provide 3600 MW of power to the grid (Phu My 1: 1090 MW, Phu My 2.2: 715 MW, Phu My 3: 717 MW, and Phu My 4: 450 MW), fueled with natural gas from the Nam Con Son off-shore natural gas field. Low voltage distribution in rural areas is primarily the responsibility of provincial authorities, and is undertaken by around 8,800 rural communes, of which only 19% are supplied directly by the power companies of EVN.

Financially, the sector is operating reasonably well, with EVN receiving through its tariffs an average revenue of around US cents 5/kWh, with a 10% VAT levied on final customers. Currently EVN makes a profit and a substantial contribution to new investment, with no government subsidy. A 15% increase in average revenues in FY03, resulting from a combination of increased tariffs, and the changing structure of EVN's customer base has allowed EVN to maintain healthy self-financing and debt-service coverage ratios.

Major Sector Issues:

Meeting Demand Growth. The most important challenge facing the power sector is to ensure that sufficient new capacity is made available quickly to meet rapid electricity demand growth. Since 1990, power generation increased fourfold from 8,678 GWh in 1990 to 37,500 GWh in 2002, an annualized growth rate of 12.5%. During 2003-2010, demand growth is expected to be even faster, increasing to around 15% per annum. This is due to the continued expected rapid speed of economic growth in Vietnam, which averaged some 7% per annum in recent years, a current phase of growth where electrical appliances are some of the first consumer items to be purchased, and rapid growth in light industry and commercial development. Generating capacity needs to increase from 8,860 MW in 2002 to over 20,600 MW in 2010 to meet demand. This means that the system must add some 1,500 MW per annum during the period 2004-2010.This is more than a three-fold increase over the average required capacity increase achieved each year during the 1990s. In addition, capacity in the transmission and distribution systems needs to grow at least commensurately. Despite this, per capita consumption is only 390 kWh/person and still low compared with Vietnam's neighbors such as China or Thailand.

The Financing Challenge. At least $2 billion per year of new financing needs to be mobilized to meet the rapid growth in demand during the balance of this decade. Greater reliance on more diversified sources of finance is essential. Since 1997, the government has had a target to obtain investment finance from private sources for 20% of generation, although this target may need to be further increased. In addition to foreign-financed BOTs and IPPs, greater use needs to be made of non-government domestic sources of finance, through joint ventures, domestic bond issuance and equitization, as well as through self-financing via EVN's balance sheet. Thus EVN needs to maintain a strong financial position for borrowing.

Improved access and service, especially to poor and rural consumers. Access to electricity has increased rapidly in Vietnam, from around 51% in 1996 to over 80% at the household level in 2003, but there are still around 16 million people, representing about 3.5 million households, without access to electricity. Moreover, the rural population that is connected suffers from low quality of service, including low voltage and poor reliability. Current systems, often developed by local people to provide rudimentary, initial connections are simply unable to meet current and projected load requirements. There is a strong need to ensure better distribution of the benefits of electricity supply to all segments of the population, by improving service in rural areas, both to improve living standards directly, and to support development of local industrial, agricultural and commercial activities for economic growth and employment.

Further progress on sector reform. Continued progress on sector reform is important to meet all of these challenges, particularly the financing challenge. Strong progress has been made in recent year in the development of a greater commercial orientation within EVN and its approach to business. EVN has signed power purchase agreements with the private sector for two major power generation projects with a total capacity of 1500 MW under a BOT format. Government plans to restructure EVN into separate generation, transmission and distribution entities, and provide for their subsequent equitization, with the establishment of a single buyer in the medium

term, and a whole-sale power market thereafter. EVN has already divested four of its enterprises as part of an ambitious equitization program, implementation of which has just begun. The main elements of the government's reform strategy are being laid out in the new Electricity Law which was debated in the National Assembly in May,2004 and is due to be passed by the end of the year or early next year. The Law also is expected to establish a separate unit for regulation of the power sector within the Ministry of Industry which may eventually form an autonomous regulatory authority. Another key aspect of the sector agenda is to maintain the strong financial performance of EVN achieved in recent years. Maintenance of prudent financial performance is critical not only to allow EVN to make a contribution to future investment, but also to maintain financial credibility in the business world. In rural distribution, institutional reforms will create legal and legitimate rural distribution entities, improve their management and operational performance and put them on a sustainable financial footing.

Role of IDA. The current CAS sets out three broad objectives for the country: (i) high growth through a transition to a market economy; (ii) an equitable, socially inclusive and sustainable pattern of growth; and (iii) adoption of a modern public administration, legal and governance system. The IDA strategy for the energy sector has been formulated in line with this to focus on four themes—(a) improving energy access to the rural areas; (b) helping the country mobilize finance for meeting the rapidly growing demand; (c) improving the technical, commercial and financial efficiency of the energy system and (d) initiating a reform of the sector including market restructuring, sector and corporate governance.

Since the start of the operations in Vietnam, IDA has approved over $ 1 billion in credits including *Transmission, Distribution and Disaster Reconstruction Project* ($199 million, February, 1998) to reinforce the existing north south transmission system and rehabilitate distribution systems in 3 cities; *Rural Energy project* I ($ 150 million, May, 2000) to connect 900 communes to the national power network; *System efficiency improvement, equitization and renewable energy project* ($ 225 million, June, 2002) to improve technical, commercial and financial efficiency of the EVN and the power companies; and *Partial Risk Guarantee for Phu My 2.2 power project* ($ 75 million, October, 2002) which provides an IDA guarantee for a 715 MW combined cycle gas based power plant helping mobilize $ 480 million of private sector financing. These operations have been supported by a significant volume of studies and technical assistance work. Some of the major studies were: Implementing the Gas master plan (FY1998), Fueling Vietnam's Development: New challenges for the energy sector (FY1999), Renewable Energy Action Plan – a 10 year program (FY2000), Promoting Private participation in Infrastructure (FY2001), Petroleum product pricing policy (FY2002).

IDA's program to provide further lending and analytical assistance for the power sector is in line with the current CAS. The proposed project is a core effort to support the further development of rural electricity systems and institutions, which, if successful, may be further supported through an additional follow-up operation in several years. A Second Transmission and Distribution Project is planned for 2005, which will assist EVN to meet rapid demand growth and the further restructuring of EVN, concentrating in particular on the development of its transmission business center. A multi-objective operation in power generation is planned for 2006. IDA sponsored analytical work in the energy sector in 2004 includes preparation of a major study on infrastructure development, with special emphasis on financing and reform challenges in the energy, transport and water sectors, as well as a series of special studies supported through ongoing credits and other financing sources.

3. Sector Issues to be Addressed by the Project and Strategic Choices:

The proposed project will focus upon rural electrification, especially upgrading of the current network, using a development model specially customized to meet Vietnam's rather unique current RE set-up—drawing on the strong points of the current system, and improving the weak points.

Rural Electrification in Vietnam

In 1995 only 62 % of communes and 50 % of the rural households in Vietnam had access to electricity. The major challenges at that time were: (a) expand access to about 1800 rural communes by connection to the national grid where techno-economically feasible; (b) providing energy to the about 400 remote communes that could not be connected to the grid in the near future; and (c) rehabilitate grids in about 6900 communes that were connected but had low coverage of households and were extremely inefficient and costly. Expanding access to communes which are still not connected is being addressed by EVN and is being supported by Rural Energy I Project. This previous project also formulated the basic principles that guide the development of rural electrification in Vietnam: (a) all investments in the rural electrification project are to be economically viable; (b) there will be cost sharing between all the parties including the consumers, local governments, national government and the donors; (c) construction will be based on the most cost effective technology; (d) consumers will commit to connect to the network and agree to pay operating charges; (e) there will be no operating subsidies; (f) the local distribution utility will have a legal status with financial controls and (g) the local community will accept responsibility for managing the operations after the completion of construction.

By 2004 RE1 project had helped to connect over 900 communes to the national grid providing electricity to about 3 million people. Providing power to those remote communes that cannot be connected to the grid in the near future is being addressed, through the promotion of off-grid renewable energy sources and the encouragement of commune groups and private entrepreneurs to enter the market, as part of the System Efficiency Improvement, Equitization and Renewable Energy (SEIER) project. The third challenge of rehabilitation and expansion of existing rural commune grids has proved to be far more difficult due to complex issues of diversified ownership, varied forms of management and inadequacy of financial resources. The integrated rehabilitation and techno- commercial development of these rural distribution systems is the major objective of the proposed project.

Situation today. By the end of 2003, all the provinces, 89.8 % of the communes and 81 % of the households in the country had access to electricity. Despite this expansion, rural electricity consumption is only about 15 % of the total consumption in the country. Only 19 % of the distribution networks in the rural communes are managed by the power companies while the balance are under the provincial authorities who have some ability to make adjustments to reflect cost variables at the local level. The present Government policy is to promote unified rural electricity tariffs throughout the country, with residential consumers receiving a modest cross-subsidy from the general rate base. EVN currently sell power to local distribution entities at VND 429 (USc 2.8)/kWh, including VAT for residential load, VND 660 (USc 4.3)/kwh for agriculture, and VND 803 (USc 5.2)/kWh for other customer categories. Power companies serving the rural areas paid an average price of 440 dongs/kWh while those serving the urban centers were charged 657 dongs/kWh. Retail prices are set at VND 700 (USc 4.5)/kWH for household use, and VND 1000 (USc 6.5)/kwh for other customers, although some local utilities under the provincial authorities charge higher rates in order to recover high line losses.

Issues in Vietnam's Rural Electricity Sector

Inadequate access and quality of rural electricity supply. Of the 8,891 communes in the country, about 6,918 rural communes were connected under the previous programs of the Government in the past decades. The essence of this approach was that EVN provided a connection to the center of the commune but the local community, households and provincial governments had to take the responsibility of mobilizing funds, purchasing and installing the low-voltage grid and for its operation and management. But a large number of these grids were poorly designed and constructed, leading to heavy technical losses varying from 20 to 50 percent in some cases. Since the local grid purchases power at a fixed price, the cost of these losses has to be recovered from the consumers, leading to high power prices ranging from D1,000 to D2,000/kWh (almost two to three times the nationally prescribed residential tariffs). When these grids are in disrepair, there are often no funds for rehabilitation and in some cases even for routine operations and management (O&M). Also, since the community has to contribute to the construction of the local low-voltage grids, only the richer households have access to electricity. In many of these communes, thus less than 50 percent of the households have access and those that do, pay much higher tariffs than their urban counterparts.

Disparate and weak institutional framework. Vietnam's power distribution sub-sector is characterized by small distributed entities, serving limited numbers of customers - on average 1,300 households each. In the absence of a clear policy and institutional framework, there has been a growth of diverse management structures in the rural electricity distribution sector. (Table 1). The majority of local Commune Electricity groups that were formed to manage the grids in have neither legal status nor any financial accountability and controls and hence little ability to raise finances for rehabilitation or expansion.

Table 1: Management Structure in the Rural Power Distribution Sector

Management Models	Communes	Percentage
Commune Electricity Groups. *This is not a legal management model under Vietnamese Law.*	4842	62.8 %.
EVN power companies	1466	19 %
Co-operatives	755	9.8 %
Companies owned by Province or districts	408	5.3 %
Unregistered Agents- *These arrangements have now been banned by the GOV.*	233	3 %
Joint stock companies	5	0.05
Private companies	1	0.01

Data as of January 2004.

Inadequate Regulatory Framework. The current regulatory system for the power sector suffers from two specific drawbacks: (a) the function of GOV oversight and regulation is not separated from that of sector ownership and management; and (b) there is no effective and credible body of sector-specific legislation and regulations. The creation of a credible regulatory entity and an enabling body of regulations for tariff, investment oversight and rural electrification are key priorities in the reform process.

The Government's Strategy for Rural Electricity Development

The GOV has passed several decrees and regulations that outline the main principles for reform of the rural distribution sector. These principles reflect those being adopted in other parts of the sector: encouraging diversification of ownership and management and increasing regulation. Decree 22 (1999) stipulates that: (a) EVN is responsible for all Medium Voltage (MV) distribution; (b) provincial authorities are responsible for Low Voltage (LV) distribution; and (c) investment in LV distribution is encouraged from all sources. Decree 45 (2001) lays out the outline of the GOV's rural electrification strategy, including provisions that: (a) licenses must be obtained by all entities engaged in design or operation of electricity production, transmission, distribution or any other related business; (b) diversification in investment and management of rural electrification facilities is encouraged; (c) certain projects in rural areas could obtain favorable loans from the GOV; (d) the Prime Minister will set a national ceiling price, but the Chairman of the Provincial People's Committee will regulate specific regional prices; and (e) new investment in rural distribution will be implemented as follows: MV lines and LV transformers will be invested and managed by EVN; LV lines by the province; connections to users are to be paid by the users; the GOV will provide financial support for LV lines and connections in regions II, II and border communes; and to remote areas that are served by independent systems based on hydro, diesel, solar and other renewable sources.

The proposed Project addresses key sectoral issues in line with this rural electrification strategy:

Policy and Institutional framework. The principal requirements for the policy and institutional framework for rural electrification in Vietnam is that it should provide financial, regulatory and institutional conditions that encourage the distribution utilities to renew and extend the networks and maintain them in good condition in a financially sustainable manner. The framework should ensure low cost of supply, acceptable safety and quality of supply and increased access to the rural poor and also be consistent with the overall reform and restructuring program of the power sector in the country. A detailed study was carried out to determine a policy and institutional framework for rural electrification in the country which was agreed with the various stakeholders and the government (for details see Study in Project documents). Based on current legal and regulatory realities, it was agreed that EVN and its subsidiaries will be responsible for financing and implementing the MV portions of the Rural Energy II Project (RE2), while the provinces will be responsible for financing and implementing the LV portions of the project. Local participation in LV systems is critical since the existing grids have been built with their financial contributions. Similarly, the provincial governments have been the key supporting level and expect to remain so in the future.

Province centered approach. In the upgrading and expansion of LV systems, the project will follow a provincial-centered approach. This implies that IDA funds will be onlent by the government to the provincial peoples committees (PPCs), but the PPCs will be required to repay the IDA funds to the national government. PPCs will be accountable for the use of the IDA funds, responsible for the mobilization of counterpart funds, and for ensuring satisfactory implementation of the LV parts of the project. The PPCs will also determine the LV system institutional arrangements; approve investment plans; administer local rural electrification policies and subsidies; and ensure compliance with IDA safeguard requirements, including resettlement compensation. Project investments, however, will be prepared in provincial-level packages, including both MV and LV parts of the system.

Conversion of ad hoc management of LV systems. On completion of construction, the LV system will be managed locally and the project will support the conversion of existing informal rural

distribution units to legally constituted local distribution utilities (LDUs). The PPC will create the LDUs as either: *(i)* a Joint Stock, Joint venture, Private or Public company owned by local authority; or (*ii) a* cooperative which can be an electricity, industrial, trading or an agricultural cooperative. But all LDUs must (a) be established as legal entities, (b) have technically sound investment and operational business plans, and (c) have sufficient financial viability and sustainability. In phase 1 of the project, covering six provinces, five province propose to set up 22 LDUs as joint stock companies at the district level and one at the provincial level to manage 260 communes while 97 communes will function as cooperatives. The PPC will transfer the ownership of the assets created to the LDUs after completion of construction. The PPCs will provide the LDUs with loans at market rates to pay for these assets. However capital grants will be provided by the PPCs to those LDUs which have to incur higher costs due to topographical constraints, remoteness of communes and larger number of poorer households. Charters and business plans for the JSCs will be drafted to ensure their financial viability and sustainability.

In all provinces the LDUs will be developed in such a way that they can be further aggregated into larger companies, if desirable in the future. Based on international experience, there are likely to be market pressures, based on economies of scale, to further consolidate LDUs into larger distribution utilities, and this trend should in no way be obstructed by the development pattern of LDUs over the short term.

Regulatory Framework. Since rural electricity regulation is expected to be addressed in the proposed new Electricity Law as part of the overall power sector regulation framework, a separate regulatory body at national or provincial level for rural electrification is not necessary. The proposed new national electricity regulator is expected to be also responsible for rural electrification, and the national regulator will set up provincial regulators for all electricity supply including rural electrification. A decree specifying the functions and responsibilities of the new electricity regulator should be issued by the Government within 6 months of the approval of the Electricity Law by the National Assembly. Until then, it is expected that MOI and provincial Departments of Industry (DOIs) will continue to undertake many of the responsibilities for rural electrification industry regulation, as they do today.

C. Project Description Summary

1. Project Components (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

The project provides funding for EVN and the power companies for the upgrading and rehabilitation of the MV systems, to the Provinces for the upgrading of the LV systems and for the conversion of the existing communes electricity groups into local distribution utilities. It also funds technical assistance (TA) to improve the regulation and management of the LDUs. The project will be under the overall management and coordination of the MOI.

The project includes the following five components (estimated costs do not include IDA service charge or commitment fee):

(i) **Major upgrading and/or expansion of the LV system in the rural power network in 1,200 communes** to be implemented by about 30 Provincial Peoples committees (PPC) with technical support and assistance from EVN's subsidiaries. The total cost of this project component is about US$242.75 million of which US$162.8 million will be financed by the IDA credit, US$45.25 million by the PPC, and US$34.7 by the customers;

(ii) **Major upgrading and/or expansion of Medium Voltage System in the Northern Region:** This project component will rehabilitate the medium voltage systems in the same project communes in the northern region of Vietnam, where the low voltage systems are rehabilitated and expanded in the project component 1. This component is implemented by PC1. The total cost of this component is US$42.23 million of which US$33.0 million will be financed by the IDA credit, and US$9.23 million by PC1 from counterpart funds;

(iii) **Major upgrading and/or expansion of the MV system in the Southern Region:** This project component will rehabilitate the medium voltage systems in the same project communes in the southern region of Vietnam, where the low voltage systems are rehabilitated and expanded in the project component 1. This component is implemented by PC2. The total cost of this component is US$11.2 million of which US$8.5 million will be financed by the IDA credit, and US$2.7 million by PC2 from counterpart funds;

(iv) **Major upgrading and/or expansion of the MV system in the Central Region:** This project component will rehabilitate the medium voltage system in the same project communes in the northern region of Vietnam, where the low voltage systems are rehabilitated and expanded in the project component 1. This component is implemented by PC3. The total cost of this component is US$17.98 million, of which US$14.2 million will be financed by the IDA credit, and US$3.78 million by PC3 from counterpart funds; and

(v) **Technical Assistance:** This component, totaling US$7.0 million, will support: (i) the development and implementation of a framework for regulation of companies and cooperatives; (ii) transformation of the LDUs into legal entities; (iii) strengthening the abilities of the LDUs in commercial, technical and financial management of electricity distribution companies; (iii) building the capacity of national and provincial authorities in planning and regulation of rural electrification; and (iv) replication of the best practices developed to other LDUs participating in the later phases of the project and subsequently. The component will include IDA financing of $1.50 million, GEF financing of $5.25 million in GEF grant financing as well as in-kind contributions from GOV of $0.25 million. An advisory group will be set up under the MOI steering committee to oversee this capacity building and training program.

Phased Project Approach. Since all of the 30 project provincial programs cannot be coordinated to begin implementation at the same time, the project will be implemented in four phases. This will ensure that all the provinces have time to prepare the project in sufficient detail and also it will be useful for the later provinces to learn from the implementation results of others. Accordingly, in phase 1, the project packages of the first six provinces covering 355 communes have been appraised and approved by IDA. After up gradation and rehabilitation, the MV networks will be managed by the PC's; while LV networks will be managed by a combination of JSC's at the district level and cooperatives at the commune level.

In subsequent phases, complete packages for each province will be prepared every year by EVN and the project province and these would be reviewed by IDA and MOI prior to implementation. The feasibility study packages would include both MV and LV parts of the system, EA and RPs that comply with IDA guidelines and selection of institutional arrangements for management of the LV grids after completion. The selection criteria for LDUs, project execution and

procurement arrangements for the MV and LV systems shall be as agreed to in Phase 1 of the project. This process will continue until the $220 million of IDA funds is fully committed.

Project components (see Annex 1):

Component	Indicative Costs (US$M)	% of Total	Bank financing (US$M)	% of Bank financing	GEF financing (US$M)	% of GEF financing
i. LV Distribution Extension Major upgrading and/or expansion of the LV distribution grid in about 30 provinces of Vietnam (15 provinces in north, 5 provinces in center, and 10 provinces in south)	242.75	73.7%	162.8	74	0	0
ii. Major upgrading and/or expansion of MV systems in the Northern Region by PC 1.	42.23	12.8%	33	15	0	0
iii. Major upgrading and/or expansion of MV systems in the Southern Region by PC 2.	11.2	3.4%	8.5	3.9	0	0
iv. Major upgrading and/or expansion of MV systems in the Central Region by PC 3.	17.98	5.5%	14.2	6.5	0	0
v. Technical Assistance including: - Development and introduction of a regulatory framework - Institutional development and capacity building for LDUs - Promotion of replication of best practice to project and non-project LDUs	7	2.1%	1.5	0.7	5.25	100
Total Project Costs	321.16	97.5%	220	100	5.25	100
Charges x	8.34	2.5%	0	0	0	0
Total Financing Required	329.5	100%	220	100	5.25	100

X Service charge is estimated at $5.20 million and commitment fee at $3.14 million.

2. Key Policy and Institutional Reforms Supported by the Project:

The key policy and institutional reforms supported by the Project are:

(i) **Development of an Institutional and Policy framework for rural electrification**. The Project will support the creation of a long term policy, institutional and regulatory framework for rural electricity supply in Vietnam;

(ii) **Creation of legal local distribution utilities.** The creation of LDUs under Enterprise or Cooperative law in the provinces will form the building blocks in the creation of an efficient distribution sector in the country. The Project will help in the improvement of the governance, efficiency and sustainability of this system of decentralized rural electrification management through legal entities set up as local distribution utilities. This will help not only in building local management capacity but also in mobilization of financial resources from domestic investors for the rapidly expanding power sector; and

(iii) **Formation of a national and provincial regulatory office**. The passage of the Electricity Law will lead to creation of a national regulatory office and of provincial regulators in charge of rural electricity supply. This strengthening of the regulatory framework will provide the assurances of transparency necessary to encourage investments.

3. Benefits and Target Population:

The Project's primary beneficiaries are Vietnam's rural population in the Project areas. Rehabilitation and reinforcement of existing sub-transmission and distribution systems will reduce losses, improve safety and reliability and enhance the quality of service. The reduction of losses should lower electricity prices paid by the poor households in the rural areas. Improvement of reliability and quality of the power supplied would allow the rural consumers to expand productive use of energy. Investment in the expansion of distribution networks in rural areas will increase the access to electricity on a least cost basis to poor communes which have demonstrated potential for growth. The project will secure efficient and reliable power supply for about 2 million households. About 10 million people would benefit from the project Combined with other rural development initiatives promoted by the GOV and supported by International institutions under the frame " Electricity – Roads – School – Clinics" program, the project will contribute to decreasing poverty in rural areas.

4. Institutional and Implementation Arrangements:

Implementation Period. The implementation period will be from 2005-2011. A longer than normal implementation period has been specified in view of the major institutional changes that will be required in the creation of LDUs in the 30 provinces and for the setting up of regulatory bodies.

Executive Agencies. The Project will be implemented by MOI and EVN together with the selected PPCs. A Steering Committee under the Minister of Industry has been set up to oversee the entire project.

MOI will oversee the implementation of the LV component of the Project and bear the overall responsibility for the project preparation and implementation along with the project Provinces. For the LV portion of the project, a project implementation unit will be set up under the MOI Project Management Board (PMB), headed by a full time project manager. The director of the PMB will serve as the Project Director of the Project. MOI's Project Management Board will be responsible for monitoring and guiding physical project implementation, limited to coordination and support functions. A Consulting Group(CG) to the MOI Steering Committee will be set up to help plan, oversee and implement the capacity building program in particular for providing advice to the PPCs and LDUs on legal, financial and regulatory matters concerning the establishment and operation of the LDUs and ensuring a regulatory mechanism and training program is set up and delivered.

Provincial People's Committees (PPCs): Detailed implementation of the LV portions of the project will be decentralized to each project province and a Provincial Project Management Unit (PPMU) will be set up in each province. A project steering committee (PSC) will be set up by the PPC to plan the electrification program in its province. It will be responsible for the preparation of the feasibility studies and other project document for the communes in the project, setting up of the LDUs, provision of counter part funds and providing overall supervision of the LDUs set

up in its province which are funded by the Project. The PPCs will approve the resettlement and compensation policy proposed for the DPs and allocate the land required for the project.

EVN, the state owned enterprise responsible for electricity generation, transmission and distribution in Vietnam, will implement the MV component of the project and bear the overall responsibility for the project preparation and implementation related to the MV system. The rural electrification steering committee, reporting to the Chief Executive of the company, which was set up to manage the rural electrification projects in RE1 will continue its function for RE2. Power Companies No. 1, No. 2 and No. 3 will be in charge of the preparation and implementation of the parts of the project within the areas under the control of each PC and have set up Project Management Boards for the implementation of the project.

Other Ministries. The Ministry of Planning and Investment (MPI) and Ministry of Finance (MOF) will oversee the project preparation and implementation including necessary approvals, policy for overall rural electrification program, small power purchase policy, management and tariff policy for rural areas, policy for reforming the sector. The Development Assistance Fund (DAF) will be responsible for the transfer of IDA funds to the provinces in accordance with criteria agreed with IDA. The Office of Prime Minister will provide policy guidance to all entities.

Local Distribution Utilities. LDUs, once created, will be responsible for the operation and management of the rehabilitated LV distribution networks.

Implementation Arrangements

IDA Credit. The Government of Vietnam will on-lend a portion of the proceeds of the IDA Credit under standard arrangements to EVN and the Power Companies 1,2 and 3 to implement the upgradation and rehabilitation of the MV systems in the selected provinces. The balance portion of the IDA Credit will be on- lent to the selected provinces under standard arrangements through Development Assistance Fund in MOF. To facilitate the flow of funds, four Special Accounts, three for the PC 1, 2 and 3 and one for DAF will be established in a commercial bank and operated by the PCs and DAF

Fund Flow. IDA credit will be provided to: (i) EVN and PCs 1, 2 and 3 under Subsidiary Loan Agreements; and (ii) PPCs, through DAF, under an Agreement, all on terms and conditions acceptable to IDA. The Provinces will allocate counterpart funds for the Project on the basis of their annual development plans. PPCs will be required to repay the IDA funds to the MOF. The PPCs will provide financing packages, including IDA and counterpart funds, to the LDUs and will transfer the ownership of the assets created by the use the IDA funds to the respective LDUs after the completion of construction. The LDUs shall pay for these assets over a 20 year period at an interest rate of 10 % per annum with no grace period since a completed facility will be handed over to the LDU. The principal amount to be repaid by the LDU shall be determined by the PPC in accordance with a formula agreed with IDA which shall ensure that: (i) PPCs not make profits on their further provision of IDA funds to the LDUs; (ii) capital grants provided in the financing packages are one-time subsidies, provided upfront; and (iii) the repayment terms are designed to encourage LDUs to move towards commercial behavior in the future.

GEF Grant. The flow of GEF grant funds will be through a special account held by MoF and managed by the PMB. All technical assistance, training and capacity building activities and contracts will be managed by the PMB.

Procurement. IDA-financed procurement of goods and works will follow Bank's Procurement Guidelines. Consulting service and training will be procured in accordance with the Bank's Consultant's Guidelines.

Monitoring and Evaluation. The key indicators described in Annex 1 will be monitored and evaluated by the Project Management Board of the MoI, as the agency tasked with overall project coordination. The key sources for the monitoring report will be: GOV statistics for economic and social development to provide the basis on which progress is being made towards the CAS-related goal. Statistics collected from the project (from PPCs and LDUs) will provide the basis for the MoI annual report, on which monitoring will be based during the project lifetime. Specialist environment and resettlement monitoring reports will supplement the MoI annual report.

Mid-term review. The project will be subject to a mid-term review, in which progress towards meeting the project indicators will be evaluated and, if necessary, adjustments made to project implementation.

D. Project Rationale

1. Project Alternatives Considered and Reasons for Rejection:

The proposed project examined various alternative to tackle the technical, commercial and financial inefficiencies of the local distribution systems at their root cause.

Institutional framework: centralized vs. provincial centered approach. The option of EVN taking over the LV system was considered and not found practicable in view of diversity of ownership, existing legal statues, government policy on demonopolization of central utilities and resistance from most agencies to the takeover. Based on a detailed study carried out to determine an institutional framework for rural electrification in the country which was agreed with the various stakeholders and the government, it was agreed that EVN and its subsidiaries will be responsible for financing and implementing the MV portions of the Rural Energy II Project, while the PPCs will be responsible for financing and implementing the LV portions of the project.

Project Investment mechanisms. EVN was unwilling to undertake the major investments necessary for the rehabilitation and expansion of the rural low voltage grids without explicit GOV support or major changes in the tariff structure. The alternative of creating a new independent national rural electrification agency was considered to be not viable in the absence of adequate managerial and institutional capabilities as well as the present government policy on decentralization. The use of the local banking system was considered for financing of the provincial investments in the LV system but was also not considered efficient at this time. The alternative selected is for IDA credits to be provided to the power companies under EVN to upgrade, rehabilitate and manage the MV network and substations, while the LV system would continue to be the responsibility of the Provinces who would be provided IDA funds through the Ministry of Finance. At the same time, recognizing the limited availability of IDA and other funds, the project will support actions that will help open up new, private, financing channels for LDUs.

Project Implementation. Given the limited capacity in the Provinces and the need for coordination in the MV and LV systems design, EVN and the Power Companies, who have the necessary technical, financial and managerial capabilities, will carry out the integrated design of both the MV and LV systems. The construction of the MV system would, however, be the

responsibility of EVN and the Power Companies while the LV systems would be constructed under the authority of the provinces. The provinces will be encouraged to utilize the Power Companies on a contractual basis for implementation of the LV system, from which the system will be transferred to the LDUs on completion for operation and management. This mode of project implementation will thus be similar to the one followed successfully in the RE-1 Project. Despite diverse ownership of the overall system, the two project beneficiaries will work in partnership, in order to ensure the technical integrity and smooth project implementation of the MV and the LV portions of the project. Continuation and strengthening of high-levels of technical support from EVN's subsidiaries to the PPCs and local utilities will also be a key requirement for project success.

(The project alternatives considered have been discussed in detail in Section B3).

2. Major Related Projects Financed by the Bank and/or Other Development Agencies (completed, ongoing and planned).

Sector Issue	**Project**	Latest Supervision (PSR) Ratings (Bank-financed projects only)	
Bank-financed		Implementation Progress (IP)	Development Objective (DO)
Improve technical, operational, management and sector efficiency	Power Sector Rehabilitation and Expansion Project (Cr. 2724-VN – July 1995. Project completed.)	S	S
Rationalize power sector institutions;	Power Development Project (CR 2820-VN of February 1996). Project completed.	S	S
Unbundle EVN's "transmission" and "generation" functions	Transmission, Distribution and Disaster Reconstruction (CR 3034-VN of January 1998)	S	S
Improve rural access Expand rural electricity services Increasing access in rural areas	Rural Energy credit (CR 3358-VN of November, 2000) Southern Province Rural Electrification (Laos-CR 30470, March, 1998) Rural Electrification and Renewable energy development (Bangladesh, June 2002)	S S	S S
Other development agencies			
AFD (France) Asian Development Bank (ADB)	Mekong Rural Electrification (2000) Power Distribution and Rehabilitation (LN 1368-VIE of June 1995), Central and Southern Vietnam Power and Distribution (LN 28187-VIE of November 1997)		
Japan Bank for International Cooperation (JBIC)	Construction of Phu My 1 Power Plant (January 1994), Pha Lai 2 Power Plant (January 1994), Ham Thuan Da Mi Power Plant (January 1994), Da Nhim Power Plant (March 1997), O Mon Power Plant (March 1998)		
Swedish International Development Agency (SIDA)	Construction of Song Hinh Power Plant (1995), 6 transmission substations for 100 kV (1998), Extension of transmission substations for 500 kV (1998), Upgrading distribution network in Central Area		

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

3. Lessons Learned and Reflected in the Project Design:

The Project takes into account both Bank wide lessons of rural electrification and country experience in project implementation.

A Bank review of rural electrification (*Rural Electrification: A Hard Look at Costs and Benefits; OED Precis, May 1995*) recommends strengthening the economic and financial appraisal of projects, including consideration of alternative energy sources. Grid extension should be selected for areas where it is demonstrated to be an economically viable option under conservative assumptions of economic costs and benefits. *Rural energy and development (World Bank Development in Practice, September 1996*)) recommends five main principles to provide better access: provide for consumer choice, ensure cost reflective pricing, overcome the high first cost barrier, encourage local participation and implement good sector policies. Best practices in rural electrification including effective implementing agencies, with a high degree of operating autonomy and good leadership; clearly defined criteria for selection of priority areas; tariffs set at realistic levels and at a minimum to achieve cost recovery; reduction of costs; lowering entry barriers; have been followed in the project design. Project developers have also incorporated knowledge acquired from similar Bank projects and studies including *Bangladesh's Rural Electrification and Renewable Energy Development, India's Renewable Resource Development, Sri Lanka's Energy Services Delivery, Laos Southern Provinces Rural Electrification project and Indonesia's Renewable Energy projects.*

IDA's first two operations in the power sector in Vietnam have been completed and three operations are under implementation. Key lessons learned (see ICR for PDP and PSREP) include that flexibility in all aspects of project design and implementation by the Bank, GOV, and implementing agencies was critical for the successful implementation of these two projects. Flexibility helped cope with delays caused by approval procedures, foreign exchange shortfalls, financial difficulties of suppliers and contractors, lack of sufficient on-time information and guidelines. Good load forecasting is essential to predict the loading levels of distribution lines and substations, so that their rating is selected appropriately in line with realistic load growth rates. The appointment of an Independent Monitoring Agency to oversee RP implementation was important in minimizing problems with project DPs, and to identify problem areas in particular on land acquisition and compensation issues, thus avoiding protracted disputes. For quick and smooth start of the project, it is imperative that all the necessary GOV approval for the project should be obtained before negotiation of the credit.

The major lesson from Vietnam's Rural Energy I project was that institutional changes need to be designed and planned carefully with full participation of the local authorities to ensure effective implementation. IDA experience with both grid and off grid projects has confirmed the usefulness and importance of community participation and cost recovery. Pre planning of procurement activities was essential—this included the preparation of a common set of bidding specifications to be used by all the project agencies, phasing the delivery of equipment and material, focusing on logistics of supply and storage, independent oversight of construction and resettlement activities. There are no short cuts to the successful completion of a complex project: this includes above-average inputs of IDA resources and a broad skill mix during project design, appraisal and supervision.

4. Indications of Borrower and Recipient Commitment and Ownership:

The GOV is strongly committed to increasing rural electrification. GOV has annually allocated budgets for the local authorities for the rural electrification (RE), allowed EVN to access IDA credit and to use depreciation funds for development of the RE program. Many of the Provincial People Committees had imposed surcharges on urban customers to generate funds for the implementation of the RE within their provinces. For RE2 project, Government has established an inter-ministerial, with members from key ministries such as MPI, SBV, MOF, MOI, EVN, Government Office, to guide and supervise the project preparation and implementation.

MOI has agreed to provide overall guidance for the RE-2 Project. MOI has reaffirmed its commitment to sector reform through its sponsoring of the Power Sector Reform road map and its implementation. 51 Provinces have provided in writing their commitment to the basic principles of the RE-2 Project.

EVN has demonstrated its commitment and ownership of power projects in Vietnam through successful collaboration with IDA over the past seven years. EVN also shows strong commitment for the RE-2 Project. EVN agreed to retain the project implementation organization and staff of the RE1 for the implementation of the RE-2 Project and to assist the province in preparation of the project from its budget.

Overall the Borrowers and the implementing agencies ownership of and commitment to the Project are assessed to be strong.

5. Value Added of Bank and Global Support in this Project:

Vietnam's power distribution sub-sector is uniquely complex. The highly disaggregated structure of several thousand small distribution entities, the near complete absence of the capacity to manage and operate distribution systems in a commercially, financially and technically sound way, and the decentralized governance structure presents challenges to which the project must respond. IDA's sustained involvement in the Vietnamese power sector provides it with a comparative advantage in assisting the government to prioritize investments and to sequence reform. Involvement through the Project, is necessary to help consolidate and maintain the momentum of reform efforts and institutional restructuring initiated in the earlier projects and in addressing GOV concerns about alleviation of poverty in the rural areas of the country.

GEF financing permits the development of an enhanced technical assistance program which will enable the regulatory reform to be broadened and deepened, reinforcing the incentives for LDUs to operate in a technically, commercially and financially efficient way. Inclusion of GEF financing will deepen the efforts to ensure that the institutional and regulatory reforms take root and replicate best practice to other LDUs not included in the early phases of the project.

E. Summary Project Analysis (Detailed assessments are in the project file, see Annex 8)

1. Economic (see Annex 4):

Cost benefit : for phase 1 : NPV=US$68.5 million; ERR = 16.5 % (see Annex 4)

Economic benefits of the project are derived from reduction of energy losses, saving of customer expenditure on the electric devices for improving of the quality of the power supplied, consumer surplus and incremental sales due to removal of system capacity constraints to the existing as well as the new connected customers. The cost benefit analysis of the phase 1 of the project yields an EIRR of 16.5% and NPV of US$68.5 Millions. The cost benefit analysis also demonstrates that the project is economically viable in all the six provinces. The detailed assessment and sensitivity analysis are provided in Annex 4.

	ERR (%)	**NPV in US $ million**
Vinh Phuc	16.2	10.3
Ha Tinh	19.4	27.7
Ben Tre	14.1	6.9
Ca Mau	13.2	1.7
Quang Ngai	14.2	9.7
Phu Yen	19.4	11.2
Phase 1	**16.5**	**68.5**

The GEF component would support a substantially enhanced technical assistance component. The activities to introduce the regulatory framework would be widened, and both institutional development and capacity building of the LDUs and a replication task would be introduced. The incremental cost of these tasks, which would largely consist of training and consultant support, is estimated at $5.75 million. The incremental cost analysis for the GEF component is presented in Annex 11.

2. Financial (see Annex 4 and Annex 5):

For phase 1 : NPV=US$-54.4 million; FRR = 2.1 % (see Annex 4)

A. Project Financial Analysis. The Financial Rate of Return (FRR) of the Project (including both MV and LV systems), is 2.1 % in real terms, but assuming constant tariffs for incremental sales over 20 years. The financial rate of return for the phase 1 project is low because of high costs associated with rural electrification and an assumption that the current regime of bulk power tariffs (which are lower than what would be expected if they were to reflect costs) and ceilings on retail tariffs will continue. The financial returns for the provinces are also low because rural electricity use focuses today mainly on domestic lighting use. Improvement in quantity and quality of supply is expected to increase productive consumption of electricity in future leading to both rapid load growth and increased income generation in the rural areas. If the tariffs and incremental energy purchase are escalated by estimated local inflation, the FRR increases to about 4 %, which is acceptable in view of the social aspect of the project. (Annex 4).

B. Financial Analysis of the LDUs in the provinces has been carried out to ensure their ability to meet the project's financial viability and sustainability criteria. The LDUs should be

able to repay funds at sufficient levels to allow the PPCs to recover their government borrowing. For those LDUs which are able to meet this minimum basic requirement, further additional analysis has been conducted to review cash flow expectations and their longer term financial sustainability. PPCs will provide loans at "market rates" (estimated at 10 %/pa) to the LDUs. PPC's will also provide capital grants to those LDUs which have to incur higher costs due to topographical constraints, remoteness of communes and larger number of poorer households subject to a grant ceiling of 45 % of the total project costs. It has been projected that all participating LDUs in the project will have a minimum financial rate of return of 10 %, after receipt of capital investment grants from the PPCs, to enable them to obtain funding for future expansion from the commercial markets. (Annex 4).

C. Financial Performance. The financial performance of the implementing agencies (EVN and PCs) and the key financial issues are summarized below and in detail in Annex 5.

EVN has consistently maintained satisfactory financial performance since its creation in FY95. Revenues from electricity sales were sufficient to allow EVN to realize higher sales margins, operate with high liquidity, carry out a huge investment program, and comply with financial covenants. Between FY00-03, PCs 1, 2, and 3 sustained an increase in electricity demand averaging 17% annually. Because PCs purchase bulk power from EVN at levels to ensure cost recovery and reasonable profits, their operating margin have remained stable through the years. The PCs are expected to continue to experience strong demand increase from FY04 to FY08, averaging 14% annually, coupled with increase in new connections and unit consumption. It is estimated that the PCs will continue to incur stable net profit through FY08 and record satisfactory financial ratios in compliance with IDA covenants.

The Government and IDA have agreed that the satisfactory performance of EVN and its ability to finance an ambitious investment program are the priority financial objectives of the sector. Thus agreement would be reached that the Government would: (a) allow EVN and the PCs to finance from internal sources equivalent to not less than 25% of the annual average of its capital expenditure incurred, or expected to be incurred, for this year, the previous year, and the next following year; (b) review and adjust EVN's tariffs as necessary to ensure that EVN earns 25% self financing ratio (SFR); and (c) undertake necessary measures including but not limited to raising tariffs to allow EVN and the PCs to meet financial covenants.

Fiscal Impact:

An evaluation of the amount of public resources allocated through the project concluded that these investments are justified by their socio-economic impacts. The tax revenues from Phase I projects are estimated at VND 217 billion or US $ 14 million. In addition there will be further fiscal impact of electricity on the improvement and quality of social services (health, education, public administration) and on commercial business activities through the creation of new agro-industrial businesses and services and the development of productivity and quality enhancements in existing agro-industrial businesses and services.

3. Technical:

There are no significant technical issues.

All physical components of the Project are based on detailed feasibility studies of the MV and LV systems in an integrated manner. Subsequent phases will follow a similar process. The technical design of the Project is considered to be sound.

4. Institutional:

4.1 Executing agencies:

The Project will be implemented by MOI (together with PPCs) and EVN (with the three PCs). Both are well established entities with successful track records in project implementation.

4.2 Project management:

A Project Management Board in MOI will be responsible for overall coordination with a consulting group to assist with management of the TA and provide support directly to PPCs and also take responsibility for delivering both training programs and legal and regulatory assistance to MOI, PPCs and LDUs. EVN and the three PCs will use Project Management Boards set up for RE1 for project execution of RE2. Each province will establish a Provincial Steering Committee (PSC) for overall coordination and a Provincial Project Management Unit (PPMU) for project preparation and execution. A detailed description of the functions of MOI's PMB and the PPMUs, as well as other units involved in implementation, will be included in the Project Implementation Plan (PIP).

The first phase program of six provinces has been agreed at project appraisal, and funds will be disbursed for these programs once the Credit is effective. The remaining provinces will enter the program after the first year in phases 2, 3 and 4 of the project. The PCs and the proposed project provinces in subsequent will prepare integrated MV/LV feasibility studies using a single consultant to cover all the communes proposed for inclusion in the province. The economic and financial criteria for the inclusion of LDUs shall be identical to that followed in phase 1. The FS will include the EIA, prepared as per the new template provided to MOI and EVN, and the RP and EMDP as per the framework approved for the project by the government. The project execution and procurement arrangements for the MV and LV systems shall be as agreed to in Phase 1 of the project.

Each year, MOI and EVN will prepare, and submit to IDA for its approval, a proposed work program and budget for project activities in the selected provinces and will thereafter implement the program after approval by IDA. Each province selected for the project will provide a letter to MOI to confirm: (a) appointment of a Project Steering Committee and Provincial Project Management Unit for the RE II project; (b) formal approval of the FS of the LV portion of the project in the respective provinces including EIA, RP, EMDP and also agree to implement the compensation as per the guidelines issued for the project by the government; (c) availability of counterpart funds; (d) acceptance of arrangement for the flow of funds and to repay the credit to MOF; (e) agreement for the joint procurement arrangements with the PCs; (f) agreement to work with the PCs for construction supervision of the LV portion of the project and with the external monitor for both MV and LV parts of the project for RP and EMDP implementation; (g) the formation of LDUs as legal management models for the operation and management of the LV network after rehabilitation including the issuance of charters, business plans and appointment of executives of the LDU; and (h) operation of provincial regulatory systems. The PPCs will also provide a letter from the project selected communes confirming that (a) the commune leadership has consulted with the households and all agree with the project and will provide cooperation during project execution; (b) households agree to pay for the connection costs for the new connections, and (c) households agree for the replacement of meters, conductors, etc. that do not comply with technical specifications.

After upgradation and rehabilitation, the MV networks will be managed by the PC's; while LV networks will be managed by local distribution utilities (LDUs).

A mid term review of the project is planned in the third year of project implementation for evaluation of progress and to make necessary adjustments.

4.3 Procurement Issues:

All procurement for the rehabilitation and expansion of the MV and LV networks will be implemented by the respective beneficiaries. (refer to Annex 6A).

A Procurement Capacity Assessment (PCA) was carried out during March 24-27, 2004. The overall procurement risk was found to be moderate due mainly to the inadequate capacity for procurement of the PPMUs to conduct Bank-funded procurement including preparation of bidding documents and evaluation of bids). To mitigate these risks and to ensure proper and smooth harmonization, coordination, and synchronized implementation, detailed coordination arrangements including schedules have been established for the Project in the Project Implementation Plan which will be approved by IDA.

4.4 Financial Management Issues:

Adequacy of financial management. An assessment of the adequacy of the project financial management systems was been carried out by IDA team in April 2004 and the review concluded that this Project meets minimum World Bank Group financial management requirements. A Financial Management Action Plan will be implemented to address the identified weaknesses and ensure that capacity is adequate to address current financial management deficiencies. (Annex 6 B- Attachment)

Audit. EVN provided satisfactory explanations to the comments raised in IDA's audit review of February 2004 and demonstrated above that IDA's concerns are being responded to satisfactorily and promptly. On the basis of these actions, IDA found the audit reports acceptable to IDA for purposes of the implementing agencies' full compliance with the audit report requirements of the Credit and Project Agreements.

Funding Arrangements. IDA funds for the MV components will be channeled to EVN who will provide overall coordination of FMS aspects. Each of three PCs - PC1, PC 2 and PC 3 - would open its own special accounts to handle payments of MV components in north, south and central regions. IDA fund for the LV components would be channeled to the participating PPCs through a conduit, the Development Assistance Fund (DAF). Disbursement of Credit proceeds will be made based on the traditional system: from the Special Accounts with reimbursements made based on full documentation or against SOEs.

5. Environmental: Environmental Category: B (Partial Assessment)

5.1 Summarize the steps undertaken for environmental assessment and EMP preparation (including consultation and disclosure) and the significant issues and their treatment emerging from this analysis.

An Environmental Guideline was developed and approved for use under the project. The guideline was used in developing the EAs for the six appraised subprojects and will be used for

the EA assessments of all sub-projects proposed in the remaining 24 provinces to be appraised in subsequent phases.

EVN prepared 6 Environmental Assessments/Environmental Management Plans (EA/EMPs) for each of the six provinces in Phase 1 of this project. The EAs/EMPs address all environmental issues satisfactorily, and are in compliance with Vietnamese and Bank environmental regulations, policies and procedures (a summary is provided in Annex 14).

The Bank also worked with EVN to develop a simplified template for EA/EMP preparation for use in the subprojects that will be appraised after the project starts. The template simplifies the reporting format for the EA/EMP and maintains the full scope of the assessment, its analysis, and impact mitigation. A training program for EVN PC staff and their environmental consultants from most of the provinces participating in the project was carried out on the use of the template during project appraisal. The template and training program were well received by EVN and are expected to improve the quality and focus of the EA/EMPs and their implementation.

5.2 What are the main features of the EMP and are they adequate?

The EMPs provide mitigation measures for the project's impacts with regard to soil erosion and surface runoff, air quality, noise, dust generation, cleanup of construction sites, and protection of biologically and culturally important resources. The EMP contains mitigation measures, their timing and implementation arrangements, costs, and arrangements for implementation monitoring.

A training plan on EMP implementation has been developed for each province, targeting PMU staff and community leaders. The training courses will be carried out at the central level (by EVN), the regional level (by PCs) and through on-site training.

5.3 For Category A and B projects, timeline and status of EA:

Date of receipt of final draft:	EAs were submitted in May 2004.

5.4 How have stakeholders been consulted at the stage of (a) environmental screening and (b) draft EA report on the environmental impacts and proposed environment management plan? Describe mechanisms of consultation that were used and which groups were consulted?

Initial consultation was conducted by the Borrower in the form of discussion and agreement with the respective local government agencies and communes with regard to the route alternatives. Further public consultation involving Displaced Peoples (DPs) and representatives of local NGOs (e.g. Women Union, Youth Union, Farmer Union, Fatherland Front Association of the elderly people), as required by the Bank safeguard policies, were conducted before pre-appraisal (Nov-Dec, 2003). No objections to the project or environmental concerns other than those addressed in the EAs have been raised during the consultation process. However, the DPs suggested some additional mitigation measures that have been incorporated in the EMPs. Records of these discussions and written agreements are attached to the EA reports.

5.5 What mechanisms have been established to monitor and evaluate the impact of the project on the environment? Do the indicators reflect the objectives and results of the EMP?

Monitoring will be carried out by the technical supervision staff of each PMU. An independent safeguard consultant, hired by EVN, will also provide semi-annual reports on the implementation of the EMPs (and RPs), including results of consultation with local communities regarding environmental concerns and complaints. Where appropriate, mitigation measures will be included in construction contracts. There will also be community-based monitoring of EMP implementation. This was piloted under the Rural Energy I project, and was successful because communities have a special interest in ensuring that environmental impact are minimized.

6. Social:

6.1 Summarize key social issues relevant to the project objectives, and specify the project's social development outcomes.

The policy framework for Resettlement Plans (RPs) and the Strategy for Ethnic Minority (SEMs) were developed based on OP 4.12 and OD 4.20 and approved for use under the project. The frameworks were used in developing RPs and EMDPs for the six appraised subprojects and will be used for all sub-projects proposed in the remaining 24 provinces to be appraised in subsequent phases.

RPs and EMDPs were completed for all communes in the six provinces that will participate in the first phase of the project. They provide adequate budgets for resettlement and compensation, and include adequate institutional arrangements and mechanisms for implementation monitoring and grievance redress. These RPs have been approved by Government and cleared by the Bank (see also Annex 13).

The subprojects of phase 1 do not cause any culturally specific impacts on the communities of ethnic minorities. Three Ethnic Minority Development Plans (EMDP) for phase 1 have been prepared in close consultation with local authorities and Ethnic Minorities who are residing in the project areas. All EMDPs of the subsequent phases will be prepared in the implementation phase separately for each project provinces and the same SEM will be applied.

6.2 Participatory Approach: How are key stakeholders participating in the project?

The RPs were prepared in close consultation with the DPs, relevant local authorities at different administrative levels and other key stakeholders. The present system of financing of grid extension relies heavily on local participation in decision-making. Individual households contribute to the construction of the low voltage lines and in addition the cost of connections to their houses is their direct responsibility. The local peoples committees have representative of the local communes and have considerable voice in determination of the grid expansion and payments required of them for the operation and maintenance of the system.

6.3 How does the project involve consultations or collaboration with NGOs or other civil society organizations?

The preparation teams consulted with Provincial and District Women's Unions, Provincial Committees for Ethnic Minorities, Farmer's Association in social screening and in preparing RPs and EMDPs.

6.4 What institutional arrangements have been provided to ensure the project achieves its social development outcomes?

The Ministry of Industry, Electricity of Viet Nam, Power Companies and local authorities at different levels have been involved in preparing the RPF, SEM, RPs and EMDPs. Other institutions will be established at the very beginning of project implementation to conduct activities which set forth in RPs and EMDPs including the task of supervision, monitoring and evaluation for RP and EMDP implementation.

6.5 How will the project monitor performance in terms of social development outcomes?
The implementation of RPs and EMDP will be monitored by PCs and their Project Management Boards (PMBs). Independent experts will also be hired to monitor RP and EMDP implementation. An evaluation of the livelihood restoration programs for DPs will also be carried out.

Does this project include any Community-Driven Development component? No

7. Safeguard Policies:

7.1 Are any of the following safeguard policies triggered by the project?

Policy	Triggered
Environmental Assessment (OP 4.01, BP 4.01, GP 4.01)	Yes
Natural Habitats (OP 4.04, BP 4.04, GP 4.04)	No
Forestry (OP 4.36, GP 4.36)	No
Pest Management (OP 4.09)	No
Cultural Property (OPN 11.03)	No
Indigenous Peoples (OD 4.20)	Yes
Involuntary Resettlement (OP/BP 4.12)	Yes
Safety of Dams (OP 4.37, BP 4.37)	No
Projects in International Waters (OP 7.50, BP 7.50, GP 7.50)	No
Projects in Disputed Areas (OP 7.60, BP 7.60, GP 7.60)*	No

7.2 Describe provisions made by the project to ensure compliance with applicable safeguard policies.

Every effort was made through project design, construction measures and construction schedules to reduce unnecessary involuntary resettlement and adverse impacts on assets and the environment. Resettlement and compensation programs are designed so as to allow the improvement or at least the maintenance of the DP's pre-project living standards.

The Borrower disclosed the key safeguard documents (the policy frameworks for resettlement and ethnic minority development, the RPs and EMDPs for phase 1 subprojects, the environmental guidelines and EAs/EMPs for phase I subprojects) in accordance with WB safeguard requirements. These documents were disclosed prior to project appraisal in the provincial power companies (in Vietnamese), at the Vietnam Development Information Center in Hanoi (in English and Vietnamese), and at the InfoShop in Washington DC (in English).

Regular supervision of the project will include Bank staff to ensure safeguard compliance. During project execution, an independent monitor shall be appointed to provide regular reports on compliance by the executing agencies of the safeguard policies agreed to with the government at appraisal.

F. Sustainability and Risks

1. Sustainability:

The following key factors are critical to Project sustainability:

a. *Institutional and policy framework*. GOV continues to implement the plan for overall power sector reform and for rural electrification including a transparent and consistent system of regulation. Provincial Peoples Committees implement effectively the formation of the LDUs and the necessary regulatory framework;
b. *Financial:* GOV commitment to ensure EVN's financial sustainability, including through adjustment of the electricity tariff. Provinces ensure that that LDUs have adequate capacity for financial, technical and commercial management;
c. *Market.* Growth of demand to make rehabilitation and expansion of grid economically viable; increase in productive use of electricity in the rural areas; and potential investor interest in joint stock companies at district and commune levels; and
d. *Technical assistance.* High levels of sustainable distribution system performance over the medium to long term. The technical assistance component addresses ensures training and capacity building over the life of the project, but subsequent, the LDUs should be willing to pay for ongoing training and capacity building from retained earnings.

1a. Replicability:

The proposed project is positioned to have substantial replication potential in Vietnam. Rural electrification will continue to need government support and donor contributions but with declining capital subsidies over time. The replication component of the project is a key feature of the project since another 5000 communes still need rehabilitation. A sub-component is included in REII which will allow experience to be shared domestically and internationally.

The proposed project is positioned to be replicable elsewhere in the region. Rural power projects including both rehabilitation and off-grid electrification are underway or under consideration in the Philippines, Laos, China and Indonesia. The problem of maintaining performance levels of LDUs or their equivalent exists throughout the region, and the experience gained from the proposed project will find direct application in these countries as well.

2. Critical Risks (reflecting the failure of critical assumptions found in the fourth column of Annex 1):

The bulk of the risk to both achieving the development objective and to implementation progress is associated with the large number of actors involved in each LDU rehabilitation, and the large number of LDUs to be rehabilitated. Since PPCs have overall authority to ensure LDU performance by change of structure, adjustment of tariffs or transfer of management/ ownership, the province centered approach will facilitate these changes. The phased project approach in implementation and detailed field based management and supervision provides an opportunity for learning by doing and to incorporate implementation lessons. A mid term project review is planned to evaluate progress and make such adjustments as are necessary.

Risk	Risk Rating	Risk Mitigation Measure
From Outputs to Objective		
Electricity is not affordable for the poorer sections of rural communities and access cannot be expanded to them.	M	Ensure least cost expansion design for the local grids, reduce costs through competitive bidding and ensure incentives are in place for efficient management of LDUs.
PPCs are unable to create and oversee LDUs effectively.	S	Capacity building and continued support in the early part of the project.
Weak or failing GOV commitment to implementing rural electrification in a viable manner for long term sustainability	M	Continuous dialogue with the GOV and the agencies
From Components to Outputs		
Design and construction of MV and LV systems is not suitable or carried out in an uncoordinated way.	M	Systems designers selected through quality-based bidding. Encourage coordination between firms carrying out design.
Arrangements for project related procurement, contracting and construction are not suitable	M	Detailed procedures laid down in PIP. Procurement capacity building with support from PCs PMBs.
Counterpart resources are not available to complete LV grid and connection from grid to households	M	Agreement with GOV and Provinces to provide local cost financing.
Non availability of counterpart funds from PCs for MV extension and rehabilitation	M	Requirements on PCs to underwrite the financing needs
Cost of rehabilitation and expansion of distribution systems higher than expected	M	Price estimates based on past experience and contingencies included. PCs utilized for design and procurement and will assist PPMUs.
GoV unwilling to introduce detailed regulatory framework	M	Continued dialogue with GOV on implementation of Electricity Law.
MOI/PPCs and LDUs not capable of managing the program and introducing the necessary policy and institutional changes in a timely fashion	S	Capacity building in the project. Improved monitoring and supervision capability at PPMUs and PMUs through TA.
Overall Risk Rating	S	

Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N(Negligible or Low Risk)

3. Possible Controversial Aspects:

Type of Risk – S (Social), E (Ecological), P (Pollution), G (Governance), M (Management capacity), O (Other) Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N (Negligible or Low Risk)

G. Main Conditions

1. Effectiveness Condition

1. Execution of subsidiary loan agreements between the Borrower and EVN, PC1, PC2 and PC3
2. Execution of Agreements for onlending arrangements between the borrower and the project provinces in Phase 1 of the Project.

2. Other [classify according to covenant types used in the Legal Agreements]

1. MOI will maintain a Steering committee for the overall policy coordination and management of the Project;
2. A Project Implementation Unit (PIU) will be set up under the MOI Project Management Board (PMB), headed by a full time project manager;
3. PPC will maintain a Provincial Steering Committee (PSC) for overall policy coordination and management of the project in the province and will maintain Provincial Project Management Units (PPMU) for the management and execution of the Project for the duration of the Project. EVN would review with IDA its annual RE investment plan every year, commencing in June 1, 2005 and until the completion of the Project; and
4. EVN will maintain a Steering committee for overall policy co-ordination and management of the project and PC1, PC2 and PC3 will maintain Project Management Units (PMUs) for the management and execution of the Project for the duration of the Project.

Accounts/Audits:

1. EVN, PC1, PC2 and PC3 shall appoint independent auditors, acceptable to IDA, and make the audit reports available to IDA within six months after the close of each fiscal year;
2. MOI shall appoint independent auditors, acceptable to IDA, for all funds provided to the project provinces and make such audit reports available to IDA within six months after the close of each fiscal year; and
3. EVN shall agree that, for purposes of reporting on the basis of IFRS to IDA, the auditors will exclude the partial revaluation amounts of Hoa Binh assets and its impact on EVN's finances (net fixed assets, revaluation surplus, depreciation expense, etc).

Monitoring, Review and Reporting:

1. EVN, PC1, PC2 and PC3 shall: (i) carry out satisfactory procedures for monitoring the progress of the Project in terms of physical execution and financial reports, and agreed performance monitoring indicators; (ii) furnish to IDA: (a) quarterly progress reports, 10 days after the end of each calendar quarter; and (b) annual integrated reports, on or about December 31 in each year; (iii) review with IDA by February 28 of each year, the annual report, and, thereafter take all measures required to ensure the efficient completion of each component of the Project and the achievement of the objectives thereof, based on the conclusions and recommendations of the said report and IDA's views; and (iv) submit

to IDA, on or about January 1, 2005 its first quarterly report integrating the result of monitoring and evaluation activities till that date and thereafter carry out a mid-term assessment of Project implementation for the period ending December 31, 2005;

2. MOI shall: (i) carry out satisfactory procedures for monitoring the progress of the Project in the project provinces in terms of physical execution and financial reports, and agreed performance monitoring indicators; (ii) furnish to IDA: (a) quarterly progress reports, 10 days after the end of each calendar quarter; and (b) annual integrated reports, on or about December 31 in each year; (iii) review with IDA by February 28 of each year, the annual report, and, thereafter take all measures required to ensure the efficient completion of each component of the Project and the achievement of the objectives thereof, based on the conclusions and recommendations of the said report and IDA's views; and (iv) submit to IDA, on or about January 1, 2005 its first quarterly report integrating the result of monitoring and evaluation activities till that date and thereafter carry out a mid-term assessment of Project implementation for the period ending December 31, 2005;

3. EVN and MOI shall: (i) make available to IDA its evaluation of the Implementation Completion Report (ICR) prepared by IDA; and (ii) adopt a plan for the operational phase of the Project; and

4. EVN shall prepare and furnish to IDA for its review and comment its proposed Power Development Program (PDP) by December 31, 2005. Thereafter, EVN shall no later than December 31 in each succeeding year, submit to IDA for its review and comment: (i) a report of the progress in the implementation of the PDP during the preceding 12 month period; (ii) its proposed implementation program for the succeeding 5 years; and (iii) a review of its policy and levels of its electricity tariffs, including proposed adjustments.

Financial Performance:

1. EVN shall review electricity tariffs with IDA by April 2005, and on the basis of financial forecasts produced by the International Creditors Model (ICM), confirm the necessary levels of tariff increases;
2. EVN shall implement a phased approach to bulk supply tariffs by FY05;
3. EVN shall prepare and furnish to IDA for its review and comment: (a) its proposed Power Development Plan; (b) a report on the progress in the program for the succeeding 5 years; and (c) a review of policy and levels of electricity tariffs including proposed adjustments;
4. EVN and the PCs shall generate funds from internal sources equivalent to not less than 25 % of the annual average of its capital expenditure incurred, or expected to be incurred, for this year, the previous year, and the next following year;
5. EVN shall maintain revenues at the level of 1.5 times its total debt service requirements and shall not incur further debt if such additional debt would raise its long-term indebtedness to more than 1.5 times its total capitalization; and
6. EVN shall implement the recommendations of the study to improve its financial projections and to integrate these into its corporate planning and financial forecasting systems; and provide resources to staff in maintaining and utilizing the ICM, including the training of staff in the translation of VAS to IFRS accounts.

Environmental and Resettlement Aspects:

1. EVN, PC1, PC2 and PC3 and MOI shall coordinate with People's Committee in provinces to carry out the resettlement and rehabilitation of affected persons in accordance with the Resettlement Action Plans for each part of the Project, in a manner satisfactory to IDA; and
2. PC1, PC2 and PC3 will engage independent external agencies to monitor the implementation of the RPs and EMPs for the MV portion and the Project provinces for the LV portion of the project.

Agreements Reached with the Borrower:

Flow and Utilization of Project Funds:

1. The Borrower shall relend the Credit amount to EVN, PC1, PC2 and PC3 for MV component of the proposed credit under subsidiary loan agreements between the Government and the respective entities under terms and conditions approved by IDA which shall include: (i) interest at a rate 1.0% p.a., repayment over 25 years, including grace period of 7 years for PC1, 2 and 3; and (ii) foreign exchange risk to be borne by PC1, PC2 and PC3;
2. The Borrower shall relend the Credit amount to the selected project provinces for the LV component in each province under an agreement between the Government and the respective PPC under terms and conditions approved by IDA which shall include; (i) interest at a rate of 1 % p.a. repayment over 25 years, including grace period of 7 years; and (ii) foreign exchange risk to be borne by the Government;
3. The Provinces shall relend the funds to the LDUs in the provinces under an agreement between the respective PPC and the LDU under terms and conditions approved by IDA which shall include; (i) interest at a rate of 10 % p.a. repayment over 20 years with no grace period; and
4. The Provinces will provide capital grants to those LDUs in the provinces which have to incur higher costs due to topographical constraints, remoteness of communes and larger number of poorer households under terms and conditions approved by IDA.

Management Aspects:

1. The Borrower shall take steps to ensure satisfactory performance of EVN including raising average retail tariffs according to a new level and schedule that would supercede that approved in May 2001 by the Government and the Creditors;
2. The Borrower shall consider the incorporation of an automatic adjustment mechanism on electricity tariffs and by FY06 apply at reasonable intervals an adjustment that would entail the difference from foreign exchange compared with base rates and through the formula, any differences would be recovered from consumers through the automatic adjustment;
3. The Borrower shall take all actions, including but not limited to adjustment of tariffs, so that EVN and the PCs could comply with the covenants for self-financing, debt service coverage and debt equity ratios;
4. IDA funds will be onlent to the project province only after the project criteria agreed with IDA has been satisfied and so confirmed by MOI;
5. The Provinces shall take all actions, including but not limited to adjustment of tariffs, so that the LDUs will be financially sustainable in terms of agreements reached with IDA; and
6. The Borrower shall take all actions to ensure that GEF grant funds will be utilized for incremental costs relating to the capacity building of the Government of Vietnam to

undertake development of a regulatory framework for rural power distribution, to enable the LDUs to conduct their operations in a technically, financially and commercially efficient way, and to replicate best practices to other distribution companies.

H. Readiness for Implementation

1. a) The engineering design documents for the first year's activities are complete and ready for the start of project implementation.
2. The procurement documents for the first year's activities are complete and ready for the start of project implementation.
3. The Project Implementation Plan has been appraised and found to be realistic and of satisfactory quality.

The following items are lacking and are discussed under loan conditions (Section G):

I. Compliance with Bank Policies

1. This project complies with all applicable Bank policies.

The following exceptions to Bank policies are recommended for approval. The project complies with all other applicable Bank policies.

Hung Tien Van	Junhui Wu	Klaus Rohland
Team Leader	Sector Manager	Country Director

Annex 1: Project Design Summary

VIETNAM: Rural Energy II

Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
Sector-related CAS Goal:	**Sector Indicators:**	**Sector/ country reports:**	**(from Goal to Bank Mission)**
1. Enhancing equitable, inclusive and sustainable development by improving services to the lagging regions	Economic and social indicators of growth and sustainability for lagging regions: Reduction in the incidence of poverty percentage points 2005 2008 2011 0 10 20	GOV statistics MOI annual report Reports from people committees and EVN	Improved services contribute to poverty reduction Improved services can be made available to all sectors of the community.
GEF Operational Program:	**Outcome / Impact Indicators:**		
1. Reduce greenhouse gas emissions by improving and sustaining the energy efficiency of LDUs.	Reduced emissions of carbon (tonnes) 2005 2008 2011 10,000 100,000 259,000 Derived from reduced average losses (see PDO indicator) and agreed methodology calculated by PMB.	Report from EVN, PPC	Sustained reductions in GHG have positive effects on poverty.
Project Development Objective:	**Outcome / Impact Indicators:**	**Project reports:**	**(from Objective to Goal)**
1. Provide *improved access* to good quality affordable electricity to rural communities in a sustainable manner.	Rural communities with electricity on average in project provinces and h/h with access, % 2005 2008 2011 60 70 85 Average distribution system losses in project LDUs (%) 2005 2008 2011 30 25 10 Average cost-recovering price needed for power in project LDUs (Dong/kWh) 2005 2008 2011 2000 1300 700 Average commercial efficiency (improvement in billing and collection rates, reduction of non technical losses, index) 2005 2008 2011 0 30 100 (Index to be calculated according to methodology to be agreed with PMB)	GOV Statistics -- from MPI, MOI and regulator Annual and quarterly progress reports, calculations by PMB Annual Progress report	Continued GOV commitment to the development of the lagging regions. Access to electricity is provided in an equitable and inclusive way Capacity of the PPCs to design and implement the necessary policy and institutional changes.

Output from each Component:	**Output Indicators:**	**Project reports:**	**(from Outputs to Objective)**
1. Rehabilitated and expanded grids in rural communes	1.1 Length of LV and MV lines installed (circuit kms.): 2005 2008 2011 LV 500 10,000 30,000 MV 100 1,500 4,000 1.2 Capacity of transformers installed (MVA) 2005 2008 2011 50 300 900 1.3 Number of households with meters installed in the project area (Thousand pieces) 2005 2008 2011 100 850 2,500	Site inspection, and commissioning documentation	1.1 Electricity can be made affordable for the poorer sections of rural communities
2. Sustainable LDUs with legal status created in rural communes	2.1 Number of communes under legal management 2005 2008 2011 200 350 1200	2.1 Monitoring and supervision of TA and continued policy dialogue on rural electrification.	2.1 PPCs are able to create LDUs and oversee them effectively.
3. Capacity building for adoption and implementation of suitable institutional arrangements for rural electrification	3. Institutional arrangements defined and adopted to ensure that project objectives are met. Regulations for rural electrification are drafted and introduced following the adoption of the Electricity Law: - formal guidelines and systems for the implementation of new institutional arrangements in Provinces - Adoption and implementation of new institutional arrangements for the LDUs in project area commences: ➢ consultants/advisors to support the institutions in place ➢ Number of persons trained 2005 2008 2011 100 500 2,500	3. Monitoring and supervision of TA and continued policy dialogue on rural electrification.	3.1 Central and provincial GOV are committed to ensuring that LDUs are technically, commercia lly and financially sustainable. 3.2 Central and provincial GOV commitment to implementing rural electrification in a viable manner for long-term sustainability. 3.3 Continued GOV commitment to phased implementation of agreed reform strategy. 3.4 GOV commitment to targeted electrification in the lagging provinces.

Project Components / Sub-components:	**Inputs: (budget for each component)**	**Project reports:**	**(from Components to Outputs)**
1. LV rural grid extension: transmission lines, substations, meters etc.	US$242.75 million	- Progress reports and disbursement reports - Supervision mission reports	1.1 Provinces agree to and do carry out the design and construction of the MV and LV systems in a technically competent and coordinated way 1.2 Suitable implementation arrangements for project related procurement, contracting and construction. 1.3 Availability of counterpart resources to complete connection from LV grid to rural households. 1.4 Costs of expansion and rehabilitation are accurately assessed.
2. MV system rehabilitation and expansion in Northern region	US$42.23 million	Progress reports and disbursement reports Supervision mission reports	Availability of counterpart resources from PCs to complete expansion and rehabilitation of MV component Costs of expansion and rehabilitation are accurately assessed.
3. MV system rehabilitation and expansion in Southern region	US$11.20 million	Progress reports and disbursement reports Supervision mission report	Availability of counterpart resources from PCs to complete expansion and rehabilitation of MV component Costs of expansion and rehabilitation are accurately assessed.
4. MV system rehabilitation and expansion in Central region	US$17.89 million	Progress reports and disbursement reports Supervision mission reports	Availability of counterpart resources from PCs to complete expansion and rehabilitation of MV component Costs of expansion and rehabilitation are accurately assessed.

Project Components / Sub-components:	**Inputs: (budget for each component)**	**Project reports:**	**(from Components to Outputs)**
5. Technical assistance for Development and introduction of a regulatory framework, Institutional development and capacity building for LDUs; Promotion of replication of best practice to project and non-project LDUs	US $7.00 million	Progress reports and disbursement reports Supervision mission report	GOV remains willing to introduce detailed regulatory framework Adequate capacity is put in place for the PPCs to design and implement the necessary policy and institutional changes in a timely fashion
	Costs do not include IDA service charge (0.75%) of US$5.20 million nor commitment fee (0..35%) of US$3.14 million.		

Annex 2: Detailed Project Description

VIETNAM: Rural Energy II

Background

The Project includes the following five components: (i) Rehabilitation and expansion of Low Voltage Systems in about 1,200 communes in 30 provinces of Vietnam; (ii) Rehabilitation and expansion of Medium Voltage System in the Northern Region; (iii) Rehabilitation and expansion of Medium Voltage System in the Southern Region; (iv) Rehabilitation and expansion of Medium Voltage Systems in the Central Region.; and (v) Technical Assistance.

Since all of the 30 project provincial programs cannot commence on the implementation at the same time, it has been decided to plan the project in four phases. This approach will ensure that all the provinces have time to prepare the project in sufficient detail and also it will be useful for the later provinces to learn from the implementation results of others, before finalizing their plans. Accordingly, in phase 1, the project packages of the first six provinces, which cover 355 communes will be appraised and approved by IDA by overall project appraisal. In subsequent phases II (6 provinces, about 210 communes), III (9 provinces) and IV (9 provinces) with a total of about 635 communes, the packages prepared by EVN and the provinces every year would be reviewed by IDA and MOI prior to implementation. This process will continue until the IDA funds are fully committed. For Phases III and IV, the specific provinces to be selected will depend on the packages prepared and approved by MOI and IDA.

List of Project Provinces and Proposed Number of Communes in Four Phases of the Project

Project Phase	PC	Province	No of proposed communes	No communes agreed for inclusion
Phase 1			**361**	**355**
	PC1	Vinh Phuc	88	86
		Ha Tinh	99	97
	PC2	Ca Mau	12	12
		Ben Tre	50	50
	PC3	Quang Ngai	74	72
		Phu Yen	38	38
Phase II			**210**	
	PC1	Nghe An	50	
		Yen Bai	45	
	PC2	Tay Ninh	39	
		Dong Thap	24	
	PC3	Quang Tri	18	
		Thua Thien Hue	34	
Phase III and IV			**635**	
	PC1	Lao Cai	20	
		Cao Bang	25	
		Lai Chau	30	
		Hoa Binh	25	
		Phu Tho	55	

Project Phase	PC	Province	No of proposed communes	No communes agreed for inclusion
		Thai Nguyen	40	
		Bac Giang	40	
		Ha Tay	25	
		Hai Duong	60	
		Hung Yen	30	
		Thai Binh	60	
		Ha Nam	25	
		Nam Dinh	50	
		Thanh Hoa	60	
	PC2	Ninh Thuan	10	
		Can Tho	20	
	PC3	Quang Binh	35	
		Binh Dinh	25	
Total for Project			**1200**	

By Component:

The following is the description of the project components, the commitment fees and survives charges are not included in the costs description.

Project Component 1 - US$242.75 million

Rehabilitation and expansion of Low Voltage System in about 1,200 communes in 30 provinces of Vietnam.

This component includes the rehabilitation and expansion of the low voltage grid systems of about 1,200 communes, in about 30 provinces. The project will improve and expand the power supply to about 2 millions households, of which about 200,000 are to be the newly connected. This project component will be implemented by the PPCs of the project provinces.

The project will be implemented in phases. The first phase includes about 357 communes, in 6 provinces. Phase 2 includes about 6 provinces and about 210 communes. Phases 3 and 4 include up to 18 provinces and about 635 communes.

The total cost of this project component is about US$242.75 million, of which US$162.8 million will be financed by IDA credit, US$45.25 million financed by the PPCs, and US$34.7 million financed by the customers for services drops to households.

Phase 1: US $79.87 million

Phase 1 of the project will rehabilitate and expand LV grids in about 355 communes in 6 provinces, namely: Vinh Phuc, Ha Tinh in the northern region, Ca Mau, Ben Tre in the southern region, and Quang Ngai, Phu Yen, in the central region 1. The project will supply and construct about 7,062 km of 0.4 kV distribution lines, and improve and extend the power supply for about 611,200 households, from which about 60,000 will be those that are newly connected to the national power grid. The cost of project component for phase 1 is US$79.87 million, from which US$54.26 will be financed by the IDA credit, US$15.19 million financed by the PPCs, and US$10.42 financed by the customers for the services drops to households.

Electrical equipment and material comprising LV conductors and consumers meters and some minor electrical material, will be procured for all the project provinces in each region under the respective PC in each phase. The proposed packages are: (i) LV conductor and meter cable; and (ii) consumer meters and other minor electrical equipment including meter accuracy checking instruments.

Phase 1

Provinces	**Vinh Phuc**	**Ha Tinh**	**Phu Yen**	**Quang Ngai**	**Ben Tre**	**Ca Mau**
LV Lines in kms	1,525	2,575	478	1,522	486	476
Consumer meters	128,079	123,549	91739	156,934	95,108	12,281

Project Component 2 - US$42.23 million

Rehabilitation and Expansion of Medium Voltage System in Northern Region

This project component will rehabilitate the medium voltage systems in the same project communes in the northern region of Vietnam, where the low voltage systems are rehabilitated and expanded in the project component 1. This component will be implemented by PC1. The total cost of this component is US$42.23 millions, of which US$33.0 million financed the form IDA credit, and US$9.23 million is financed by PC1 from the counterpart funds.

Phase 1: US$7.43 million : In this phase the project will rehabilitate and expand the Medium Voltage System of about 183 communes, in two project provinces, Vinh Phuc and Ha Tinh. This component includes the supply and construction of about (i) 340 km of 35/22 kV MV lines, (iii) 480 substations of 35/0.4 kV and 22/0.4 kV with the total capacity of 75,700 kVA. The cost of this component for the phase 1 is US$7.43 million, of which US$5.87 million will be financed by the IDA credit, and US$1.56 million financed by PC1 from the counterpart funds

Subsequent Phases: In subsequent phases, a further about 640 communes in 16 provinces will undergo major upgrading and expansion of the MV distribution grid.

Project Component 3 - US$11.20 million

Rehabilitation and Expansion of Medium Voltage System in Southern Region

This project component will rehabilitate the medium voltage systems in the same project communes in the southern region of Vietnam, where the low voltage systems are rehabilitated and expanded in the project component 1. This component is implemented by PC2. The total cost of this component is US$11.2 million of which US$8.5 million will be financed from the IDA credit, and US$2.7 million financed by PC2 from counterpart funds.

Phase 1 US$6.58 million : In this phase the project will rehabilitate and expand the Medium Voltage System of about 62 communes, in two project provinces, Ben Tre and Ca Mau. This component involves the supply and construction of about (i) 686 km of 22 kV MV lines, (ii) 882 substations with the total capacity of 27,800 kVA. The cost of phase 1 of this component is US$6.58 million, of which US$4.51 million will be financed by the IDA credit, and US$2.07 million financed by PC2 from counterpart funds.

Subsequent Phases: In subsequent phases, a further about 93 communes in 4 provinces will undergo major upgrading and expansion of the MV distribution grid.

Project Component 4 - US$17.98 million
Rehabilitation and Expansion of Medium Voltage System in Central Region

This project component will rehabilitate the medium voltage systems in the same project communes in the central region of Vietnam, where the low voltage systems are rehabilitated and expanded in the project component 1. This component is implemented by PC3. The total cost of this component is US$17.98 million, of which US$14.2 million will be financed by the IDA credit, and US$3.78 million financed by PC3 from counterpart funds.

Phase 1: US$9.52 million: In this phase the project will rehabilitate and expand the Medium Voltage System of about 110 communes, in two project provinces, Quang Ngai and Phu Yen. This component includes the supply and construction of about (i) 463 km of 22 kV MV lines, (iii) 796 substations with the total capacity of 96,220 kVA. The cost of phase 1 of this component is US$9.52 million, of which US$8.14 million will be financed by the IDA credit, and US$1.38 million financed by PC3 from counterpart funds.

Subsequent Phases: In subsequent phases, a further 112 communes in 4 provinces will undergo major upgrading and expansion of the MV distribution grid.

Project Component 5 - US$7.00 million
***Technical Assistance*:** The total cost of this component is US$7 million, of which US$1.5 million will be financed by the IDA credit, US$5.25 million financed by GEF and $0.25 million by the GoV. This component will be implemented by MoI. This project component will introduce a program of regulatory reform and capacity building and replicate the lessons learned to other LDUs. It will consist of:

Reform and regulation comprising the following activities:

- Development & implementation of a framework for regulation of companies and cooperatives by the provincial Departments of Industry that covers tariffs & prices, conditions of service, metering, billing, collections, accounting standards, and financial oversight. This would include basic training for the LDUs in their legal obligations;
- Development and implementation (through MoI and provincial Departments of Industry) of a program to establish standard curricula and training for electricians, meter readers and other common distribution job functions;
- In conjunction with the MOI and the Provincial Department of Industry, development, introduction, and application of standard specifications for planning, installation, repair of common LV distribution network components, including sizing of transformers, wires, poles, etc, and basic safety requirements in the LV distribution system, especially standards for grounding, protection, and insulation;
- Training regulators in managing for performance efficiency and regulatory techniques to encourage sustained high performance by LDUs. In addition, the reform component will structure the regulatory framework to increase the incentives for LDUs to maximize efficiency – for example by seeking ways to encourage LDUs to consolidate;
- Reviewing regulatory requirements to ensure that the barriers are removed and incentives are in place to encourage high performance behavior by LDUs, including consolidation; and
- Experimentation with performance-based regulation at the organizational level and employee incentive schemes at the personnel level that operate together to create

conditions for continued and sustained performance improvements. Several of the Phase 1 provinces could undertake variations of performance based regulation and the results could be compared for effectiveness and replicability.

Transforming the LDUs into legal entities which would involve assisting the LDU:

- Determine the legal entity which most suits the needs and wishes of the consumers it serves; and
- Identifying and supporting the necessary legal processes managers of the LDU must undergo to set it up.

Institutional development and capacity building which would include the following activities:

- Developing customized training and support programs for LDU management and staff during the LDUs' creation and early stages, to develop and promulgate improved practices and techniques for technical and managerial personnel within the LDUs. This may be achieved through the continued use of EVN PSDs on a contract basis, as well as encouraging private sector provision of training and support which would include:

  - Day to day activities such as meter reading, billing and commercial management as well as simple technical work,
  - Support to set up management and business systems and procedures, initially based on simple, manual methods,
  - Support for distribution planning and engineering for improved-performance designs for LV systems and, possibly, MV systems,
  - Undertaking initiatives for reducing losses and bulk power purchase requirements on the supply side, including technology solutions (prepayment meters) and customer services solutions (village electrician); and
  - Support for ensuring that the maximum number of customers are connected, including rate solutions (low-income rates or subsidies), and credit to overcome the high first-cost barrier (payment of connection fees over several months).

- Development of an integrated approach to economic development including support for identifying productive uses, and facilitating providing financing for them through existing rural finance channels; and

- Training, information and outreach for local financing agencies so that LDUs (both REII and non-project LDUs) can obtain local counterpart financing for rehabilitation and continued system expansion from non-government sources. Demonstrating sustained high performance levels by following the guidance in both the baseline and the enhanced reform component will reassure financiers that the rehabilitation and extensions are sustainable and thus a good business prospect.

The replication activity would have two purposes. First it would seek to distill best practice learned during the first phase of REII and promote it during the subsequent phases. This would be expected to be a relatively small part of the effort but will provide useful 'learning by doing' experience for the second purpose. Second it would replicate the best practice learned during REII among non-REII LDUs as they undergo reform and rehabilitation. An estimated 500 LDUs would be covered from within the project. Every province and district PC (around 300) outside the project would be targeted with some material and the most promising non-project

district/LDUs would be provided with follow up materials. Activities under this component would include:

- Identification of the needs of potential LDUs and stakeholders, based on the evidence of experience in the first- and second-phase project provinces, and distilling the best practice lessons from it;

- Preparing and disseminating materials through literature, video, TV and visits for PPCs and GoV departments in later phase and non-project provinces describing the new regulations, the changes coming and how they can prepare for them;

- Preparing and disseminating educational materials including leaflets and handbooks, describing the lessons from experience, provided to later phase and non-project CEGs and consumers;

- Preparing and disseminating information on how to form an LDU, provided to commune, district and province leadership; and

- Community development activities, including commune- and district-level meetings with officials and other stakeholders in what to expect.

Phase 1: First phase of the project component would focus on the following activities:

- Undertaking the bulk of the development work for the regulatory framework, though the expectation would be that the experiment with performance-based regulation would not be initiated;

- Setting up the training network, 'training the trainers' and conducting approximately one quarter of the expected training and support programs; and

- Starting work on the evaluation of best practice for replication purposes and starting replication with the later-phase provinces.

Subsequent Phases: In subsequent phases, focus would be more extensively on the training and support of the LDUs and increased efforts on replication.

An Consultative Group(CG), financed by GEF, consisting of 4-5 members with expertise in the regulatory (legal), institutional, financial, technical and commercial areas to the MOI Steering Committee will be set up to help plan, oversee and implement the capacity building program.

Summary:

Total Project Financing

Project Component	Total Cost US million	IDA Financing	GEF Financing	Counterpart Funds	Local Communities
LV Systems in 30 provinces	242.75	162.8	0	45.25	34.7
MV under PC1	42.23	33	0	9.23	0
MV under PC 2	11.2	8.5	0	2.7	0
MV under PC 3	17.98	14.2	0	3.78	0
Capacity building	7	1.5	5.25	0.25	0
Services charge and commitment fees	8.34	0	0	8.34	0
Total Financing	329.5	220	5.25	69.55	34.7

Phase 1 Project Financing

Project Component	Total Cost US million	IDA Financing	GEF Financing	Counterpart Funds	Local Communities
LV Systems in 6 provinces	79.87	54.26	0	15.19	10.42
MV under PC1	7.43	5.87	0	1.56	0
MV under PC 2	6.58	4.51	0	2.07	0
MV under PC 3	9.52	8.14	0	1.38	0
Capacity building	7	1.5	5.25	0.25	0
Services charge and commitment fees	2.8			2.8	
Total Financing	113.2	74.28	5.25	23.25	10.42

Annex 3: Estimated Project Costs

VIETNAM: Rural Energy II

A)Summary of Estimated Costs for Project Components for all Phases

Sub-component	Implementing Agency	LC	FC	Total
		$ mil	$ mil	$ mil
Rehabilitation and expansion of Low Voltage System	PPC of project provinces	122.86	50	172.86
Rehabilitation and expansion of Medium Voltage system in northern region	PC1	23.2	11.8	35
Rehabilitation and expansion of Medium Voltage system in southern region	PC2	6.2	3.1	9.3
Rehabilitation and expansion of Medium Voltage system in central region	PC3	9.9	4.9	14.8
Technical Assistance and capacity Building	MoI	0.25	1.5	1.75
Taxes and Duties		19.5		19.5
Total Base cost		**181.91**	**71.3**	**253.21**
Physical contingency		10.2	3.8	14.0
Price Contingency		10.2	3.8	14.0
Total Cost		**202.31**	**78.9**	**281.21**
IDA services charge		**5.20**		**5.20**
Commitment fee		3.14	0	3.14
Household's connection	Customers	34.7		34.7
GEF	**MoI**	**2.25**	**3.0**	**5.25**
Total Financing Required		**247.6**	**81.9**	**329.5**

Project Cost by Category	LC $ mil	FC $ mil	Total $ mil
Goods	4.19	77.4	81.59
Works	148.47		148.47
Technical Assistance and Capacity Building	0.25	1.5	1.75
Administration & Engineering	19.5		19.5
Compensation and Environment mitigation	8		8
Taxes and Duties	21.9		21.9
Total Project Costs	**202.31**	**78.9**	**281.21**
IDA services charge	5.2		5.2
Commitment fee	3.14		3.14
Household's connection	34.7		34.7
GEF	2.25	3	5.25
Total Financing Requirement	**247.60**	**81.9**	**329.5**

Project Cost by Source of Financing	Implementing Agency	Counterpart	Customer Funds	IDA	GEF	Total
		$ mil	$ mil	$ mil	$ mil	$ mil
Rehabilitation and expansion of Low Voltage systems	PPC of project provinces	26.36		146.5		172.86
Rehabilitation and expansion of Medium Voltage systems in northern region	PC1	5.3		29.7		35
Rehabilitation and expansion of Medium Voltage systems in southern region	PC2	1.7		7.6		9.3
Rehabilitation and expansion of Medium Voltage systems in central region	PC3	2		12.8		14.8
Technical Assistance and capacity Building	MoI	0.25		1.5		1.75
Taxes and Duties		19.5		0		19.5
Total Base cost		**55.11**		**198.1**		**253.21**
Physical contingency		3.05		10.95		14.0
Price Contingency		3.05		10.95		14.0
Total Cost		**61.21**		**220**		**281.21**
IDA services charge		5.2				5.2
Commitment fee		3.14				3.14
Household's connection	Customers		34.7			34.7
GEF	**MoI**				**5.25**	**5.25**
Total Financing Requirement		**69.55**	**34.7**	**220**	**5.25**	**329.5**

Sub-Component (Phase 1)	Implementing	LC	FC	Total
		$ mil	$ mil	$ mil
Rehabilitation and expansion of Low Voltage systems	PPC of project provinces	41.28	16.8	58.08
Rehabilitation and expansion of Medium Voltage systems in northern region	PC1	4.1	2.1	6.2
Rehabilitation and expansion of Medium Voltage systems in southern region	PC2	3.7	1.7	5.4
Rehabilitation and expansion of Medium Voltage systems in central region	PC3	5.4	2.8	8.2
Technical assistance and capacity building	MoI	0.25	1.5	1.75
Taxes and Duties		6.5	0	6.5
Total Base cost		**61.23**	**24.9**	**86.13**
Physical contingency		3.1	1.2	4.3
Price Contingency		3.1	1.2	4.3
Total Cost		**67.43**	**27.30**	**94.73**
IDA services charge (0.75%)		1.8	0	1.8
Commitment fee (0.35%)		1.0	0	1.0
Household's connection	Customers	10.42	0	10.42
GEF	**MoI**	**2.25**	**3**	**5.25**
Total financing required		**82.90**	**30.30**	**113.20**

Project Cost by Category (Phase 1)	LC $ mil	FC $ mil	Total $ mil
Goods	1.4	25.8	27.2
Works	49.38	0	49.38
Technical Assistance and capacity Building	0.25	1.5	1.75
Administration & Engineering	7.20		7.2
Compensation and Environment mitigation	2.0		2
Taxes and Duties	7.2		7.2
Total Project Costs	**67.43**	**27.3**	**94.73**
IDA services charge (0.75%)	1.8	0	1.80
Commitment fee (0.35%)	1.0	0	1.00
Household's connection	10.42	0	10.42
GEF	**2.25**	**3**	**5.25**
Total Financing Requirement	**82.9**	**30.3**	**113.20**

Project Cost by Source of Financing (Phase 1)	Implementing Agency	Counterpart $ mil	Customer $ mil	IDA $ mil	GEF $ mil	Total $ mil
Rehabilitation and expansion of Low Voltage systems	PPC of project provinces	8.72		49.38		58.1
Rehabilitation and expansion of Medium Voltage systems in northern region	PC1	0.9		5.3		6.2
Rehabilitation and expansion of Medium Voltage systems in southern region	PC2	1.3		4.1		5.4
Rehabilitation and expansion of Medium Voltage systems in central region	PC3	0.8		7.4		8.2
Technical assistance and capacity building	MoI	0.25		1.5		1.75
Taxes and Duties		6.48		0		6.48
Total Base cost		**18.45**		**67.68**		**86.13**
Physical contingency		1		3.3		4.3
Price Contingency		1		3.3		4.3
Total Cost (without IDC)		**20.45**		**74.28**		**94.73**
IDA services charge (0.75%)		1.8				1.8
Commitment fee (0.35%)		1.0				1.0
Household's connection	Customers		10.42			10.42
GEF	MoI				5.25	5.25
Total Financing Required		**23.25**	**10.42**	**74.28**	**5.25**	**113.2**

C) Cost Estimates for PCCs, PC1, PC2 and PC3 for Phase 1:

PPC of Vinh Phuc, Ha Tinh, Quang Ngai, Phu Yen, Ben Tre and Ca Mau	LC $ mil	FC $ mil	Total Cost $ mil	Counterpart $ mil	Customer Contribution $ mil	IDA $ mil
Works						
Civil works	27.2		27.2	1.41		25.79
LV concrete poles, cross arms and foundations	6.22		6.22	0.36		5.86
LV Insulators and fittings	0.85		0.85	0.04		0.81
Goods						
LV conductors	0	11.93	11.93			11.93
Meter	0	4.9	4.9			4.9
Meter boxes and others material	1.3	0	1.3	1.3		
Administration	1.02	0	1.02	1.02		
Engineering	3.72	0	3.72	3.72		
Compensation and environment mitigation	1.09	0	1.09	1.09		
Taxes, and Duties	4.87	0	4.87	4.87		
Base Costs	46.27	16.83	63.1	13.81		49.29
Physical Contingency	2.31	0.84	3.15	0.69		2.46
Price Contingency	2.31	0.84	3.15	0.69		2.46
Total costs of LV	50.89	18.51	69.4	15.19		54.21
IDA Service Charge (0.75%)	1.33		1.33	1.33		0
Commitment Fee (0.35%)	0.78	0	0.78	0.78		0
Households Connections	10.42	0	10.42		10.42	0
Total Financing Required	63.42	18.51	81.93	17.3	10.42	54.21

PC1	LC	FC	Total Cost	Counterpart	IDA
	$ mil	$ mil	$ mil	$ mil	$ mil
Works					
Civil works	2.77	0	**2.77**	0.2	2.57
MV concrete poles, cross arms, foundations	0.77	0	**0.77**	0.14	0.63
Goods					
MV Insulators and accessories	0	0.31	**0.31**	0	0.31
MV conductors	0	0.33	**0.33**	0	0.33
Transformers	0	1.05	**1.05**	0	1.05
Disconnectors and protection equipment	0	0.17	**0.17**	0	0.17
Distribution boards	0	0.25	**0.25**	0	0.25
Administration	0.12	0	**0.12**	0.12	0
Engineering	0.16	0	**0.16**	0.16	0
Compensation and environment mitigation	0.18	0	**0.18**	0.18	0
Taxes, and Duties	0.6	0	**0.6**	0.6	0
Base Costs	**4.6**	**2.11**	**6.71**	**1.4**	**5.31**
Physical Contingency (5%)	0.24	0.11	**0.35**	0.08	0.27
Price Contingency (5%)	0.24	0.11	**0.35**	0.08	0.27
Total costs of MV PC1	**5.08**	**2.33**	**7.41**	**1.56**	**5.85**
IDA services charge (0.75%)	0.13	0	**0.13**	0.13	0
Commitment fee (0.35%)	0.08	0	**0.08**	0.08	0
Total Financing Required	**5.29**	**2.33**	**7.62**	**1.77**	**5.85**

PC2	LC	FC	Total Cost	Counterpart	IDA
	$ mil	$ mil	$ mil	$ mil	$ mil
Works					
Civil works	2.05	0	2.05	0.2	1.85
MV concrete poles, cross arms, foundations	0.71	0	0.71	0.12	0.59
Goods			0		
MV Insulators and accessories	0	0.2	0.2	0	0.2
MV conductors	0	0.57	0.57	0	0.57
Transformers	0	0.41	0.41	0	0.41
Disconnectors and protection equipment	0	0.26	0.26	0	0.26
Distribution boards	0	0.25	0.25	0	0.25
Administration	0.15	0	0.15	0.15	0
Engineering	0.48	0	0.48	0.48	0
Compensation and environment mitigation	0.48	0	0.48	0.48	0
Taxes, and Duties	0.48	0	0.48	0.48	0
Base Costs	**4.35**	**1.69**	**6.04**	**1.91**	**4.13**
Physical Contingency (5%)	0.21	0.08	0.29	0.08	0.21
Price Contingency (5%)	0.21	0.08	0.29	0.08	0.21
Total costs of MV PC2	**4.77**	**1.85**	**6.62**	**2.07**	**4.55**
IDA services charge (0.75%)	0.13	0	0.13	0.13	0
Commitment fee (0.35%)	0.07	0	0.07	0.07	0
Total Financing Required	**4.97**	**1.85**	**6.82**	**2.27**	**4.55**

PC3	LC	FC	Total Cost	Counterpart	IDA
	$ mil	$ mil	$ mil	$ mil	$ mil
Works					
Civil works	4.73	0	4.73	0.14	4.59
MV concrete poles, cross arms, foundations	0	0	0	0	0
Goods			0		0
MV Insulators and accessories	0	0.29	0.29	0	0.29
MV conductors	0	0.58	0.58	0	0.58
Transformers	0	1.4	1.4	0	1.4
Disconnectors and protection equipment	0	0.15	0.15	0	0.15
Distribution boards	0	0.42	0.42	0	0.42
Administration	0.11	0	0.11	0.11	0
Engineering	0.41	0	0.41	0.41	0
Compensation and environment mitigation	0.04	0	0.04	0.04	0
Taxes, and Duties	0.54	0	0.54	0.54	0
Base Costs	**5.83**	**2.84**	**8.67**	**1.24**	**7.43**
Physical Contingency (5%)	0.3	0.14	0.44	0.07	0.37
Price Contingency (5%)	0.3	0.14	0.44	0.07	0.37
Total costs of MV PC3	**6.43**	**3.12**	**9.55**	**1.38**	**8.17**
IDA services charge (0.75%)	0.17	0	0.17	0.17	**0**
Commitment fee (0.35%)	0.11	0	0.11	0.11	**0**
Total Financing Required	**6.71**	**3.12**	**9.83**	**1.66**	**8.17**

Annex 4: Cost Benefit Analysis Summary

VIETNAM: Rural Energy II

(Monetary Values are in VND)
(Base Year 2003)
[For projects with benefits that are measured in monetary terms]

	Present Value	of Flows	Fiscal	Impact
	Economic Analysis	Financial Analysis [1]	Taxes	Subsidies
Benefits:				
Vinh Phuc	73.0	34.7	1.03	
Ha Tinh	103.1	39.5	0.44	
Ca Mau	13.7	5.9	0.63	
Ben Tre	49.4	19.0	1.13	
Quang Ngai	83.5	35.8	2.55	
Phu Yen	52.0	21.1	0.75	
Phase 1	340.7	155.9	6.52	
Costs:				
Vinh Phuc	56.0	41.2		
Ha Tinh	66.1	51.3		
Ca Mau	10.8	9.2		
Ben Tre	38.0	25.4		
Quang Ngai	66.2	49.1		
Phu Yen	36.1	27.2		
Phase 1	273.2	203.4		
Net Benefits:				
Vinh Phuc	10.3	-6.5		
Ha Tinh	27.7	-11.9		
Ca Mau	1.7	-3.3		
Ben Tre	6.9	-6.4		
Quang Ngai	9.7	-13.3		
Phu Yen	11.2	-6.1		
Phase 1	67.5	-47.5		
IRR:				
Vinh Phuc	16.2%	3.9%		
Ha Tinh	19.4%	2.6%		
Ca Mau	13.2 %	-0.1%		
Ben Tre	14.1%	2.7%		
Quang Ngai	14.2%	0.7%		
Phu Yen	19.4%	1.8%		
Phase 1	16.5%	2.1%		

Economic benefit of the project is derived from: (i) consumers' surplus of the electricity users, (ii) reduction of the energy losses, (iii) saving of spending on the devices for the improvement of the quality of energy supplied and increased sales due to removal of system capacity constraints.
Financial benefit: Incremental sale revenues from overall projects of MV and LV lines in real terms, but assuming constant nominal tariff, are calculated for each province.
Fiscal benefit : Incremental tax revenue.
Financial costs: include: (i) capital costs for MV and LV networks which will be financed by the PC's and the PPC's, excluding connection lines from LV networks to customers which will be financed by the individual customers, but including physical and price contingencies; (ii) incremental operating costs, including power purchase costs; and (iii) taxes.
Economic Costs: are the costs invested for rehabilitation and expansion, excluding the fees and taxes, but including all the costs for connection to households financed by individual customers.

Summary of Benefits and Costs:

The economic costs of the Phase 1 of the project are $ 273.2 million while the benefits are estimated at $ 340.7 million. The cost benefit analysis of the phase 1 of the project yields an EIRR of 16.5% and NPV of US$68.5 Millions. The cost benefit analysis also demonstrated that the project is economically viable in all the six provinces.

The Financial rate of return (FRR), in real terms but assuming constant tariffs for incremental sales of 20 years for phase 1, is 2.1 %. The FRR in nominal terms is 4 %.

Main Assumptions:

A. Project Economic Analysis: The economic analysis for the project components are carried out using two scenarios: (i) "with" the project; and (ii) "without" the project. The "with" project scenario will be the investment to the rural networks for: (i) reduction of the losses from 30%-50% at present to about 8%; (ii) improvement of the supply and quality of the power supplied, so that rural customers can use the power for the production purposes, and can avoid spending on quality improvement devices, such as voltage stabilizers, or the standby diesel units; and (iii) increase in the number of electrified households in the local areas, since at the moment in many communes proposed for the project, electrified households coverage is still less than 80%. The "without" project scenario will be "doing nothing", that means that there will be no investment for the rehabilitation and expansion of the network, and the situation of the existing distribution system would further deteriorate: (i) the losses would increase; (ii) rural consumers can not use the poor quality grid power for the productive uses due to major voltage fluctuations; and (iii) there will be no opportunity for new connections of households, who will continue to use kerosene for lighting.

The economic analysis was done at the provincial level, which means that all the project communes, for both MV and LV systems, in a given province were analyzed together, using the Cost–Benefit methodology. For the estimation of the economic indicators, namely Economic Internal Rate of Return (EIRR), and Net Present Value (NPV) the following assumption are made: (i) all the costs are expressed in constant 2003 prices, making no adjustment for shadow exchange rate or the shadow wage rate, (ii) the capital investment costs for the first phase (presented in the Annex 2) are considered over 2005-2007 period, and analyses are made over a project economic life of 20 year (2005-2025), (iii) the cost for compensation, land acquisition and for service drops are included in the economic cost of the project, (iv) the operation and maintenance costs are evaluated at 2% of the investment costs, (v) the input energy bought to the

project is evaluated by the long run marginal cost (LRMC) at the end of the transmission system at 0.055 US$/kWh, and (vi) EIRR of the project component is the discount rate at which the present value of the costs and benefits streams are equal, and the net present value (NPV) is based on the discount rate of 10%, which is approximately the opportunity cost of capital in Vietnam.

Given the nature of the project -- rehabilitation and expansion of the distribution networks in the rural area- the project will provide benefits for two types of consumers, the existing consumers, and the new connected ones. For the existing consumers, the benefits will come from: (I) reduction of losses, the economic value of which is the LRMC at the end of the transmission and beginning point to the distribution system, or 0.055 US$/kWh; (ii) saving of customer expenditure on the electric devices for improving the quality of power supplied, (for example voltage stabilizers); the value of this is estimated at US$3.1 per user per year based on the price and life time of the device, and it is estimated that about 10% of the consumers in rural areas will purchase such quality improvement devices based on a survey; (iii) consumer surplus from converting from the other more expensive to the less expensive grid supplied energy for production and/or possibility of expanding production; and (iv) incremental sales. This assumes that due to the constraints of the supply from the network, all consumers of this demand are using power generated from diesel units. The benefits for the user converting from diesel power to grid power is defined by the difference between the costs of these two sources. It is estimated that the cost of power generated by small diesel is 2,877 VND/kWh, while the tariff charged for production and service purposes from the grid is 1,200 VND/kWh; so when the customer switches to grid power from diesel, the saving is 1677 VND/kWh or 10.8 US cent/kWh. For the new connected consumers, the benefits are estimated based on consumers' surplus when he switches from kerosene lighting to electricity lighting. Surveys show that on average one household uses 2 lamps for about 3 hours per day, and the monthly consumption of kerosene is about 3 liters. Based on these assumptions, the economic benefits of a new connected household, in term of the consumer surplus, is estimated to be US$91 per household per year. The demand forecast is based on the following factors of each project commune: (i) historical consumption, with the consideration of the suppressed demand due to constraints of the existing system; and (ii) economic development indicated by the forecasted GDP.

Economic justification for the project has been carried out for the all communes included in the project for a given province. Sensitivity analysis was carried out for some key parameters. In this project, the demand forecasts and the cost of the project are the most important variables. The following scenarios have been assumed in the sensitivity analysis: (i) costs increase by 10%, (ii) demand decrease by 10%, and (iii) the worst case when costs increase by 10% together with a demand decrease of 10%. The results of this analysis are also presented in the Table 1**.**

Table 1: Economic Analysis of the Project

	Base Case		**Cost increase 10%**		**Benefits decrease 10%**		**Cost increase 10% & demand decrease 10%**	
	EIRR (%)	NPV (US$ mil)	EIRR (%)	NPV (US$ mil)	EIRR (%)	NPV (US$ mil)	EIRR (%)	NPV (US$ mil)
Vinh Phuc	16.2	10.3	15.0	8.84	12.4	3.69	11.3	2.2
Ha Tinh	19.4	27.6	18.2	25.6	16.6	18.28	15.5	16.2
Ben Tre	14.1	6.9	12.9	5.16	11.3	2.11	10.4	0.7
Ca Mau	13.2	1.7	12.1	1.21	10.9	0.44	9.9	-0.04
Quang Ngai	14.2	9.7	13.0	7.47	11.0	2.1	9.9	-0.12
Phu Yen	19.4	11.2	17.9	10.0	15.7	6.47	14.4	5.3
Phase 1	**16.5**	**67.5**	**13.7**	**40.1**	**13.4**	**33.4**	**10.6**	**6.1**

Sensitivity analysis / Switching values of critical items:

Table 2: Switching Value of the Critical Items to Drop Project EIRR to 10%

	Benefits decrease to	Cost increase to
Vinh Phuc	16.8.7%	84.5%
Ha Tinh	235.5%	70.7%
Ca Mau	134.9%	86.3%
Ben Tre	146.3%	84.9%
Quang Ngai	141.4%	87.7%
Phu Yen	254.6%	71.0%
Total Phase1	***124.6%***	***80.3%***

B. Project Financial Analysis: A financial analysis of the phase I package of the project was undertaken by valuing incremental revenues and costs at the prevailing regulated tariffs in rural areas. The real tariff is assumed to remain constant throughout the forecast period while incorporating changes in the composition of total demand served. The estimated levels are VND700 per kWh for residential use, and VND1,000 per kWh for production, commercial, and irrigation use. The following cost assumptions are made: (a) capital costs are baseline costs plus physical and price contingencies; (b) power purchase prices at the beginning point of 22/35 kV distribution system are estimated based on an average current purchase price of PCs in Vietnam in addition to estimated PCs' losses to the point; power purchase prices are assumed to remain constant through out the forecast period; (c) operating and maintenance (O&M) costs for MV lines are estimated at 1% of investment costs and O&M costs for LV lines are estimated at 4-7% of sales revenues depending on the administrative level of LV management; (d) transmission and distribution losses are estimated at 1% for MV networks and about 5.6-6.0% for LV networks after project implementation; (e) foreign costs are converted to Vietnamese Dong at VND15,500 per one US dollar, assuming all investments will be implemented during the first year; (f) local inflation is estimated at 3%; and (g) income tax ratio is assumed as 28%.

FRR for the overall project under phase I package is estimated at about 2.1 %. The detailed results by province are presented in the table below and range from 3.9% to negative 0.1%. The value of net financial benefits is significantly less than that of economic benefits because of subsidized retail tariffs and bulk supply tariffs for rural areas. Currently, sales tariffs from PCs to local distribution entities for rural network are regulated at a subsidized level lower than PCs' average purchase price from EVN in order to achieve low retail tariffs in rural areas. The regulated low supply tariffs from PCs will result in negative financial returns for PCs' investments on MV lines. However, the current customer and tariff structure enables PCs to cross-subsidize rural residential and agricultural consumers with industrial and commercial consumers maintaining robust demand and PCs are expected to absorb financial burden of capital investment on rural distribution networks. In addition, local governments, who implement LV networks, are expected to recover the estimated weighted average cost of capital and provide adequate support to LDUs.

Sensitivity Analysis: The sensitivity of FRR to following three factors with pessimistic assumptions was examined: increase in capital costs; demand decrease; and operation costs increase. the result of this analyses is given in Table 3.

Table 3: Sensitivity Analysis for Financial Rate of Return

(US$: million)

	Base Case		Cost Increase 10%		Demand Decrease by 10%		Cost Increase and Demand Decrease by 10%		System Losses Increase by 2%	
Vinh Phuc	2.8%	-7.2	2.1%	-8.6	2.0%	-7.9	1.3%	-9.3	2.0%	-7.9
Ha Tinh'	1.9%	-12.6	1.2%	-14.6	1.1%	-13.4	0.5%	-15.5	1.2%	-13.3
Ca Mau	-0.8%	-3.4	-1.5%	-3.9	-1.6%	-3.6	-2.2%	-4.1	-1.4%	-3.5
Ben Tre	2.0%	-6.7	1.3%	-7.9	1.2%	-7.3	0.5%	-8.5	1.5%	-7.1
Quang Ngai	-0.1%	-13.9	-0.8%	-16.0	-0.9%	-14.7	-1.6%	-16.9	-0.9%	-14.8
Phu Yen	1.0%	-6.4	0.3%	-7.5	0.2%	-6.9	-0.5%	-8.0	0.2%	-6.9
Total	**1.3%**	**-50.3**	**0.7%**	**-58.5**	**0.6%**	**-53.7**	**-0.1%**	**-62.1**	**0.6%**	**-53.4**

C. Financial Analysis of the Local Distribution Utilities:

After the upgradation and rehabilitation of the LV networks in the various provinces, the existing ad hoc management of the LV system is to be converted into local distribution utilities (LDUs). These LDUs will be either cooperatives under the Cooperative Law or Joint stock companies under the Enterprise Law. Developing financially viable and sustainable LDUs, which will operate LV network in provinces, is one of the main objectives of the project.

Screening of LDUs for Financial Viability**.** Financial performance of LDUs is estimated to vary depending on many factors, administrative level of LDUs, covered service areas, load forecast, investment costs per kWh consumed mainly due to topographical reason and population density, operating costs, and system losses. PPCs are required to select participating LDUs to the project to ensure that the investments generate enough revenues to cover PPCs' funding costs and ultimately ensure payback of the on-lent IDA credit. The minimum requirement for an LDU's eligibility to participate in the project was defined, for every province, as achievement of a rate of return on project investment over 20 years by the LDU equal to or greater than the estimated PPCs' weighted average cost of capital. Since PPCs' funding sources mainly consist of state budgets, tax revenues, and IDA credit on-lent by MOF, through the Development Assistance Fund (DAF), their cost of capital was estimated as 2.25 % (i.e. the weighted average of IDA credit, 75%, and other government loans, 25%). Based on this criteria, IDA reviewed 203 LDU proposals from the 6 provinces including their demand forecast, investment plan, and financial cash flow projections. As a result, one provincial LDU, 22 district LDUs, and 97 commune cooperative LDUs were selected for phase I package.

Financial Analysis for LDU Sustainability. Analysis of the financial sustainability of screened LDUs under phase I package involves an analysis of the existing electricity market; the projected electricity sales as a result of the Project, the tariff structure, the institutional arrangement to support LDUs, and the projected financial performance of LDUs.

Existing Market. The residential consumer base is predominant in the rural network system. Electricity consumption in Phase I project areas is dominated by residential consumers, on average 75%, followed by commercial consumers and production consumers, 15% and 8%, respectively. Unit consumption per household is estimated to be on average 324 kWh/ annum in 2005.

Projected Electricity Demand. Present demand is estimated to be greater than current production due to capacity constraints. The projections of expected growth in electricity consumption in the project area by all LDUs are expected to increase from 375GWh per year in 2005 to 770GWh per year in 2015. This is based on new connections, increase in unit consumption and projected increase in production and commercial use.

Tariff. Retail tariffs in rural areas are regulated by the government, with ceiling price of VND700 per kWh for residential use. In practice, some local distribution entities established by the local authority charge households at higher rates to cover the costs of distribution system losses.

Affordability. During the preparation of the project, PPCs and PCs conducted surveys of household incomes and expenditures to understand their willingness to pay as well as ability to pay appropriate prices of electricity services. The survey showed that: (a) the average monthly household income was US$38 (in the south) ; (b) electricity use is about 25-30kWh/month, and (c) customers were willing to pay much higher tariffs for more reliable electricity.

System losses. Local distribution entities currently suffer from high system losses, on average 25% - 35%, due to geographical factors such as mountainous regions, remote areas and low population density, resulting in inefficiently designed networks, and lack of new investments to rehabilitate and maintain existing networks, which are largely obsolete. While some LDUs charge tariffs, especially non-residential tariffs, up to VND1,200-2,000 per kWh to cover high network losses, most cannot mobilize enough funds for appropriate network maintenance and expansion.

Projected Financial Performance of the Project LDUs: With the regulated tariffs, **Table 4 and 5** provide a distribution of FIRR of LDUs' investment cash flow and selected data on the projected financial and operational performance of LDUs summarized by each province under Phase I package.

Table 4 : Number of LDUs by the Level of FIRR of their Investment under the Project

FIRR	Provincial LDU	District LDU	Commune LDU
2.25% - 4.0%		2	25
4.1% - 6.0%	1	11	33
6.1% - 10.0%		8	33
10.1% -		1	6
Total	1	22	97

Table 5: Estimated Operational and Financial Indicators of LDUs by province

Province		Vinh Phuc	Ha Tinh	Ben Tre	Ca Mau	Quang Ngai	Phu Yen
Region		North	North	South	South	Central	Central
Type of LDU		86 Commune Cooperative	7 district JSC & 11 commune cooperative	6 district JSC	1 provincial JSC	6 district JSC	3 district JSC
Energy sales in 2005	GWh	83	76	45	9	103	59
Average Sales Growth during 2005-15		6.8%	9.0%	8.1%	11.0%	6.8%	6.4%
Total Number of Household connected in 2005	thousand	131	124	89	13	160	92
Increase in number of household connected in 2005	thousand	16	28	8	3	16	12
Total Investment Cost	VND million	207	294	141	41	256	143
Investment Cost per kWh	VND mil/kWh	2.5	3.9	3.1	4.6	2.5	2.4
Number of household connected per LV network (km)	Household/km	101	57	52	28	107	103
Operating costs (excl. depreciation) per revenue		8%	6%	6%	5%	6%	6%
Percentage of residential use in 2005		77%	71%	71%	54%	78%	78%
Percentage of residential use in 2015		62%	60%	63%	57%	78%	80%
FIRR of Investment		6.0%	4.3%	5.7%	5.1%	7.0%	7.8%

For the financial analysis the following assumptions are used: (i) Capital costs are included investments under the project and estimated cash outflow for minor existing assets, if applicable; (ii) Operating costs are included labor costs, maintenance costs and other operating costs; and (iii) Labor costs are include number of personnel per number of commune.

	Manager	Technical Staff	Operational Staff
Commune LDU	1	2	1 per 400-500 customers
District LDU	0.3	0.5	
Provincial LDU	0.2	0.5	

(iv) Maintenance and Other Operating costs estimated as 0.5% of sales and 1.0% of capital investment inflated by 0.2% per year, (v) System Losses about 6-7% per year and increased by 0.2% per year; (vi) loan terms are 20 years maturity, 10% interest rate, the tariff are assumed, grant amount based on the projected LDUs financial / operational performance of each LDU; and (vii) income tax 28%; (viii) tariff are (VND/kWh) as follows: for residential buying 429 selling 700, for production and commercial buying 803 selling 1,000 and for irrigation buying 660 selling 1,000 (tariffs include VAT except residential sales tariff which is tax exempt).

Revenue and Profitability**.** According to these results, all the LDUs have FIRR higher that 2.25 % and a larger number have an FIRR of between 4-6 %. Many of the LDUs will, however, incur net losses during early stages of the project implementation due to the fact that only gradual sales increase is expected. But the operating margin of LDUs is expected to improve gradually during the 20 year period as their sales increase.

The investment outcome in terms of IRR has been tested for variations in load forecasts, capital costs, operating costs, and system losses as shown in **Table 6**.

Table 6: Sensitivity Analysis of IRR of LDUs' Investments

Province	Vinh Phuc	Ha Tinh	Ben Tre	Ca Mau	Quang Ngai	Phu Yen
Base Case	6.0%	4.3%	5.7%	5.1%	7.0%	7.8%
Demand decrease by 10%	4.5%	3.1%	4.4%	4.0%	5.7%	6.4%
Demand decrease by 20%	2.7%	1.8%	3.0%	2.8%	4.2%	4.8%
Demand increase by 10%	7.4%	5.3%	6.8%	6.1%	8.3%	9.1%
Capital cost overruns by 10%	5.0%	3.4%	4.7%	4.2%	6.1%	6.7%
Capital cost overruns by 20%	4.2%	2.6%	3.9%	3.5%	5.2%	5.8%
Capital cost underruns by 10%	7.1%	5.3%	6.7%	6.0%	8.2%	9.0%
Operating cost increase by 10%	5.5%	4.0%	5.3%	4.8%	6.7%	7.5%
System losses added by 5%	3.1%	2.0%	3.3%	3.1%	4.9%	5.7%

Note : IRR is an average of LDUs in each province.

Conclusions of the Analysis: LDUs' performance varies with wide variation in key assumptions but the sensitivity analysis above shows that LDUs can operate as financially sustainable entities with an IRR in the range of 4-7 %. Key parameters for sustainable operation of LDUs is its operational efficiency in the control of system losses and collection ratios. Decrease in collection ratios will have similar effect as increase in system losses. Tight cash flow during the early stage of the project may make DSCR less than 1.0 in the early years and debt to equity ratio may also deteriorate during this period. Some of the LDU may require some support from PPCs in these early years depending upon their business plans. Since all LDUs will be established as cooperatives or joint stock companies, the project provides proper incentives for LDUs to improve their operational performance.

Recommended measures to support LDUs long term financial sustainability

With a regulated tariff structure and level and well designed new distribution network, LDUs can be expected to improve their operational performance. However, it will take some time to transform existing ad hoc commune electricity groups into LDUs that are sustainable and able to finance maintenance, renewals and extensions from owners/members' capital, loans or retained earnings. In order to accelerate the emergence of healthy LDUs in the provinces, the following measures have been recommended and adopted in the project design:

> **Capital Subsidy from PPCs.** Under the project, PPCs will provide the LDUs loans and grants to cover the capital investments for rural distribution network upgradation and rehabilitation. The PPCs will arrange loans to be provided at domestic reference " market" rates (estimated at about 10%) but for 20 year term. PPC's will also provide capital grants to those LDUs which have to incur higher costs due to topographical constraints, remoteness of communes and larger number of poorer households subject to a grant ceiling of 45 % of the total project costs. Grants will be provided to the LDUs such that the discounted net project benefits of LDUs are equal to the discounted cash outflow of LDUs' debt services at the discount rate using the prevailing interest rate for the 20 year period. The PPCs would thus provide capital grants as subsidies at different levels for each LDU depending on its projected financial performance. The financial performance will be measured by financial rate of return of LDU's investment and its business plan with a target rate of 10 %. *The PPCs will be required to set transparent*

guidelines on requirements of capital subsidy grants, and terms and conditions of loans based on business plans presented by the LDUs.

Technical Assistance. The project will support technical, commercial, and financial management aspects of capacity building of LDUs. A GEF project will provide an initial grant for capacity building but in later years, the LDUs are expected to obtain the necessary technical assistance on contract basis from outside agencies including the PCs.

Loan term from PPC. LDUs' cash flow is expected to be extremely tight during the early stage of project implementation. The detailed terms and conditions of loans will be defined by the PPCs in consultation with IDA to provide adequate liquidity to the LDUs during the early stages of the project.

Annex 5: Financial Summary

VIETNAM: Rural Energy II

A. Financial Assessment of EVN and PCs

Financial Performance of EVN

1. Vietnam's economy grew a healthy 7% in FY02-03, fueled by domestic investment, consumer spending and export earnings, with public spending on infrastructure projects being the major factor driving growth. Mirroring this development, EVN recorded its highest growth rate of power production and sale: total electricity generated and purchased from IPPs in FY02 grew by 14% from the previous year and power sales by 17%. EVN also expanded the national power network and reached at least 10 million rural households, achieving an electrification rate of 81% for the whole country. With an average tariff increase of 15% in FY03, which was sufficiently robust to keep pace with inflation and the VND/US$ depreciation, EVN realized higher sales margin and liquidity, carried out a huge investment program (US$1.1 billion) and complied with financial covenants: Self Financing Ratio (SFR) at 75% and the Debt Service Coverage Ratio (DSCR) at 6.6x, exceeding the requirement of 30% and 1.5x, respectively. EVN had consistently maintained satisfactory financial performance as reflected in its financial ratios.

	1996	1997	1998	1999	2000	2001	2002
Debt Service Coverage Ratio (DSCR)	13	31	37.7	8.6	2.6	1.6	3.3
Self-financing Ratio (SFR)	51%	30%	26%	34%	42%	26%	42%
Operating Margin as % Net Sales	26%	11%	13%	16%	12%	10%	12%

Financial Performance of the PCs

2. The seven power companies (PCs) are 100% subsidiaries of EVN, responsible for electricity distribution in the north, south, and center of Vietnam and major cities of Hanoi, Ho Chi Minh City, Hai Phong, and Dong Nai. PCs own and operate distribution networks below 110kV as independent accounting units. EVN plans to establish additional three PCs, spun off from existing PCs, in urban or industrial areas. The impact of the separation of profitable areas from existing PCs and future allocation of bulk supply tariffs by EVN will be significant. Between FY00-03, PCs 1, 2, and 3 (table below) sustained an increase in electricity demand averaging 17% annually due to the rapid economic growth, especially in the south's industrial sector. Because PCs purchase bulk power from EVN at levels to ensure cost recovery and reasonable profits, their operating margin had remained stable through the years.

PC1		2000	2001	2002	2003
DSCR	times	16.1	1.6	2.8	5.2
SFR		50%	49%	65%	52%
Operating Ratio		96%	95%	96%	94%
Network Losses		9.5%	9.1%	8.8%	11.2%
Collection Period	days	35	27	26	35

PC2		2000	2001	2002	2003
DSCR	times	5.5	3.9	15.6	13.0
SFR		28%	88%	80%	83%
Operating Ratio		98%	96%	96%	93%
Network Losses		11.5%	11.3%	10.4%	9.6%
Collection Period	days	16	16	17	19

PC3		2000	2001	2002	2003
DSCR	times	6.6	5.1	6.4	9.0
SFR		54%	45%	40%	62%
Operating Ratio		92%	92%	94%	91%
Network Losses		8.9%	7.7%	8.1%	7.4%
Collection Period	days	34	45	45	30

Note: 2000-02 are audited actual, 2003 is unaudited actual.
Loss increase of PC1 in 2003 is due to an increase of MV line.

B. Key Financial Issues

3. Electricity Tariffs. Retail electricity tariffs, currently uniform across Vietnam, are set by the Government. Existing electricity retail tariffs were rationalized and raised periodically since March 1992. Further upward revisions in the tariffs were implemented in August 1994, June 1995, April 1996, May 1997, October 1999, and October 2002. Agreement on the phased implementation of electricity tariff adjustments was reached between the Government and the Creditors (ADB, JBIC and IDA) in May 2001. Among other things, it called for average tariffs to increase in stages beginning July 1, 2001 to Usc 5.6/kWh until it reaches USc 7.0/kWh in July 2005. The Government complied with the first round of tariff increase but subsequent increases according to the schedule were not made arguing that (a) the increase could undermine the country's economic competitiveness vis-à-vis regional and international integration; (b) it was concerned over the socio-economic goals for the country, fiscal resources for development and consumers' ability to pay for electricity; and (c) there was no compelling reason to raise tariffs while EVN's actual financial results and forecasts showed that financial covenants were and would be comfortably met at current tariff levels until 2006.

4. Bulk Power Tariffs. The current bulk supply tariff to the PCs, is a complicated, iterative process that takes into account the different average revenues per consumers in the various PCs. It is set by EVN to ensure that at the uniform tariff level, the PCs' financial viability and cross-subsidization of consumers are achieved. The internal bulk power price is inappropriate because: (a) it is not based on economic criteria; (b) it is not cost-oriented and too low to reflect the actual costs of generation and transmission; (c) lacks a strong incentive for PCs to control costs; and (d) provides the wrong signals toward manpower reduction, productivity and capital expenditures. If the PCs are to be truly independent companies, a bulk power regime is required that encourages economically efficient transaction between entities. An ongoing study is developing recommendations for a commercial bulk power supply tariff between EVN and the PCs, and associated retail tariff levels and structure. A credit condition under the first Rural Energy Project require EVN to implement suitable bulk tariffs. The study recommendations for the transition of the PCs to marginal-cost-based-bulk supply rates should be implemented. *Agreement would be*

reached with EVN during negotiations to implement by FY05, a phased approach to commercial bulk supply tariffs.

5. Automatic Tariff Adjustment Mechanism. EVN proposed to the Government in FY01 that the retail tariff include a foreign exchange price adjustment or an automatic pass through to consumers which would enable EVN to recover within its invoiced sales, certain foreign exchange losses over base rates. The Government deferred action on the proposal until recently but is now considering indexing tariffs to deflect future public criticism. *Agreement would be reached that the Government consider this mechanism and by FY06 apply at reasonable intervals an adjustment that would entail the difference from foreign exchange compared with base rates and through the formula, any differences would be recovered from consumers through the automatic adjustment.*

6. Power Development Plan and Financing. EVN needs sufficient financing of capital investments, and hopes that the sum could come from foreign official development assistance (ODA) and private businesses. According to EVN's Fifth Power Development Plan, the country will need about US$10 billion for power plants; US$5 billion for power grids; and US$6 billion for debt repayment. However, EVN's internal cash generation can only meet 50% of these requirements, in addition to the external financing it had already sought. At present, besides ODA sources, the Japanese Ministry of Economics, Trade and Industry (METI) is actively supporting its businesses in seeking investment opportunities in Vietnam offering EVN hope in attracting more Japanese investment into the national electricity industry. EVN, to date, had received some US$3.7 billion of ODA capital from the international sources of which the Japanese Bank for International Cooperation (JBIC) had been the largest ODA provider to the industry (US$2.2 billion), followed by IDA, ADB and the Swedish International Development Agency (SIDA) and other aid agencies, notably France, Germany and Spain. The investment financing gap of about 40% will require serious thinking from the Government in fine-tuning sector priorities and strategies. *Agreement would be reached that EVN would prepare and furnish to IDA for its review and comment: (a) its proposed Power Development Plan (PDP); (b) a report on the progress in the program for the succeeding 5 years; and (c) a review of policy and levels of electricity tariffs, including proposed adjustments.*

7. Appropriateness of Financial Covenants. The financial covenants of various IDA Credit Agreements provide the framework for financial discipline at EVN and represent a statement of objectives which the Government and IDA consider important for achieving and maintaining EVN's satisfactory financial performance. *It would be agreed during negotiations that the following financial covenants would supercede previous other covenants: (a) SFR of no less than 25%; (b) Debt Service Coverage Ratio of no less that 1.5x; and (c) debt equity ratio not to exceed 70:30.*

8. *Tariff Covenant.* In revisiting the existing tariff covenant, it was concluded that: (a) using an indicator of cost recovery through the Long Run Marginal Cost (LRMC) to achieve financial objectives is questionable; (b) binding the Government to a time bound plan to raise tariffs based on a study conducted several years back has little merit; and (c) the feasibility of implementing yearly tariff increases and the ramifications of a politicized tariff debate raised serious concerns. The financial covenants, not the tariff covenants, should provide the basis for monitoring financial performance and should be distinguished from other objectives of pricing, economic efficiency and resource allocation. On this basis, *IDA management had agreed to discontinue the use of the tariff covenant in existing IDA projects*.

9. *Revenue Covenant.* Internally generated funds should contribute to a significant level of investments that would promote financial viability, satisfactory financial performance, and prudent financial management. The covenant also addresses the financial sustainability of the power sector and its ability to attract private financing. In view of the substantial investment requirements of EVN, economic uncertainties, and the downside risk of critical financial assumption parameters not materializing, the SFR ratio would be reduced from 30% to 25%. *Agreement would be reached that the Government would: (a) allow EVN and the PCs to finance from internal sources equivalent to not less than 25% of the annual average of its capital expenditure incurred, or expected to be incurred, for this year, the previous year, and the next following year; (b) review and adjust EVN's tariffs as necessary to ensure that EVN earns 25% SFR; and (c) undertake necessary measures including but not limited to raising tariffs to allow EVN and the PCs to meet financial covenants.*

10. *Capital Structure Covenant.* At the outset, EVN's fixed assets were largely financed from government equity and no significant long-term debt were incurred. Currently, new assets are financed 50% from long-term borrowings and 50% retained earnings. Due to Government's policy of refraining from making any capital contributions to EVN except for socially-oriented projects like rural electrification, and only via capital subsidies, and making EVN financially autonomous, the debt equity ratio has been steadily rising from 11:89 in FY96 to 49:51in FY02. While EVN's growing reliance on external long-term debts to finance capital expansion is typical of a relatively young utility and its capital structure is still satisfactorily leveraged, the pressure of servicing these debts is beginning to have a significant impact on cash flow. The DSCR has been declining in recent years from its peak of 218x in FY98 to 3x in FY02. Although the ratio is satisfactory and well below the required minimum of 1.5x, the challenge is for EVN to maintain a sound financial condition while in an expansive mode. In order to impose prudent limits on long-term borrowings and ensure that EVN maintain a satisfactory financing plan, *agreement would be reached at negotiations that EVN would maintain revenues at least 1.5 times its total debt service requirements and that it would not incur further long term debt if such additional debt would raise the debt equity ratio to more than 70:30.*

11. Financial Planning and Forecasting. An Independent Creditors Model (ICM), funded by a PHRD TA, has been developed at EVN to be used as a transparent financial accounting and projection model and presented according to international financial reporting standards. The ICM should enable: (a) creditors to assess EVN's compliance with financial covenants; (b) EVN and PCs to use it as a consolidated financial planning tool; (c) the Government and EVN to determine retail and bulk tariff requirements; and (d) EVN to assess financial unbundling and restructuring efforts. The model was prepared using VAS data as required by EVN then translated to IFR/IAS standards, as required by creditors. Currently, EVN relies on external auditors to convert its financial accounts into IAS. EVN should be assisted in performing these conversions themselves, especially over the next few years, as changes are progressively introduced in VAS and IFRS. *Agreement would therefore be reached that EVN would (a) implement the recommendations of the study to improve its financial projections and to integrate these into its corporate planning and financial forecasting systems; and (b) provide resources to staff in maintaining and utilizing the model, including the training of staff in the translation of VAS to IFRS accounts.*

C. Financial Prospects of EVN and the PCs

12. Assumptions. A base case scenario was developed for EVN's financial projections which assumed that no tariff increase would be necessary until January 1, 2006 (bringing average tariffs from USc 5.6/kwh to USc 6/kwh) and incremental increases realized from a change in the tariff structure. Other assumption parameters include: (a) annual average load growth of 13%

based on MOI/ EVN's power development master plan; (b) hydro frequency of 50% on EVN's reservoirs; (c) an ambitious investment program in generation (US$11.2 billion), transmission (US$1.4 billion), and distribution (US$2.4 billion); (d) a financing plan for new investments consisting of 71% borrowings, 26% self generation, and state budget of 3%; (e) proceeds from plant equitization during FY05-10; and (f) cash balance at more than 30 days sales. Other significant assumptions in alternative scenarios include: (a) extraordinary income of about US$50 million from investments in the telecom business from FY06; and (b) implementation of an automatic adjustment mechanism in FY07.

13. EVN. The base case concluded that despite the delay in implementing tariff increases until FY06, financial results would still be favorable: SFRs of 28-38%; DSCRs of 2.6-3.3x; and D/E ratio of 57:43-65:35 in FY04-06. Beyond 2006, in order to meet financial requirements, additional cash inflows would come from proceeds of the sale of shares in power plants during FY05-10 estimated at about US$620 million (equitization of 13 plants had already been approved by the Government). Because of the heavy capital expenditures and consequent debt servicing during this period, SFR is projected to steadily deteriorate by FY10 to 19%, DSCR to 1.6x and D/E ratio to 75:25.

14. PCs. The PCs are expected to continue to show favorable results through FY08 despite the additional burden of investing in rural distribution networks under RE2 with an average DSCR of 4.8x and SFR of 76%. Rural electricity consumption is only about 16 % of the total electricity consumption in the country. It is estimated that that the total subsidy provided to the rural areas ,through lower bulk power tariffs by EVN, amounts to about 5-7 % of total revenues. Starting in FY08, however, the PCs will also face increasing capital costs and debt service requirements resulting in their DSCR and D/E ratio to decline to 6.5x (from 3.3x) and 56% (from 43%), respectively. Appropriate margins would be required to attract private funding sources to distribution business and enable internal cash generation to finance partly their increasing capital expenditure.

15. Stress Test under Various Scenarios. The financial performance of EVN for FY05-10 was also tested for several pessimistic scenarios.

- Scenario A (status quo): neither plant equitization nor tariff increase of USc 6/kWh in FY06 would occur;

- Scenario B (additional tariff increase to augment plant equitization delay): includes the initial tariff increase and further increases to meet the covenants in FY07; and

- Scenarios C (low load growth): assumes that load demand decreases by 10% , consequent delay in the construction of four generation plants and decrease in gas consumption.

16. A summary of results shows the sensitivity of financial ratios to changes in assumptions used in the base case financial projections:

Base Case

Tariff increase to 6 cents/kWh in 2006
13 plants equitization during 2005-10

	2004	2005	2006	2007	2008	2009	2010
Tariff with VAT (cent/kWh)	5.5	5.5	6.0	6.0	5.9	5.9	5.8
DSCR	3.4	2.7	2.7	2.2	1.9	1.8	1.6
SFR	38.7%	28.6%	28.0%	23.0%	22.9%	21.0%	19.2%
Debt Equity Ratio	1.3	1.6	1.8	2.2	2.5	2.7	3.0

Scenario A

No tariff increase to 6 cents/kWh in 2006
No plant equitization during 2005-10

	2004	2005	2006	2007	2008	2009	2010
Tariff with VAT (cent/kWh)	5.5	5.5	5.4	5.4	5.4	5.3	5.3
DSCR	3.4	2.6	2.2	1.7	1.6	1.5	1.3
SFR	38.7%	27.1%	18.0%	10.5%	13.3%	8.9%	2.4%
Debt Equity Ratio	1.3	1.6	2.0	2.7	3.2	3.8	4.8

Scenario B

Tariff increase to 6 cents/kWh in 2006
Additional tariff increases by 4-6% in 2007, 2009, and 2010 to meet financial covenants
Plants equitization during 2006-10 with one year delay

	2004	2005	2006	2007	2008	2009	2010
Tariff with VAT (cent/kWh)	5.5	5.5	6.0	6.2	6.2	6.4	6.5
DSCR	3.4	2.6	2.6	2.3	2.1	2.0	2.0
SFR	38.7%	27.2%	27.5%	25.0%	29.9%	29.2%	33.5%
Debt Equity Ratio	1.3	1.6	1.9	2.2	2.3	2.3	2.3

Scenario C

Demand decrease by 10%
Tariff increase to 6 cents/kWh in 2006
13 plants equitization during 2005-10

	2004	2005	2006	2007	2008	2009	2010
Tariff with VAT (cent/kWh)	5.5	5.5	6.0	6.0	5.9	5.9	5.8
DSCR	3.4	2.4	2.3	2.0	1.7	1.6	1.5
SFR	38.9%	20.7%	22.5%	15.9%	16.0%	15.0%	9.2%
Debt Equity Ratio	1.3	1.6	2.0	2.5	3.0	3.3	3.9

Attachment 1: Financial Performance of EVN

Electricity of Vietnam

Key Performance Indicators

& Covenant Compliance - IAS Basis

		Actual						
		1996	1997	1998	1999	2000	2001	2002
A.	**Tariffs (net of VAT)**							
	Average Retail Tariff (VND/kWh)	516	566	595	645	675	678	687
	Average Retail Tariff (US Cents/kWh)	4.7	4.9	4.5	4.6	4.8	4.6	4.5
	Exchange Rate (VND/US$)	11,030	11,543	13,235	13,942	14,166	14,817	15,266
B.	**Covenant Compliance - IAS Basis**							
	Debt Service Coverage Ratio (DSCR)	13.0	31.0	37.7	8.6	2.6	1.6	3.3
	Self-Financing Ratio (SFR)	51%	30.0%	26.0%	34.0%	42.4%	26.0%	41.9%
	Return on Average Net Fixed Assets	14.6%	1.9%	3.6%	3.3%	2.1%	3.7%	4.4%
C.	**Operating Indicators**							
	Gross Generation (GWH)	16563	19,140	21,688	23,763	26,562	30,608	35,795
	Power Sales (GWH)	13,375	15,301	17,709	19,531	22,379	25,850	30,228
	Power Purchases (GWH)	4	9	808	1,351	1,635	2,127	2,109
	Losses (%)	19.2%	20.1%	18.3%	17.8%	15.7%	15.5%	15.6%
D.	**Profitability**							
	Operating Margin as % Net Sales	26.3%	10.6%	13.2%	16.2%	11.7%	10.1%	12.4%
	Average Fixed Assets to Net Sales (%)	143%	241%	210%	233%	259%	286%	310%
	Return on Equity (%)	15.7%	2.1%	4.1%	4.2%	3.2%	3.5%	5.3%
E.	**Liquidity**							
	Quick Ratio	0.9	0.9	1.8	1.7	1.4	1.2	1.6
	Current Ratio	1.1	1.1	2.7	2.8	1.7	1.5	1.9
	Debt Equity Ratio	0.1	0.2	0.5	0.7	1.0	1.0	1.0

Note: Gross generation includes power purchases.

Summary IAS Financial Projections

(VND billion - current prices)

		Actual						
		1996	1997	1998	1999	2000	2001	2002
A.	**Income Statements**							
	Net Sales	9,236	11,222	13,473	14,122	16,510	19,210	23,566
	Cost of Sales	5,729	8,719	10,914	10,930	13,574	15,959	19,068
	Overhead Expense	1,083	1,309	783	898	1,009	1,310	1,569
	Other Expenses	(147)	12	218	560	530	401	581
	Income Tax	632	671	535	645	515	541	676
	Net Profit	1,939	510	1,024	1,089	883	999	1,672
B.	**Balance Sheets**							
	Assets							
	Current Assets	12,927	18,626	14,215	14,863	11,191	12,720	17,629
	Non-Current Assets	26,479	27,542	28,995	36,677	48,844	51,205	58,687
	Total Assets	39,407	46,168	43,210	51,540	60,035	63,925	76,316
	Liabilities & Equity							
	Current Liabilities	11,531	16,365	5,186	5,385	6,573	8,576	9,496
	Long-Term Borrowing	3,145	5,340	12,825	19,064	25,565	26,601	32,645
	Equity	24,731	24,463	25,199	27,091	27,897	28,747	34,176
	Total Liabilities & Equity	39,407	46,168	43,210	51,540	60,035	63,925	76,316
C.	**Cash Flow Statements**							
	Cash Flows from Operating Activities	7,315	4,041	(2,808)	5,883	7,311	6,740	8,413
	Cash Flows from Investing Activities	(9,070)	(4,219)	(4,540)	(11,666)	(13,697)	(9,207)	(9,914)
	Cash Flows from Financing Activities	3,354	1,242	7,009	7,005	7,772	3,426	4,641
	Net Increase in Cash	1,600	1,064	(339)	1,221	1,387	959	3,139
	Cash at Beginning of Year	1,761	3,361	4,425	4,085	5,307	6,694	7,653
	Cash at End of Year	3,361	4,425	4,085	5,307	6,694	7,653	10,792

Attachment 2: Financial Performance of PCs

Financail Performance (VND: billion)

PC1		2000	2001	2002	2003	2004	2005	2006	2007	2008
Electricity Sales	GWh	5,921	6,843	7,872	9,052	10,015	11,075	12,241	13,533	14,963
Revenues		3,450	4,073	4,841	6,154	6,990	7,941	9,011	10,232	11,625
Operating Costs		3,315	3,875	4,654	5,801	6,379	7,375	8,421	9,631	11,026
Operating Income		136	198	186	353	611	566	590	601	599
Net Income		27	44	52	144	321	227	193	146	80
Total Assets		3,232	4,543	5,774	6,954	8,160	8,787	9,481	10,265	11,143
Long-Term Debt		746	1,286	1,603	2,088	3,541	4,407	5,337	6,421	7,721
Equity		2,081	2,721	3,390	4,205	4,434	4,584	4,704	4,783	4,823
Debt Service		19	21	251	230	248	359	474	596	676
Capital Expenditure		608	901	1,420	1739	2142	1585	1803	2070	2370
DSCR	times	16.1	1.6	2.8	5.2	6.2	4.2	3.6	3.2	3.1
SFR	%	50%	49%	65%	52%	63%	57%	62%	59%	58%
Debt Equity Ratio	%	26%	32%	32%	33%	44%	49%	53%	57%	62%

PC2	2000	2001	2002	2003	2004	2005	2006	2007	2008
Electricity Sales	4,224	5,007	6,149	7,398	8,500	9,860	11,400	13,110	15,000
Revenues	3,230	4,179	5,605	6,707	8,056	9,642	11,477	13,589	16,099
Operating Costs	3,173	4,026	5,370	6,240	7,524	9,035	10,857	12,964	15,461
Operating Income	57	153	235	468	533	607	620	625	638
Net Income	132	127	166	263	231	247	234	194	164
Total Assets	2,600	3,709	4,646	6,004	6,483	6,931	7,415	7,751	8,007
Long-Term Debt	468	942	1,220	1,439	1,957	2,431	2,621	2,690	2,677
Equity	1,678	2,162	2,699	3,691	3,826	3,941	4,065	4,182	4,279
Debt Service	35	17	36	66	158	215	235	289	370
Capital Expenditure	337	252	577	916	875	1,338	1,142	950	940
DSCR	5.5	3.9	15.6	13.0	7.1	5.6	5.6	4.7	3.7
SFR	28%	88%	80%	83%	68%	67%	93%	101%	106%
Debt Equity Ratio	22%	30%	31%	28%	34%	38%	39%	39%	38%

PC3	2000	2001	2002	2003	2004	2005	2006	2007	2008
Electricity Sales	2,272	2,660	3,051	3,512	4,042	4,662	5,387	6,238	7,239
Revenues	1,575	1,843	2,226	2,827	3,248	3,826	4,512	5,334	6,322
Operating Costs	1,450	1,695	2,088	2,566	2,970	3,623	4,356	5,194	6,246
Operating Income	125	148	139	261	277	204	156	141	76
Net Income	65	66	58	79	95	31	33	15	-34
Total Assets	2,108	2,583	3,524	4,232	4,586	5,065	5,811	6,652	6,875
Long-Term Debt	494	573	1,097	1,557	2,002	2,578	3,395	4,213	4,394
Equity	1,217	1,564	1,839	1,980	2,028	2,043	2,060	2,067	2,033
Debt Service	30	39	51	53	62	102	127	154	210
Capital Expenditure	330	569	546	546	815	869	852	1,283	1,440
DSCR	6.6	5.1	6.4	7.1	9.0	6.1	4.6	4.7	3.8
SFR	54%	45%	40%	44%	62%	57%	44%	46%	49%
Debt Equity Ratio	29%	27%	37%	44%	50%	56%	62%	67%	68%

Note: 2000-2002 are audited actual, 2003 is unaudited actual, and 2004-2008 are estimates.

Electricity of Vietnam
Key Performance Indicators
& Covenant Compliance - IAS Basis

		estimates	Projected					
		2003	2004	2005	2006	2007	2008	2009	2010
A.	**Tariffs (net of VAT)**								
	Average Retail Tariff (VND/kWh)	790	800	811	906	918	930	942	954
	Average Retail Tariff (US Cents/kWh)	5.0	5.0	5.0	5.5	5.4	5.4	5.3	5.3
B.	**Covenant Compliance - IAS Basis**								
	Debt Service Coverage Ratio (DSCR)	6.6	3.4	2.7	2.7	2.2	1.9	1.8	1.6
	Self-Financing Ratio (SFR)	74.2%	38.7%	28.6%	28.0%	23.0%	22.9%	21.0%	19.2%
	Return on Average Net Fixed Assets	10.4%	4.8%	2.5%	6.8%	6.0%	4.0%	4.1%	2.1%
C.	**Operating Indicators**								
	Gross Generation (GWH)	40,901	46,535	53,000	59,268	66,174	74,063	82,870	93,000
	Power Sales (GWH)	34,446	39,315	44,944	50,423	56,613	63,610	71,526	80,486
	Power Purchases (GWH)	2,113	6,296	11,354	14,456	17,170	24,904	26,712	32,610
	Losses (%)	15.8%	15.5%	15.2%	14.9%	14.4%	14.1%	13.7%	13.5%
D.	**Profitability**								
	Operating Margin as % Net Sales	22.7%	13.7%	8.5%	13.6%	12.5%	13.9%	14.8%	11.1%
	Average Fixed Assets to Net Sales (%)	296%	284%	279%	248%	253%	268%	290%	308%
	Return on Equity (%)	12.6%	5.4%	2.8%	7.4%	6.9%	5.3%	6.6%	4.0%
E.	**Liquidity**								
	Quick Ratio	1.8	1.3	0.8	0.5	0.4	0.4	0.4	0.4
	Current Ratio	2.0	1.6	1.1	0.8	0.7	0.7	0.6	0.6
	Debt Equity Ratio	1.2	1.3	1.6	1.8	2.2	2.5	2.7	3.0

Summary IAS Financial Projections

(VND billion - current prices)

		estimates	Projected					
		2003	2004	2005	2006	2007	2008	2009	2010
A.	**Income Statements**								
	Net Sales	29,882	34,539	39,990	50,093	56,998	64,879	73,904	84,249
	Cost of Sales	21,296	27,735	34,201	40,535	46,735	52,227	58,726	70,035
	Overhead Expense	1,813	2,074	2,398	2,743	3,149	3,635	4,210	4,888
	Other Expenses	1,073	1,460	1,432	1,763	1,934	4,555	5,027	5,290
	Income Tax	1,097	1,105	750	1,670	1,746	1,591	2,058	1,548
	Net Profit	4,603	2,166	1,209	3,381	3,433	2,871	3,882	2,489
B.	**Balance Sheets**								
	Assets								
	Current Assets	23,997	24,827	19,971	18,152	19,346	21,397	23,564	26,471
	Non-Current Assets	69,274	82,634	104,144	130,958	164,390	192,887	220,497	249,151
	Total Assets	93,271	107,461	124,114	149,110	183,736	214,284	244,060	275,622
	Liabilities & Equity								
	Current Liabilities	11,857	15,287	18,620	22,807	27,361	31,839	36,510	42,562
	Long-Term Borrowing	42,372	50,657	62,115	78,604	104,058	126,177	146,627	168,848
	Equity	39,042	41,518	43,379	47,699	52,317	56,267	60,923	64,212
	Total Liabilities & Equity	93,271	107,461	124,114	149,110	183,736	214,284	244,060	275,622
C.	**Cash Flow Statements**								
	Cash Flows from Operating Activities	14,565	13,209	14,195	17,787	19,945	24,439	28,629	32,116
	Cash Flows from Investing Activities	(19,080)	(22,702)	(32,116)	(38,590)	(46,865)	(44,286)	(46,292)	(51,071)
	Cash Flows from Financing Activities	10,234	7,972	11,112	16,941	26,079	21,968	18,373	19,731
	Net Increase in Cash	5,720	(1,522)	(6,809)	(3,862)	(841)	2,120	710	776
	Cash at Beginning of Year	10,792	16,511	14,989	8,180	4,318	3,477	5,597	6,308
	Cash at End of Year	16,511	14,989	8,180	4,318	3,477	5,597	6,308	7,084

Attachment 3

Bulk Supply Tariff (without VAT)

	1995	1996	1997	1998	1999	2000	2001	2002	2003
PC1	238	299	307	365	313	348	333	343	389
PC2	274	380	424	473	396	410	394	427	494
PC3	163	252	272	372	339	340	338	359	438
PC Hanoi	300	398	448	504	531	556	559	580	653
HCMC PC	350	442	487	545	606	589	617	643	728
PC Hai Phong	0	0	0	0	489	498	501	514	559
PC Dong Nai	0	0	0	0	648	644	618	623	686
Average							**464**	**481**	**543**

Annex 6(A): Procurement Arrangements

VIETNAM: Rural Energy II

A. General

Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement Under IBRD Loans and IDA Credits" dated May 2004; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, and the provisions stipulated in the Legal Agreement. For International Competitive Bidding (ICB) the Bank Standard Bidding Documents (SBD) and Standard Bid Evaluation Form would be used. For National Competitive Bidding (NCB), the Sample Bidding Documents for Works and Goods, acceptable to the Bank, that are in use on other World Bank assisted projects in Vietnam are expected to be used. For selection of consultants, the Bank Standard Request for Proposals would be used. The various items under different expenditure categories are described in general below. For each contract to be financed by the Credit, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

Phase Project Approach: The project will be implemented in four phases, the first phase covering 6 provinces out of a total of about 30 provinces for the four phases. The time lag between phases is expected not be longer than 12 months. The provinces to be included the first phase, which have been appraised by IDA, are: (i) in the area of PC1: Vinh Phuc and Ha Tinh; and (ii) in the area of PC2: Ben Tre and Ca Mau and in the area of PC3: Quang Ngai and Phu Yen. In subsequent phases, complete packages for each province will be prepare every year by EVN and the project provinces and these would be reviewed by IDA and MOI prior to implementation. This process will continue till the US$220 million of IDA funds is fully committed.

Procurement of Works: Works procured under this project would include: civil works and installation for MV and LV lines, MV and LV concrete poles and steel structures (i.e. crossarms, guy leads and anchors, tie wires, etc), and LV insulators and fittings.

Construction works would be scattered in about 1,200 communes in 30 provinces throughout Vietnam, including 18 provinces in the northern region with about 780 communes, 6 provinces in the central region with about 180 communes and 6 provinces in the southern region with about 240 communes, to be rehabilitated and expanded. Due to the wide geographic spread of the works, a typical contract would cover one or two communes and estimated to cost US$200,000 to US$400,000 equivalent. These contracts would not likely attract interest from foreign contractors. Therefore, NCB would be the appropriate method of procurement. A supplemental letter for NCB to waive those areas in Vietnam's public procurement regulation that are inconsistent with the Bank Procurement Guidelines was discussed and agreed at negotiations. Works to be procured under the project are estimated to cost US$148.48 million equivalent of which the IDA Credit will finance US$140.98 million.

Procurement of Goods: Goods procured under this project would include: equipment and materials for MV and LV systems, including MV and LV conductors, MV insulators and fittings,

switching and protection equipment, distribution transformers, distribution boards, meters and service entrance cabling, and meter boxes. The estimated costs of the goods procured under the project is about US$81.56 million equivalent, of which US$77.52 million will be financed under the IDA Credit.

In evaluation of the bids following ICB procedures, qualified domestic manufacturers of goods would be eligible for a margin of preference.

ICB-procured goods for the larger packages for bulk purchase are estimated at US$75.02 million. It has been estimated that there will be about 77 packages for the ICB procurement of goods for both MV and LV equipment and materials, as detailed in the Procurement Plan (Attachment 1).

For the LV part, it is estimated that about 24 packages (6 packages for all the project provinces in the respective PC area, and for 4 phases). Since each package for the LV equipment and materials is composed of the equipment and materials of several project provinces, so the equipment and materials of each project province will be grouped into separate lots in the given package, each for a respective province. Bidders can bid for each lot, and a contract will be signed for each separate lot. A bidder may undertake various lots so long as it satisfies the qualifications requirements as set out in the Bidding Documents. All the procurement works of the LV part for project provinces will be assisted by the PMU of the respective PC. However, the PPMU in each province would carry the main responsibility, as they are the implementing agencies for the LV system.

International or national shopping of goods, valued at US$50,000 or less is foreseen at an estimated aggregate of US$2.5 million. These goods consist of ancillary electrical equipment, for the substations, as well as other equipment, which is yet to be identified, but will need to be justified and approved by IDA before procurement, following IDA guidelines.

Other Costs: Service drops (connection from houses to LV lines) estimated to cost US$34.70 million equivalent would be financed by the consumers. Taxes and duties have been estimated at US$21.90 million. Compensation and environmental protection costs are estimated at US$8.00 million.

Consultant Services and technical assistance: About US$19.50 million would be financed from counterpart's resources to cover services such as engineering design and management/administration of project implementation. Procurement of these services would follow local procedure.

The remaining services would be technical assistance for MoI for the capacity building estimated to cost US$7.0 million, from which US$1.5 million from IDA, and the balance of US$0.25 million from GoV counterpart funds, and US$5.25 million co-financed from GEF. These would be procured through Quality-and-Cost-Based Selection (QCBS) using the Bank's standard request for Proposals, and estimated to be the major part in the amount of US$2.7 million. Other consultant services and training for staff in project provinces may be procured through selection based on Consultant's Qualification (CQ) procedures expected not to exceed US$100,000 per contract for firms and US$50,000 per contract for individuals, in the aggregate amount of US$3.45 million. Some small simple assignments for individual consultant can be procured through selection of individual consultants; such contracts to be awarded by direct contracting, with the total aggregated amount not to exceed $450.000. In addition and financed from GEF, operational support to MoI in an amount not to exceed US$150,000 for; (i) procurement through national shopping, of office equipment and computers (US$50,000); and (ii) incremental

operating expenses including travel, in an amount not to exceed US$100,000, to be procured upon approval by IDA.

Table A summarizes the procurement arrangements for the components expected to be financed out of the proposed IDA credit for all phases of the Project. Table A1 summarizes the procurement arrangements for Phase 1 (all technical assistance has been front-loaded in Phase 1). Miscellaneous expenses include land acquisition and resettlement which are both non-Bank financed. IDA service charge of 0.75% and a commitment fee of 0.50% on undisbursed amounts have been included.

Table A: Project Costs by Procurement Arrangements
(Estimated for all Phases)
(US$ million equivalent)

Expenditure Category	Procurement Method [1]				Total Cost
	ICB	NCB	Other [2]	N.B.F. [3]	
1. Works		148.48	0		148.48
IDA		(140.98)	0		(140.98)
2. Goods	75.02		2.5	4.04	81.56
IDA	(75.02)		(2.50)		(77.52)
3.Technical Assistance and Capacity Building			6.75	0.25	7
IDA			(1.50)		(1.50)
GEF			(5.25)		(5.25)
4. Engineering and Administration				19.5	19.5
IDA					0
5. Miscellaneous (Land Acquisition)				8	8
IDA					0
6. Service charge and commitment fee				8.36	8.36
IDA					0
7. Taxes and Duties				21.9	21.9
IDA					0
8. Household Connections				34.7	34.7
IDA					0
Total Financing required	75.02	148.48	9.25	96.75	329.5
IDA	(75.02)	(140.98)	(4.00)		(220.00)
GEF			(5.25)		(5.25)

Note: All costs include contingencies.

1/ Figures in the parenthesis are the amounts to be financed by the IDA Credit and GEF respectively.

2/ Including: Goods to be procured through IS and NS procedures; and consultant services.

3/ NBF – Not Bank (IDA) Financed.

Table A1: Project Costs by Procurement Arrangements
(estimated for Phase 1)
(US$ million equivalent)

Expenditure Category	Procurement Method [1]				Total Cost
	ICB	NCB	Other [2]	N.B.F. [3]	
1. Works		49.38	-		49.38
IDA		(46.90)	-		(46.90)
2.Goods	24.05		1.8	1.35	27.2
IDA	(24.05)		(1.80)	-	(25.85)
3. Technical Assistance and Capacity Building			6.75	0.25	7.0
IDA			(1.50)		(1.50)
GEF			(5.25)		(5.25)
4. Engineering and Administration				7.2	7.2
IDA					0
5. Miscellaneous (Land Acquisition)				2	2
IDA				-	0
6. Service charge and commitment fee				2.8	2.8
IDA					0
7. Taxes and Duties				7.2	7.2
IDA					0
8. Household Connections				10.42	10.42
IDA					0
Total	24.05	49.38	8.55	31.22	113.2
IDA	(24.05)	(46.90)	(3.30)		(74.25)
GEF		-	(5.25)	-	(5.25)

Note: All costs include contingencies. Technical assistance for the Project has been front-loaded in Phase 1.

1/ Figures in the parenthesis are the amounts to be financed by the IDA Credit and GEF respectively. All costs include contingencies

2/ Including: Goods to be procured through IS and NS procedures; and consultant services.

3/ NBF – Not Bank (IDA) financed.

B. Assessment of the Agency's Capacity to Implement Procurement

Vietnam has gained valuable experience from implementation of the first public procurement regulation (Decree 43CP) issued in 1996 and its subsequent revision – Decree 88CP of 1999 and 66CP of 2003 now fully convinced on the benefits that could be brought by a competitive process. Vietnam has also realized that the current regulations need further improvement and has been working since 2000 on further system reform under a Bank IDF Grant completed in August 2002 and new on-going IDF Grant to move the reform further in accordance with the October 2002 CPAR Action Plan. Some tangible progress has been made such as mandatory advertising of major bidding opportunities and contract awards in the Government public procurement bulletin which will greatly increase transparency of public procurement.

Despite recent efforts by the Government in providing short training courses, there is a serious shortage of qualified procurement specialists in the country. A long-term solution is to include procurement as a subject into selected educational institutions and moving towards creating

procurement as a profession. A group of like-minded donors have been working on preparation of a training need assessment, which hopefully would lead to a donor-funded large-scale training on public procurement project.

Project procurement mainly consists of (1) ICB contracts for equipment and materials for Medium Voltage (MV) and Low Voltage (LV) systems such as MV and LV conductors, MV insulators and fittings, protection equipment, transformers, distribution boards, and meters and meter boxes; and (2) NCB contracts for construction of the MV and LV lines such as provision and installation of concrete poles, installation of conductors and related equipment and accessories.

The responsibility for procurement will be assigned to 3 Power Companies (PC1, 2 and 3) who are responsible for MV systems in their respective geographical areas and 30 provincial departments of industry who are responsible for LV systems in their respective areas.

The procurement capacity of the PCs is found adequate. All 3 PMUs of the PCs are fully functional and staffed adequately with electrical engineers with considerable procurement experience gained over the last 5 to 9 years implementation of several large IDA funded power projects including the first on-going Rural Energy Project, the implementation of which is satisfactory.

The procurement capacity of the PMUs, established by project provinces (PPMUs) is found inadequate. These PPMUs are the implementing agencies for the LV part of the project, are new to the Bank's procurement guidelines and procedures and have therefore very limited experience in procurement of Bank Projects. They have however, reasonable technical capacity in LV systems with some experience with procurement using local regulations.

The issues and risks concerning the procurement component for implementation of the proposed project have been identified and is mainly related to inadequate capacity of the PPMUs to conduct Bank-funded procurement including preparation of bidding documents and evaluation of bids.

The recommended risk mitigation measures include: (i) establishing detailed coordination arrangements including schedules to ensure proper and smooth harmonization, coordination, and synchronized implementation of the MV and LV networks which are linked in various aspects such as technical specifications, construction, simplification of contract management; and (ii) working together by each PMU and PPMUs in its area on procurement including preparation of procurement plans, bidding documents and bid evaluation reports. This can be done through provision of PC's procurement technical assistance for PPMUs or PCs acting as "procurement agent" for PPMUs or joint PC-PPMU procurement committees.

The overall project procurement risk is rated as moderate.

C. Procurement Plan

The Borrower developed a procurement plan for project implementation, which provides the basis for the procurement methods. This plan has been agreed between the Borrower and the Project Team. The Procurement Plan will be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. The Procurement Plan and Implementation Schedule for ICB and NCB packages is given in Attachment 1 to this annex.

D. Frequency of Procurement Supervision

In addition to the prior review, supervision to be carried out from Bank offices, the capacity assessment of the Implementing Agency has recommended four (4) supervision missions per year to visit the field to carry out post review of procurement actions.

E. Details of the Procurement Arrangements Involving International Competition

Procurement Arrangements

Most of the goods, works and services to be financed under the IDA credit would be procured by the Project Management Units (PMUs), established in and under the supervision of the Power Companies (PCs) and People Committees of the project provinces. MoI would procure a small portion consisting of consulting services for technical assistance and capacity building financed under the GEF grant, as well as some goods for operational support.

The PMB established under MoI will be the main coordinator for implementation of the Project in all the project provinces, and will be the implementing agency for the technical assistance project component. This PMB is currently implementing other project components under Bank-financed projects, so it has some experience and familiarity with Bank Guidelines and procurement procedures.

The PMUs of PC1, PC2 and PC3, are the implementing agencies for the MV portion. They are familiar with Bank Guidelines and procedure for the procurement of works and goods, as they are the implementing agencies for many Bank projects, including the ongoing Rural Energy project which has the same features as regards procurement arrangements with this project.

The PPMUs of the PPCs are the implementing agencies for the LV portion of the project. Most of them are new to the Bank's procurement guidelines and procedures and have therefore very limited experience in procurement of Bank Projects. The implementation of this component of the project carries the highest risk. The procurement arrangements provided for goods and works have been designed to mitigate these risks as far as feasible.

For the **Procurement of Goods** from the IDA Credit, the following procurement arrangements have been designed to mitigate the risk of implementation delays due to the lack of experience of the PPMU in Bank procurement procedures, and have been agreed between the PMUs of the Power Companies and of the Project Provinces (PPMUs). As the value of each type of the goods for one project province is not large: (i) the equipment and materials for all the project provinces in a given phase in the area of each PC will be grouped together, according to the number of LV packages; (ii) the equipment for a given project province will be separated in one bt and the

bidder is requested to quote for each separate lot; (iii) PMUs of PCs are responsible for preparation of the bidding document for both MV and LV parts; PPMUs of PPC are responsible for reviewing and clearing of the bidding documents; (iv) PMUs of PCs are responsible for advertising and issuing of the bids together with the bids for MV parts; (v) bid evaluation for ICB for the LV part will be carried out by Joint Evaluation Committee comprised of staff from the PMUs of the PCs and the PMUs of the PPCs; and (vi) the PCs, as owners of the MV equipment and materials procured, will clear and sign the contracts of the MV packages, and the PPCs, as owners of the LV equipment and materials procured, will clear and sign contracts for LV packages.

This arrangement has the following advantages: (i) improving the capacity of the staff of the PPMUs of the PPCs through on-the-job training; (ii) taking advantage of the capacity and experience of the staff from the PMUs of the PCs; and (iii) synchronizing the implementation of the MV and LV parts of the Project in the same commune, and (iv) securing ownership of the respective project owner.

For the **Procurement of Works** under the IDA Credit, two options are offered for the procurement arrangements, which are designed to ensure proper coordination and symphonized implementation of the MV and LV works. ***Options 1***: (I) there will be only one package for both MV and LV potions in the bidding document, with two lots, one for MV, and one for LV; (ii) bidders are requested to quote separately for the two lots and the selection will be based on the lowest price of the package; (iii) the PMUs of the PCs are responsible for the preparation of the bidding documents, advertisement, and issuing the bids; (iv) bid evaluation will be carried out by a joint group of staff from the PMUs of the PPCs and PCs, who will the recommend contract awards to the respective PCs and PPCs on the basis of the offered bids for each lot; the bid evaluation report (BER) for both MV and LV must be signed by all members of the joint group of procurement specialists; (v) the BER is then submitted to the respective PCs and Provincial People's Committees; and (vi) the PCs will approve the BER and sign contract of civil works for the MV portion, and the People's Committees will also approve the BER and sign the contract of civil works for the LV portion. The MV and LV contracts would need to have linkages regarding coordination of activities and implementation schedule. ***Option 2:*** The PPC would employ a Procurement Agent to carry out procurement. This Agent, which must be acceptable to the IDA, can be the corresponding PC of the Provinces but it need not be. The Agent would need to strictly follow all the procurement procedures outlines in the loan Agreement on behalf of the PPC, following the Bank Procurement Guidelines. Clearly, the Procurement Agent would also need to carry out joint procurement of the MV and LV lots, as a single package, to ensure coordination and synchronization of the construction works for both the MV and LV portions.

As this is a Project with four phases, the procedure for the procurement of Good and Works needs to be replicated for each phase (as was done for RE 1). The preparation of the Bidding Documents for follow-on phases to Phase 1 will be started before the end of the implementation, and taking into consideration the experience gained during implementation. As the bidding documents are very similar, except for the schedule of requirements, there will be minimal delay in implementation. This will ensure competition among the various bidders for the follow-on phase. This procedure would also mitigate the risk of uncertain implementation delays and ensure that the latest prices are incorporated in the follow-on phases. It is expected that Phase 2 will follow a similar procedure as that for Phase 1. However, as the amounts remaining for phase 3 and 4 may be small after implementation of the first two phase, Phase 3 and 4 may by bundled into one phase.

To address the deficiencies in NCB procurements between the Government procedure and the Bank Guidelines, a side letter (refer to Attachment 2) will be issued.

Procurement Packages for Goods

Procurement packaging for the MV and LV systems with estimated costs (including contingencies) is presented in Table A2.

Table A2: Procurement Packaging for Goods for MV and LV Systems
(estimated for all phases - including contingencies))
(US$ million equivalent)

Package No	Description	Estimated cost (US$ million)			Procurement Method
		PC1	PC2	PC3	
	Phase 1				
	For MV System				
IFB-1.1M	MV conductors	0.33	0.22	0.32	**ICB**
IFB-2.1M	MV insulators and fittings	0.36	0.63	0.63	**ICB**
IFB-3.1M	Distribution Transformers	1.16	0.45	1.54	**ICB**
IFB-4.1M	Distribution boards	0.19	0.29	0.17	**ICB**
IFB-5.1M	Switching and protection equipment	0.27	0.27	0.47	**ICB**
	For LV System				
IFB-6.1L	LV conductors and service entrance cable	6.17	2.18	4.77	**ICB**
IFB-7.1L	Meters	2.35	0.78	2.14	**ICB**
	Sub-Total Value of phase 1	**10.83**	**4.82**	**10.04**	
	Number of packages of phase 1	***7***	***7***	***7***	***21***
	Phase 2				
	For MV System				
IFB-1.2M	MV conductors	0.19	0.13	0.11	**ICB**
IFB-2.2M	MV insulators and fittings	0.36	0.24	0.19	**ICB**
IFB-3.2M	Transformers	0.69	0.46	0.38	**ICB**
IFB-4.2M	Distribution boards	0.14	0.09	0.08	**ICB**
IFB-5.2M	Disconnectors and protection equipment	0.22	0.15	0.12	**ICB**
	For LV System				
IFB-6.2L	LV conductors and service entrance cable	2.857	1.89	1.55	**ICB**
IFB-7.2L	Meters	1.18	0.79	0.65	**ICB**
	Sub-Total Value of phase 2	**5.637**	**3.75**	**3.08**	
	Number of packages of phase 2	***7***	***7***	***7***	***21***
	Phase 3				
	For MV System				
IFB-1.3M	MV conductors	0.61	0.05	0.10	**ICB**
IFB-2.3M	MV insulators and fittings	1.11	0.10	0.19	**ICB**
IFB-3.3M	Transformers	2.18	0.19	0.36	**ICB**
IFB-4.3M	Distribution boards	0.45	0.04	0.07	**ICB**
IFB-5.3M	Disconnectors and protection equipment	0.70	0.06	0.12	**ICB**
	For LV System				
IFB-6.3L	LV conductors and service entrance cable	9.09	0.79	1.50	**ICB**
IFB-7.3L	Meters	3.63	0.32	0.61	**ICB**
	Sub-Total Value of phase 3	**17.77**	**1.55**	**2.95**	
	Number of packages of phase 3	***7***	***7***	***7***	***21***

Package No	Description	Estimated cost (US$ million)			Procurement Method
	Phase 4				
	For MV System				
IFB-1.4M	MV conductors	0.44	0.00	0.09	**ICB**
IFB-2.4M	MV insulators and fittings	0.81	0.00	0.08	**ICB**
IFB-3.4M	Transformers	1.60	0.00	0.26	**ICB**
IFB-4.4M	Distribution boards	0.33	0.00	0.05	**ICB**
IFB-5.4M	Disconnectors and protection equipment	0.51	0.00	0.10	**ICB**
	For LV System				
IFB-6.4L	LV conductors and service entrance cable	6.56	0.00	0.71	**ICB**
IFB-7.4L	Meters	2.73	0.00	0.35	**ICB**
	Sub-Total Value of phase 4	**12.98**	**0.00**	**1.63**	
	Number of packages of phase 4	***7***	***0***	***7***	***14***
	Total number of packages	**28**	**21**	**28**	**77**

Procurement Packages for Works

Packaging for works takes into account three main factors: (i) contractors' capability based on recent experience of the RE1; (ii) geographical proximity of the communes; and (iii) topography and remoteness of the communes. This would result in the following estimated number of packages: (a) about 200 in the northern region under PC1 area, (b) 70 in the central region under PC3 area and (c) 50 for the southern region under PC2 area (refer to Attachment 1 for staging of works).

Consulting Services

(a) List of consulting assignments (IDA and GEF combined not including US$250,000 from MoI):

1	2	3	4	5	6
Ref. No.	**Description of Assignment**	**Estimated Cost** (US$ m)	**Selection Method**	**Review by Bank (Prior / Post)**	**Expected Proposals Submission Date**
RFP-1	Development and introduction of a regulatory framework	2.7	QCBS	Yes	Jan-05
RFP-2	Institutional development and capacity building of LDUs	2.00	CQ	Yes	Jan-05
RFP-3	Promotion of replication of best practice to project and non-project LDUs.	1.60	CQ	Yes	Jan-05
RFP-4, 5, etc.	Others (not to exceed US$450,000 in aggregate)	0.45	Individual Consultants (direct contracting)	Yes	Jan-05

Prior review thresholds (Table B)

IDA prior review in accordance with the Procurement Guidelines (for goods and works) and Consultant Guidelines (for consulting services) will be conducted for:

(i) First three NCB work contracts from each implementing agency, PC or PPC regardless of value and all NCB works exceeding US$300,000 equivalent per contract thereafter;
(ii) All goods exceeding US$150,000 equivalent per contract;
(iii) All goods for operational support to be financed from GEF;
(iv) Consultancy services estimated to cost above per contract US$100,000 per contract for firms, or US$50,000 for individuals, and single source selection of consultants (firms) for assignments estimated to cost above US$50,000 will be subject to prior review by the Bank; and
(v) All request for operation support for incremental expenses to be financed by GEF.

Prior review for works and goods include bidding documents and bid evaluation reports, contract award recommendations. Prior review for consultant services includes terms of reference, short list, request for proposals, evaluation reports and final draft negotiated contracts. Given the large number of small work contracts, the prior reviews are expected to cover about 60% of the value of procurements to be financed from the IDA Credit. However, the remaining 40% will be subject to sample ex-post review of one in five contracts.

Expenditure Category	**Contract Value Threshold** (US$ thousands)	**Procurement Method**	**Contracts Subject to Prior Review** (US$ millions)
1. Works	<2,000	NCB	>200,000 1st three contracts from each province/PC regardless of value (about US$60 million in aggregate)
2a. Goods	>50	ICB	>150,000 (about US$75 million in aggregate)
	<50	SP	(about US$2.5 million in aggregate)
2b. Goods GEF	<50	SP	All contracts (US$0.05 million in aggregate)
3a. Services	>100 (firms) <50(Individual)	QCBS	>100 for firm, >50 for individual (about US$0.7 million in aggregate
	<100 (firm) <50 (Individual)	CQ	>100 for firm, >50 for individual (about US$0.6million in aggregate
	<50(Individual)	SS	All contracts (about US$0.2 million in aggregate)
3b. Services GEF	>100 (firms) <50(Individual)	QCBS	All contracts (about US$2.0 million in aggregate)
	<100 (firm) <50 (Individual)	CQ	All contracts (about US$2.95 million in aggregate)
	<50 (Individual)	SS	All contracts (about US$0.25 million in aggregate)
	<50		All incremental operating expenses (about US$0.l0 million in aggregate)

Project Procurement Plan

ICB Packages. The table below shows the key dates for the ICB packages for every stage. This is practical, as all the ICB packages for one implementing agency will be issued at one time. The 'start' is the issuance of bidding documents, and 'finish' corresponds to contract award. To minimize warehousing requirements and optimize construction schedules, suppliers will be required to deliver the goods according to the implementation of the works contracts. As the value of the package for the MV equipment is relatively small, the division in lots is not required. For the LV equipment and material, ICB packages will be grouped for all the project provinces, with the separate lot for respective province.

Warehousing. The suppliers will be required to deliver the goods to the provincial warehouses that have been identified for the project. As mentioned, since the number of warehouses in each province is limited, phased delivery will allow for sufficient warehousing capacity to cope with the volume of equipment and materials allocated to each province. As the PPMU of the province may have difficulties in the storing and distribution of the material to the civil contractors, it is suggested that the Provincial Power Services in the project province do these works.

NCB Packages. One NCB package will be separated into two lots, one for MV the part and other for the LV part. The scope of each contract for the MV and LV parts includes the following components: (i) civil and installation works; (ii) concrete poles with cross arm (supply/fabrication); and (iii) LV insulators and fittings and miscellaneous materials. Since most contractors have the capability for LV pole fabrication, it is
expected that these would be cast on site. However, the contractors would purchase most of the MV poles from specialized manufacturers.

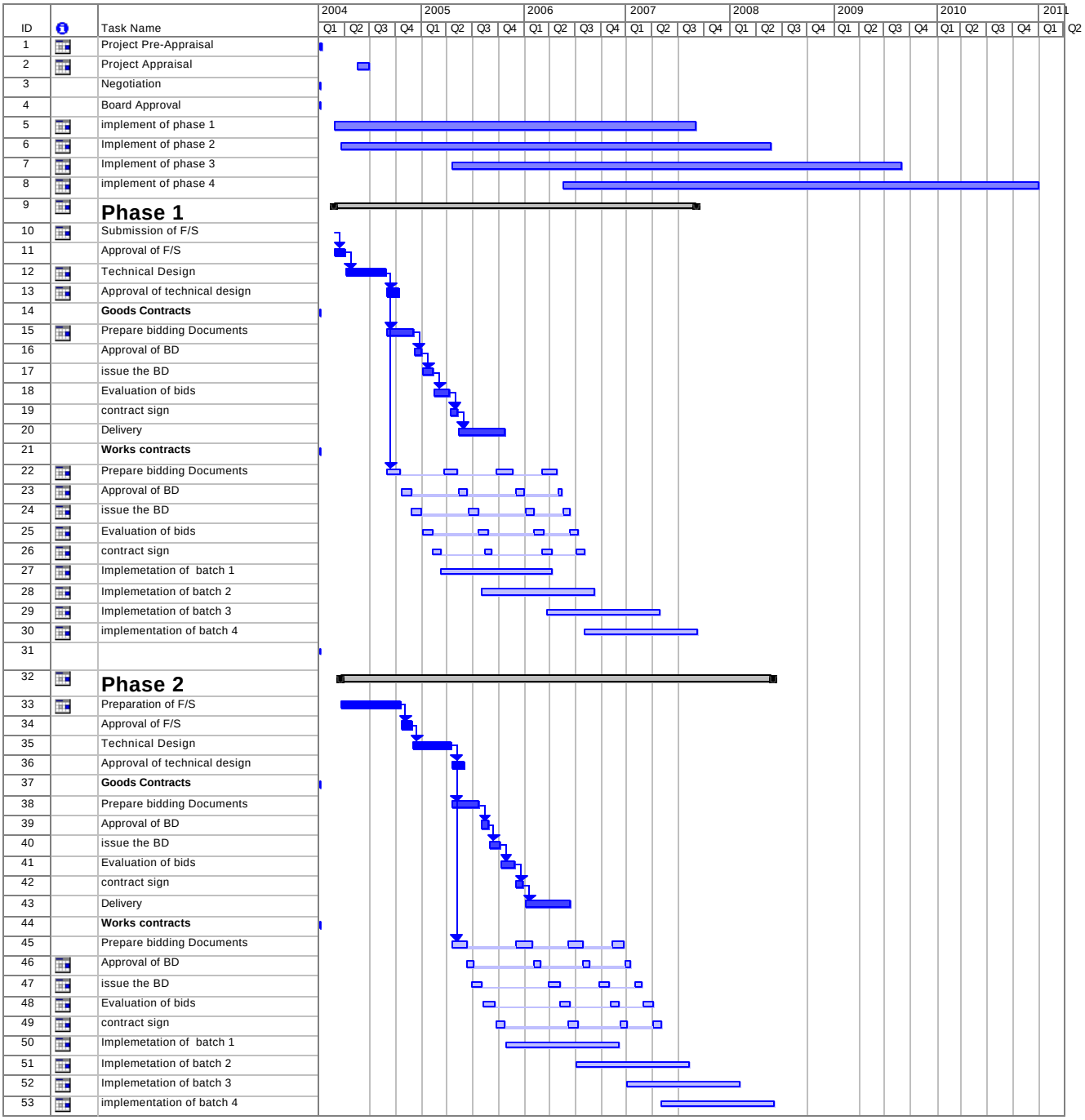
Number of Contractors. The experiences gained from RE1 indicate that there are about 40 larger contractors capable of handling contracts exceeding VND 5.0 billion each and 140 smaller contractors capable of handling contracts of smaller size. These contractors are spread over all provinces across the country. The packaging of NCB contracts took the surveys' results into account among other factors and resulted in about 200, 50, and 70 contracts for PC1/ PPCs in northern regions, PC2/PPCs in southern region and PC3/PPCs in central region respectively, with estimated cost of VND 3.0-5.0 billion (US$200,000-400,000) per contract.

Staging of construction Works. The project is prepared and implemented in phases, based on the assessment of the local capacity for the project preparation, and capacity of the local contractors; the project could be implemented in three phases. Each phase will have a starting time lag of about one year. Phase 1 comprises 6 provinces, phase 2 of 6 provinces, and phase 3 about 9 provinces, and phase 4 up to 9 provinces. The number of provinces for phases 3 and 4 will be determined later in project preparation.

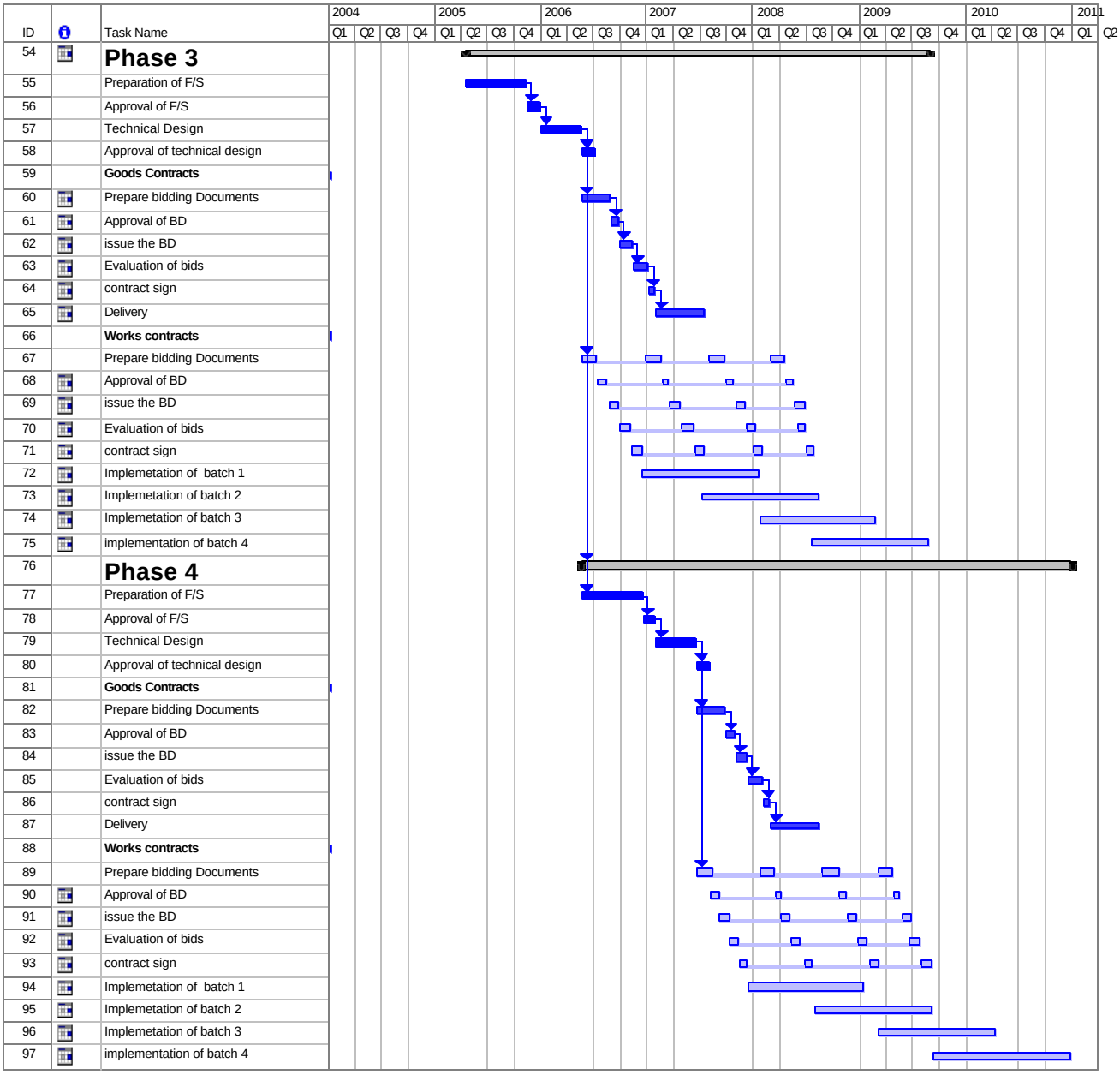
To minimize delay, the contractor would do the erection works while waiting for the equipment procured through ICB to arrive for installation. Though the works contracts for MV and LV are separated and managed by a different PMU, the procurement and implementation of works for MV and LV in a given commune should be well coordinated and undertaken at the same time. For this, the PMUs of PCs will coordinate the works to secure the harmonization both from the technical and procurement aspects.

According to the estimate provided in the Feasibilities Studies undertaken by each of the PCs on behalf of the PPCs, counterpart funds for the LV part of the project, which is financed by the project provinces, is about 25% or about VND 800 millions on average. The maximum capacity of the project provinces to be allocated to the Project is about VND 20-30 billions from the budget for implementation of the project. Therefore it is estimated that about 30 communes could be implemented every year. Based on this factor, the construction and installation works in a given commune will be divided into batches with about 20-25 communes each. If the number of communes in the project in a province were higher than 50, then the construction works would be spread to 3 fiscal years. This plan releases the pressure of budget allocation for the counterpart funds as well as minimizes the risk of contractors being overloaded by too many contracts to be implemented at the same time.

Project Implementation Schedule



ID	Task Name
1	Project Pre-Appraisal
2	Project Appraisal
3	Negotiation
4	Board Approval
5	implement of phase 1
6	Implement of phase 2
7	Implement of phase 3
8	implement of phase 4
9	**Phase 1**
10	Submission of F/S
11	Approval of F/S
12	Technical Design
13	Approval of technical design
14	**Goods Contracts**
15	Prepare bidding Documents
16	Approval of BD
17	issue the BD
18	Evaluation of bids
19	contract sign
20	Delivery
21	**Works contracts**
22	Prepare bidding Documents
23	Approval of BD
24	issue the BD
25	Evaluation of bids
26	contract sign
27	Implemetation of batch 1
28	Implemetation of batch 2
29	Implemetation of batch 3
30	implementation of batch 4
31	
32	**Phase 2**
33	Preparation of F/S
34	Approval of F/S
35	Technical Design
36	Approval of technical design
37	**Goods Contracts**
38	Prepare bidding Documents
39	Approval of BD
40	issue the BD
41	Evaluation of bids
42	contract sign
43	Delivery
44	**Works contracts**
45	Prepare bidding Documents
46	Approval of BD
47	issue the BD
48	Evaluation of bids
49	contract sign
50	Implemetation of batch 1
51	Implemetation of batch 2
52	Implemetation of batch 3
53	implementation of batch 4


ID
Task Name
2004
2005
2006
2007
2008
2009
2010
2011
Q1 Q2 Q3 Q4
54 Phase 3
55 Preparation of F/S
56 Approval of F/S
57 Technical Design
58 Approval of technical design
59 Goods Contracts
60 Prepare bidding Documents
61 Approval of BD
62 issue the BD
63 Evaluation of bids
64 contract sign
65 Delivery
66 Works contracts
67 Prepare bidding Documents
68 Approval of BD
69 issue the BD
70 Evaluation of bids
71 contract sign
72 Implemetation of batch 1
73 Implemetation of batch 2
74 Implemetation of batch 3
75 implementation of batch 4
76 Phase 4
77 Preparation of F/S
78 Approval of F/S
79 Technical Design
80 Approval of technical design
81 Goods Contracts
82 Prepare bidding Documents
83 Approval of BD
84 issue the BD
85 Evaluation of bids
86 contract sign
87 Delivery
88 Works contracts
89 Prepare bidding Documents
90 Approval of BD
91 issue the BD
92 Evaluation of bids
93 contract sign
94 Implemetation of batch 1
95 Implemetation of batch 2
96 Implemetation of batch 3
97 implementation of batch 4

Procurement Plan For ICB Packages

	Package	PC1 and PCCs in northern region			PC2 and PPCs in southern region			PC3 and PPCs in central region		
		US$ million	Start (Bid issuing)	Finish (contracts signed)	US$ million	Start (Bid issuing)	Finish (contracts signed)	US$ million	Start (Bid issuing)	Finish (contracts signed)
	Phase 1									
1	MV packages	2.31	Feb-05	May -05	1.86	Feb-05	May -05	3.13	Feb-05	May -05
2	LV packages	8.52	Feb-05	May -05	2.96	Feb-05	May -05	6.91	Feb-05	May -05
	Phase 2									Nov-01
3	MV packages	1.60	Aug-05	Dec-05	1.07	Aug-05	Dec-05	0.88	Aug-05	Dec-05
4	LV packages	4.04	Aug-05	Dec-05	2.68	Aug-05	Dec-05	2.20	Aug-05	Dec-05
	Phase 3									Nov-01
5	MV packages	5.05	Sep-06	Jan-07	0.44	Sep-06	Jan-07	0.84	Sep-06	Jan-07
6	LV packages	12.72	Sep-06	Jan-07	1.11	Sep-06	Jan-07	2.11	Sep-06	Jan-07
	Phase 4									Nov-01
7	MV packages	3.69	Oct-07	Mar-08	0.00			0.58	Oct-07	Mar-08
8	LV packages	9.29	Oct-07	Mar-08	0.00			1.05	Oct-07	Mar-08
	Total	**47.21**			**10.12**			**17.69**		

Grand Total =US$75.02 million

Procurement Plan For NCB Packages

	PC1 and PCCs in northern region				PC2 and PPCs in southern region				PC3 and PPCs in central region			
	No pkges	US$ million	Issuing bids	Bid award	No pkges	US$ million	Issuing bids	Bid award	No pkgs	US$ million	Issuing bids	Bid award
Phase 1	**46**	**21.3**			**24**	**10.8**			**39**	**18.0**		
Batch 1	14	6.5	11/2004	3/2005	6	2.7	11/2004	3/2005	12	5.6	11/2004	3/2005
Batch 2	12	5.6	6/2005	9/2005	6	2.7	6/2005	9/2005	8	3.6	6/2005	9/2005
Batch 3	10	4.6	1/2006	4/2006	6	2.7	1/2006	4/2006	11	5.1	1/2006	4/2006
Batch 4	10	4.6	5/2006	8/2006	6	2.7	5/2006	8/2006	8	3.6	5/2006	8/2006
Phase 2	**24**	**11.2**			**19**	**8.7**			**12**	**5.6**		
Batch 1	6	2.8	6/2005	10/2005	5	2.3	6/2005	10/2005	6	2.8	6/2005	10/2005
Batch 2	6	2.8	3/2006	7/2006	5	2.3	3/2006	7/2006	6	2.8	3/2006	7/2006
Batch 3	6	2.8	9/2006	1/2007	5	2.3	9/2006	1/2007			9/2006	1/2007
Batch 4	6	2.8	1/2007	5/2007	4	1.8	1/2007	5/2007			1/2007	5/2007
Phase 3	**75**	**34.8**			**8**	**3.6**			**11**	**5.1**		
Batch 1	20	9.4	8/2006	12/2006	4	1.8	8/2006	12/2006	6	2.8	8/2006	12/2006
Batch 2	25	11.6	3/2007	7/2007	4	1.8	3/2007	7/2007	5	2.3	3/2007	7/2007
Batch 3	15	6.9	10/2007	2/2008			10/2007	2/2008			10/2007	2/2008
Batch 4	15	6.9	5/2008	8/2008			5/2008	8/2008			5/2008	8/2008
Phase 4	**55**	**25.6**							**8**	**3.7**		
Batch 1	15	7.0	9/2007	12/2007			9/2007	12/2007	5	2.3	9/2007	12/2007
Batch 2	10	4.6	3/2008	7/2008			3/2008	7/2008	3	1.4	3/2008	7/2008
Batch 3	15	7.0	11/2008	3/2009			11/2008	3/2009			11/2008	3/2009
Batch 4	15	7.0	5/2009	9/2009			5/2009	9/2009			5/2009	9/2009
Total	**200**	**92.9**			**50**	**23.1**			**70**	**32.5**		

Grand Total = US$148.40 million

Annex 6(B): Financial Management and Disbursement Arrangements

VIETNAM: Rural Energy II

Financial Management

1. Summary of the Financial Management Assessment

Executive Summary

An assessment of the adequacy of the project financial management systems has been carried out by IDA team in April 2004. The scope of the work has been set out in the *"Assessment of Financial Management Arrangement in World Bank-financed Projects-Guidelines to Staff"* issued by the Financial Management Sector Board dated June 30th 2001. The objective of the review is to assess the suitability of the existing project financial management system as required by the Bank under OP/BP 10.02 with a view to implementing the proposed project. Weaknesses that were addressed are: (i) lack of capable financial staff in PPMUs and DAF; (ii) lack of suitable accounting software in DAF; (iii) lack of manual/guidance on financial management and disbursement in DAF; (iv) lack of basic element of accounting books, vouchers in PPMUs; and (v) lack of training on IDA procedures for DAF and PPMUs. The Financial Management Action Plan that will be implemented (see Attachment) will serve to address these weaknesses and ensure that capacity is adequate to address current financial management deficiencies. The Project will be producing Financial Monitoring Reports (FMRs). In terms of disbursement technique, traditional disbursement technique will be used.

Annual financial statements will be prepared by EVN, DAF and MoI. EVN's report will cover activities of PC1,2 and 3 while MoI's report will cover GEF, DAF and PPMUs.

The audit on those accounts will be made on an annual basis in accordance with international standards on auditing and in compliance with the independent auditing regulations of Vietnam. The auditor's reports together with management letter will be made available to IDA within six months of the close of the fiscal year.

The Review concluded that this Project meets minimum World Bank Group financial management requirements.

Review of the Financial Management Arrangements

Country Issues

Among the key findings of the 2001 CFAA that are relevant to financial management aspects of the Project are the following: (a) Reports from the public expenditure accounting system attempt to capture too much detailed data and management reports for effective decision-making are not widely used; b) As the requirements of public expenditure accounting are very comprehensive and detailed, compliance with the requirements is challenging for all units particularly at lower levels; and (c) As accounting staff focus on more easily accomplished requirements like mechanical verification of payments and receipts, the regular and efficient monitoring of State budget information for effective use of public funds at times is not carried out in a timely manner. The CFAA also reports that "the current budget arrangement in Vietnam suffers from a lack of

transparency for achievement of objectives." The conclusion of the assessment is that there is a certain degree of fiduciary risk in the use of public resources, although overall, the fiduciary risk for this project is manageable for on-budget items considering the steps that are envisioned to be taken under the financial management plan.

Risk Analysis

There is certain degree of inherent risk because the PPMUs do not have prior experiences in managing IDA funded projects. The control risk also exist in all PPMUs over project spending due to the absence of capable financial system in place including accounting books, accounting software, voucher system, reporting system for project management and monitoring. However, with the implementation of the Action Plan on Financial Management, the above risk could be mitigated significantly. Overall, the financial management risk from component to output for this Project could be considered as medium.

Implementation Arrangement

The Project will be implemented by MOI and EVN together with the selected PPCs

EVN: Power Companies No. 1, No. 2 and No. 3 will be in charge of the preparation and implementation of the parts of the Project within the areas under the control of each PC and have set up Project Management Boards for the implementation of the project. Each provincial Power Service (PPPS), under the guidance and supervision of the respective Power Company, will participate in the project preparation and implementation as required.

MoI: a Steering Committee under the Minister of Industry has been set up to oversee the entire project. MOI and the Provinces People's Committees *MOI* will oversee the implementation of the LV component of the Project and bear the overall responsibility for the project preparation and implementation along with the project provinces. A PMU will be set up under the MOI Project Management Board (PMB). Its role will be limited to coordination and support functions, and implementation of certain capacity building subcomponents. The disbursement of this LV component will be done through DAF system from central to provincial DAF branches. Detailed implementation of the LV portions of the project will be decentralized to each project province and a Provincial Project Management Unit (PPMU) will be set up in each province. PPMUs will monitor project implementation and prepare Quarterly Progress Reports (QPRs) and FMRs (Financial Management Reports).

Strengths and Weaknesses.

The PMUs of PC1, PC2, PC3 have been functioning and implementing the previous RE1 Project. The staff of the PMUs, therefore, have gained considerable knowledge and experience in financial management and disbursement required by IDA. The FM manual and software have already been developed and updated for EVN and PCs in the previous IDA funded projects. Therefore, the need for creating a new FM manual and software is not necessary.

The PPMUs have reasonable technical capacity in LV systems and some experience with implementing government funded project. However, none have experience with IDA's requirement on financial management and disbursement.

MoI has been implementing one part of the SIER Project and various other Trust Funds, and are familiar with basic IDA requirement o FM and disbursement.

DAF had prior experience in implementing IDA's Irrigation Rehabilitation Project. However, with an increasing portfolio, DAF has a shortage of financial personnel, and lack suitable integrated accounting software for tracking projects activities and the latest IDA guidance on financial management and disbursement.

With the above analysis on strength and weaknesses, please see **Attachment 3** to Annex 6 for the table of Financial Management Action Plan to mitigate the risk and weaknesses.

Accounting Policies and Procedures

PMUs under EVN and MoI will use the accounting system promulgated under Decision #214. With that accounting system, the four PMUs can open sub-accounts flexibly to record project expenditures by expenditure category or by project component. The chart of accounts will be developed to accommodate the functions of accounting software to capture the expenditure data classified by project components and expenditure categories.

Physical progress reports, which are linked to financial costs, will be available in the project management information system. The system will facilitate reporting of financial transactions and enable the accountant to maintain accounting records, including receipt and disbursement of funds and commitments and accruals, in a timely manner.

Reporting and Monitoring

Annual financial statements will be prepared by EVN and MoI. EVN's report will cover activities of PC1,2 and 3 while MoI's report will cover GEF, DAF and PPMUs.

For periodic project monitoring purposes, the Project will use the Financial Monitoring Reports (FMRs) developed by the World Bank and will be tailored to meet practical monitoring requirement of the Project. A set of FMRs formats will be agreed upon during negotiations. EVN and MoI would submit to the World Bank the FMRs on a quarterly basis within 45 days after quarter end. The FMRs will comprise of the following reports:

- Sources and Uses of Funds by expenditure categories;
- Uses of Funds by Project by project activities/components;
- Special Account Statement;
- Implementation Progress by contract (combined for Implementation Progress and Contract Monitoring); and
- Procurement Process Monitoring

2. Audit Arrangements

As mentioned in the CFAA, with the current control environment in Vietnam, the country is not yet ready for the establishment of an internal audit function in the public sector due to 3 factors: (i) weak capacity of staff; (ii) a very low salary structure resulting in a lack of motivation of staff; and (iii) difficulty in recruiting staff of a high caliber. For this Project, internal control mechanism will be established and included in the Financial Management Manual.

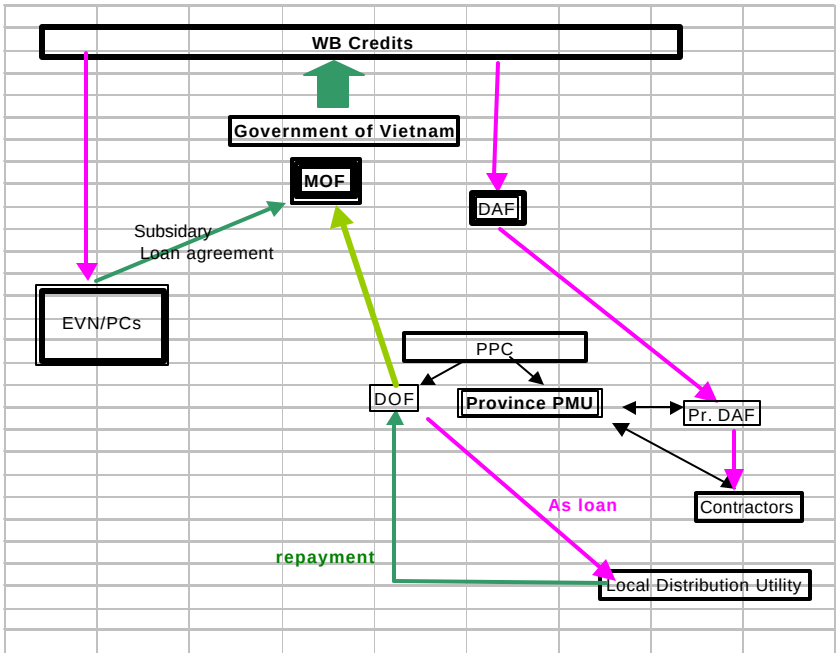
For external audit, EVN, MoI, and DAF will appoint independent auditors acceptable to IDA. Project accounts will be audited on an annual basis in accordance with international auditing standards and in compliance with the independent auditing regulations of Vietnam. The audit

will be prepared on the basis of international financial reporting standards. The auditor's reports will be made available to IDA within six months of the close of the fiscal year. Each audits will create a single audit opinion covering Project Accounts, and use of SOEs and Special Accounts. A management letter addressing internal control weaknesses of implementing agencies will also be provided by the auditor together with the audit report.

2. Disbursement Arrangements

The project will use traditional disbursement method.

Funds Flow:



Explanation:

- IDA will lend the RE2 credit funds to the Government of Vietnam and the Provincial People's Committees (PPCs) through a conduit, the Development Assistance Fund (DAF).
- Disbursement of Credit proceeds will be made based on the traditional system: from the Special Accounts with reimbursements made based on full documentation or against SOEs.
- To facilitate credit disbursement, a Special Account denominated in US dollars will be opened by DAF and maintained at a commercial bank on terms and conditions satisfactory to IDA.
- Government counterpart funds will be channeled through separate project bank accounts assigned to the Project and managed by PPCs (PPC Project Bank Accounts).
- DAF will make budgetary transfers to enable their Provincial DAF branches (P-DAF), acting as payment agents, to pre-finance fund requirements of PPCs.
- P-DAF will disburse IDA funds to PPMUs and/or contractors for goods and services designated by PPMUs.

Allocation of credit proceeds (Table C)

The IDA credit would be disbursed against: (a) 100% of foreign expenditures, or 100% of local expenditures (ex-factory cost) for goods; (b) 75% of local expenditures for other items procured locally; (c) 95% of expenditures for civil works and (d) 100% of expenditures for consulting services.

Table C: Allocation of Loan Proceeds

Expenditure Category	Amount in US$ million	Financing Percentage
Works	141.0	95%
Goods	77.5	100% of foreign expenditures, 100 % of local expenditures (ex factory cost) and 75 % of expenditure on other items procured locally
Consultant services	1.5	100%
Total Project Costs	**220.0**	
GEF	5.25	100%

Use of Statements of Expenditures (SOEs):

For works costing less than US$200,000 equivalent per contract; goods costing less than US$100,000 equivalent per contract; services provided by consulting firms costing less than US$100,000 equivalent per contract; services provided by individual consultants costing less than US$50,000 equivalent per contract; withdrawals from the Credit Agreement would be made on the basis of statements of expenditures. These documents will be made available for the required audits, as well as to the Bank supervision missions upon request. All other expenditures above the SOE thresholds will be submitted on the basis of full documentation.

Special account:

i) For three PCs Under EVN

To facilitate disbursements, a Special Account would be established for each of the three PCs on terms and conditions satisfactory to IDA with authorized allocation of US$1.0 million for PC1, US$0.8 million for PC2, and US$1.0 million for PC3. Replenishment applications should be submitted monthly or when the account is drawn by 30% of the authorized allocation, whichever occurs first. For withdrawal outside of the Special Accounts (applications for direct payment or for issuance of Special Commitments) a minimum application value of 20% of the authorized allocation of the Special Accounts would be observed.

To speed up project implementation, retroactive financing would be permitted to the extent of US$10.0 million equivalent (US$5 million for PC1, US$2.5 million for PC2, and US$4.0 million for PC3) for payments made prior to the date of the Credit Agreement but after the appraisal date, for contracting urgently required goods and works. The procurement procedures shall be in

accordance with the Procurement Guidelines in order for the eventual contracts to be eligible for Bank retroactive financing, and the normal review process by the Bank shall be followed.

ii) For MoI

Two separate Special Accounts, one for the Capacity Building allocation from IDA, and the other for GEF Grant, would be established for MoI on term and condition satisfactory to IDA with authorization allocation of US$0.2 million for each. Replenishment condition is similar to those of PCs.

iii) For all the project provinces

IDA lending the RE2 credit funds to the Government of Vietnam and the Provincial People's Committee (PPC) through a conduit, DAF (Development Assistance Fund). To facilitate IDA funds disbursement, a Special Account would be opened by DAF in commercial bank with terms and conditions satisfactory to IDA and DAF would, through their Provincial branches, disburse funds to the PPCs. The Government counterpart funds will be channeled through a separate project bank account assigned to and managed by PPC.

Retroactive Financing:

To speed up project implementation, retroactive financing would be permitted to the extent of US$10.0 million equivalent (US$5 million for Project Provinces, US$2 millions for PC1, US$1. million for PC2, and US$2.0 million for PC3) for payments made prior to the date of the Credit Agreement but after the appraisal date, for contracting urgently required goods and works. The procurement procedures shall be in accordance with the Procurement Guidelines in order for the eventual contracts to be eligible for Bank retroactive financing, and the normal review process by the Bank shall be followed.

The Project is expected to be completed by December 31, 2010 and the closing date for the Credit would be June 30, 2011.

Attachment 1 to Annex 6

Project Procurement Plan

ICB Packages. The tables below show the key dates for the ICB packages for every stage. This is practical as all the ICB packages for one implementing agency will be issued at one time. The 'start' is the issuance of bidding documents, and 'finish' corresponds to contract award. To minimize warehousing requirements and optimize construction schedules, suppliers will be required to deliver the goods according to the implementation of the works contracts. As the value of the package for the MV equipment is relatively small, the division in lots is not required. For the LV equipment and material, ICB packages will grouped for all the project provinces, with the separate lot for respective province.

Warehousing. The suppliers will be required to deliver the goods to the provincial warehouses that have been identified for the project. As mentioned, since the number of warehouses in each province is limited, phased delivery will allow for sufficient warehousing capacity to cope with the volume of equipment and materials allocated to each province. *As the PPMU of the province may have difficulties in the storing and distribution of the material to the civil contractors, it is suggested that these works be done by the Provincial Power Services in the project province.*

NCB Packages. One NCB package will be separated into two lots, one for MV the part and other for the LV part. The scope of each contract for the MV part includes the following components: (i) civil and installation works; (ii) concrete poles with cross arm (supply/fabrication); and (iii) LV insulators and fittings and miscellaneous materials. Since most contractors have the capability for LV pole fabrication, it is expected that these would be cast on site. However, most of the MV poles would be purchased from specialized manufacturers by the contractors.

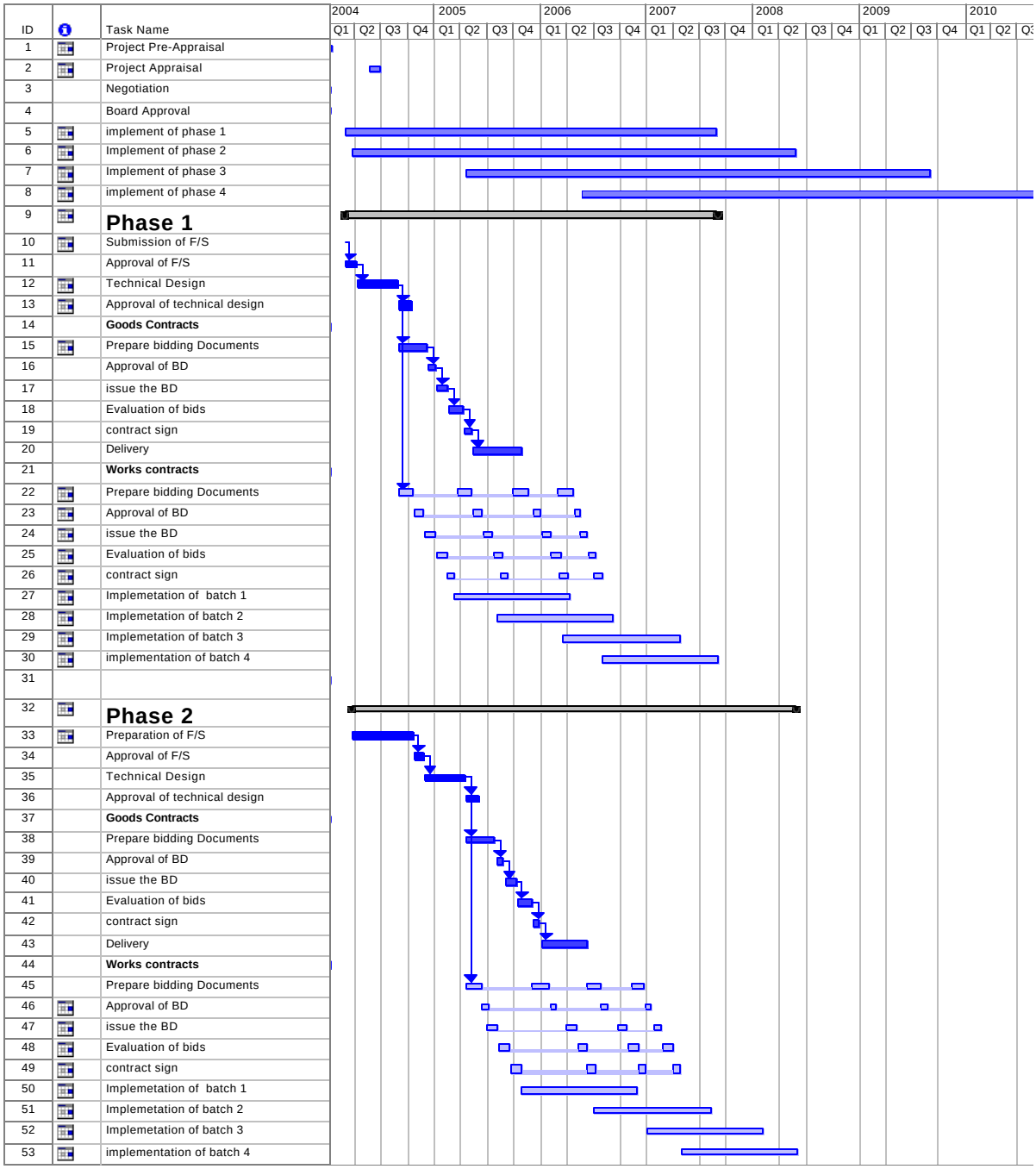
Number of Contractors. The experiences gained from RE1 indicate that there are about 40 larger contractors capable of handling contracts exceeding VND 5.0 billion each and 140 smaller contractors capable of handling contracts of smaller size. These contractors are spread over all provinces across the country. The packaging of NCB contracts took the surveys' results into account among other factors and resulted in about 200, 50, and 70 contracts for PC1/ PPCs in northern regions, PC2/PPCs in southern region and PC3/PPCs in central region respectively, with estimated cost of VND 3.0-5.0 billion (US$200,000-400,000) per contract.

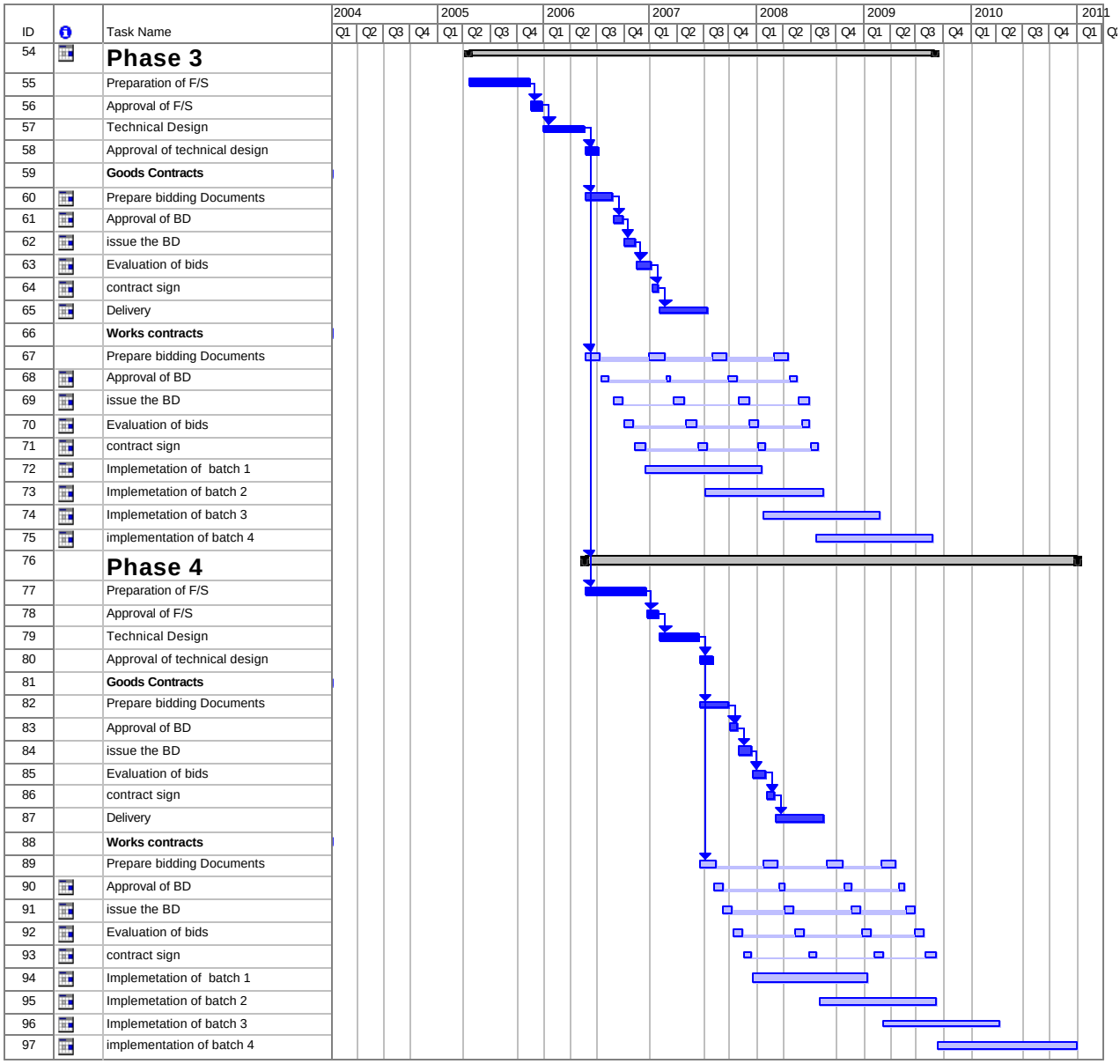
Staging of Work. The project is prepared and implemented in phases, based on the assessment of the local capacity for the project preparation, and capacity of the local contractors, the project could be implemented in three phases. Each phase will have a starting time lag of about one year. Phase 1 comprises 6 provinces, phase 2 of 6 provinces, and phase 3 about 9 provinces, and phase 4 up to 9 provinces. The number of provinces for phases 3 and 4 will be determined later in project preparation.

According to the estimate provided in the Feasibilities Studies undertaken by each of the PCs on behalf of the PPCs, counterpart funds for the LV part of the project, which is financed by the project provinces, is about 25% or about VND 800 millions on average. The maximum capacity of the project provinces to be allocated to the Project is about VND 20-30 billions from the budget for implementation of the project. Therefore it is estimated that about 30 communes could be implemented every year. Based on this factor, the construction and installation works in a given commune will be divided into batches with about 20-25 communes each. If the number of

communes in the project in a province is higher than 50, then the construction works would be spread to 3 fiscal years. This plan releases the pressure of budget allocation for the counterpart funds as well as minimizes the risk of contractors being overloaded by too many contracts to be implemented at the same time.

Project Implementation Schedule




ID
Task Name
2004
2005
2006
2007
2008
2009
2010
2011
Q1 Q2 Q3 Q4
54 Phase 3
55 Preparation of F/S
56 Approval of F/S
57 Technical Design
58 Approval of technical design
59 Goods Contracts
60 Prepare bidding Documents
61 Approval of BD
62 issue the BD
63 Evaluation of bids
64 contract sign
65 Delivery
66 Works contracts
67 Prepare bidding Documents
68 Approval of BD
69 issue the BD
70 Evaluation of bids
71 contract sign
72 Implemetation of batch 1
73 Implemetation of batch 2
74 Implemetation of batch 3
75 implementation of batch 4
76 Phase 4
77 Preparation of F/S
78 Approval of F/S
79 Technical Design
80 Approval of technical design
81 Goods Contracts
82 Prepare bidding Documents
83 Approval of BD
84 issue the BD
85 Evaluation of bids
86 contract sign
87 Delivery
88 Works contracts
89 Prepare bidding Documents
90 Approval of BD
91 issue the BD
92 Evaluation of bids
93 contract sign
94 Implemetation of batch 1
95 Implemetation of batch 2
96 Implemetation of batch 3
97 implementation of batch 4

PROCUREMENT PLAN FOR ICB PACKAGES

Package		PC1 and PCCs in northern region			PC2 and PPCs in southern region			PC3 and PPCs in central region		
		US$ million	Start (Bid issuing)	Finish (contracts signed)	US$ million	Start (Bid issuing)	Finish (contracts signed)	US$ million	Start (Bid issuing)	Finish (contracts signed)
Phase 1										
1	MV packages	2.31	2/2005	5/2005	1.86	2/2005	5/2005	3.13	2/2005	5/2005
2	LV packages	8.57	2/2005	5/2005	2.97	2/2005	5/2005	6.97	2/2005	5/2005
Phase 2										11/2001
3	MV packages	1.60	8/2005	12/2005	1.07	8/2005	12/2005	0.88	8/2005	12/2005
4	LV packages	4.06	8/2005	12/2005	2.69	8/2005	12/2005	2.22	8/2005	12/2005
Phase 3										11/2001
5	MV packages	5.05	9/2006	1/2007	0.44	9/2006	1/2007	0.84	9/2006	1/2007
6	LV packages	12.81	9/2006	1/2007	1.11	9/2006	1/2007	2.13	9/2006	1/2007
Phase 4										11/2001
7	MV packages	3.69	10/2007	3/2008	0			0.58	10/2007	3/2008
8	LV packages	9.35	10/2007	3/2008	0			1.06	10/2007	3/2008
Total		**47.4**			**10.1**			**18.2**		

PROCUREMENT PLAN for NCB PACKAGES

	PC1 and PCCs in northern region				PC2 and PPCs in southern region				PC3 and PPCs in central region			
	No packages	US$ million	Issuing bids	Bid award	No packages	US$ million	Issuing bids	Bid award	No packages	US$ million	Issuing bids	Bid award
Phase 1	**46**	**21.3**			**24**	**10.9**			**39**	**18.0**		
Batch 1	14	6.5	11/2004	3/2005	6	2.7	11/2004	3/2005	12	3.4	11/2004	3/2005
Batch 2	12	5.6	6/2005	9/2005	6	2.7	6/2005	9/2005	8	2.2	6/2005	9/2005
Batch 3	10	4.6	1/2006	4/2006	6	2.7	1/2006	4/2006	11	3.1	1/2006	4/2006
Batch 4	10	4.6	5/2006	8/2006	6	2.7	5/2006	8/2006	8	2.2	5/2006	8/2006
Phase 2	**24**	**11.1**			**19**	**8.7**			**12**	**5.6**		
Batch 1	6	2.8	6/2005	10/2005	5	2.3	6/2005	10/2005	6	2.8	6/2005	10/2005
Batch 2	6	2.8	3/2006	7/2006	5	2.3	3/2006	7/2006	6	2.8	3/2006	7/2006
Batch 3	6	2.8	9/2006	1/2007	5	2.3	9/2006	1/2007			9/2006	1/2007
Batch 4	6	2.8	1/2007	5/2007	4	1.8	1/2007	5/2007			1/2007	5/2007
Phase 3	**75**	**34.8**			**8**	**3.6**			**11**	**5.1**		
Batch 1	20	9.3	8/2006	12/2006	4	1.8	8/2006	12/2006	6	2.8	8/2006	12/2006
Batch 2	25	11.6	3/2007	7/2007	4	1.8	3/2007	7/2007	5	2.3	3/2007	7/2007
Batch 3	15	6.9	10/2007	2/2008			10/2007	2/2008			10/2007	2/2008
Batch 4	15	6.9	5/2008	8/2008			5/2008	8/2008			5/2008	8/2008
Phase 4	**55**	**25.5**							**8**	**3.7**		
Batch 1	15	7	9/2007	12/2007			9/2007	12/2007	5	1.42.3	9/2007	12/2007
Batch 2	10	4.6	3/2008	7/2008			3/2008	7/2008	3	1.4	3/2008	7/2008
Batch 3	15	7	11/2008	3/2009			11/2008	3/2009			11/2008	3/2009
Batch 4	15	7	5/2009	9/2009			5/2009	9/2009			5/2009	9/2009
Total	**200**	**92.8**			**50**	**23.2**			**70**	**32.5**		

Attachment 2 to Annex 6

Letter No. ---

SOCIALIST REPUBLIC OF VIETNAM

International Development Association
1818 H Street, N.W.
Washington, D. C. 20433
United States of America

Re: Credit No. ------- VN
(Rural Energy II Project)
Procurement Procedures for National Competitive Bidding

Dear Sir or Madame:

We refer to Section I, Part C.3 of Schedule 3 of the Development Credit Agreement (---------- Project) of even date herewith between the Socialist Republic of Vietnam (the Borrower) and the International Development Association (the Association), concerning National Competitive Bidding Procedures.

We hereby agree that the procedures to be followed for National Competitive Bidding under said Section I, Part C.3, shall be those set forth in Decree No.88/CP dated September 1, 1999, of the Government of the Socialist Republic of Vietnam, with the clarifications set forth in the Annex to this letter required to comply with the provisions of the Guidelines for Procurement under IBRD Loans and IDA Credits published by the Bank in January 1995 and revised in January and August 1996, September 1997 and January 1999.

Please confirm the agreement on behalf of the Association, to the application of these procedures by signing the form of confirmation below.

Very truly yours,

by /s/
Authorized Representative

CONFIRMED:

INTERNATIONAL DEVELOPMENT
ASSOCIATION

by /s/
Authorized Representative

Attachment 3 to Annex 6

NATIONAL COMPETITIVE BIDDING

I. Eligibility

1. The definition of "National Competitive Bidding" in Article 3 Section 2 of the Regulations is hereby revised to read "National Competitive Bidding" is a procurement process where it is envisaged that foreign entities would not be interested in participating. However foreign bidders are allowed to participate under National Competitive Bidding procedures without association with domestic firm.

2. Article 10 of the Regulations relate to International Competitive Bidding procedures and, pursuant to Section 3.02 of the Development Credit Agreement, are superseded by the provisions of the "Guidelines for Procurement under IBRD Loans and IDA Credits" published by the Bank on January 1995 and revised in January and August 1996, September 1997 and January 1999. Therefore provisions in the Regulations relating to International Competitive Bidding will not apply.

3. The provisions of Article 23 of the Regulations are hereby clarified to mean that all pre-qualified bidders will be invited to bid.

II. Bidding Documents

1. The following sub-paragraph will be added to the paragraph 3 of the Article 24:

If bidders are invited to bid on the basis of post-qualification, then the bidding documents shall specify the post-qualification criteria, i.e. the minimum level of experience in similar contracts, technical capability and financial resources to effectively carry out the contract as offered in the bid. .

2. The following sub-paragraph will be added to the paragraph 8 of the Article 24:

Bidding documents will also specify the relevant factors in addition to price to be considered in bid evaluation and the manner in which they will be applied for the purpose of determining the lowest evaluated bid. For goods and equipment, other factors which may be taken into consideration include, among others, costs of inland transport and insurance to the specified site, payment schedule, delivery time, operating costs, efficiency and compatibility of the equipment, availability of service and spare parts, and relating training, safety, and environmental benefits. The factors other than price to be used for determining the lowest evaluated bid will, to the extent practicable, be expressed in monetary terms.

III. Advertising

1. The second sentence of the first paragraph of the Article 4 of the Regulations is hereby modified to read that *"Procuring entity shall advertise Invitation for Bids for participation at least 10 days before issuing bidding documents in a newspaper of national circulation. Advertising should indicate that foreign bidders are eligible. " First and third sentences of this paragraph remain valid.*

IV. **Time for Bid Preparation**

1. The first paragraph of the Article 12 is hereby modified to read that *"time allowed for bid preparation shall be at least 30 days for National Competitive Bidding from the availability of the bidding documents."*

V. **Bid Opening**

1. The first paragraph of the Article 13 is hereby modified to read that *"Bids shall be opened immediately or promptly after the deadline for submission of bids, as specified in the Invitation for Bids."*

2. The following sub-paragraph shall be added to the first paragraph of the Article 13:

All bids will be opened at the same time. Bids received after the time stipulated in the Invitation for Bids as well as those not opened and read out at the bid opening including any discounts, will not be considered.

VI. **Bid Evaluation**

1. In lieu of the provisions of Articles 13, 29, 30, 31, 40, 41 and 55 of the Regulations, bid evaluation will be carried out in accordance with the following provisions:

(a) The purpose of bid evaluation is to determine the cost to the Borrower of each bid in a manner that permits a comparison on the basis of their evaluated cost;

(b) If bidders have been invited to bid on the basis of having been pre-qualified, then the bid with the lowest evaluated cost will be selected for award;

(c) If bidders have been invited to bid on the basis of post-qualification, then the Borrower will determine whether the bidder whose bid has been determined to offer the lowest evaluated cost has the capability and resources to effectively carry out the contract as offered in the bid. The minimum criteria to be met will be set forth in the bidding documents, and if the bidder does not meet them, the bid will be rejected. In such case the Borrower will make a similar determination for the next lowest evaluated bidder. Bidders' technical and financial capacity will be judged separately from the evaluation of bids and will be conducted exclusively under a pass/fail basis. Experience, technical and financial capacity of the bidder to execute the contract will not be considered for purposes of comparison of bids;

(d) The Borrower will ascertain whether the bids: (i) have been properly signed; (ii) are accompanied by the required securities as specified in the bidding documents; (iii) are substantially responsive to the bidding documents; and (iv) are otherwise generally in order. If a bid is not substantially responsive, that is, it contains material deviations from or reservations to the terms, conditions, and specifications in the bidding documents, it will not be considered further. The bidder will not be permitted to correct or withdraw material deviations or reservations once bids have been opened;

(e) In the comparison of bids among bidders, no domestic or regional preferences to bidders will apply and bids will be compared on delivered price inclusive of any prevailing duties;

(f) The bid price and any discounts read out at the bid opening will be adjusted to correct any arithmetical errors;

(g) Under works contracts, Contractors are responsible for all duties, taxes, and other levies, and bidders will take these factors into account in preparing their bids. The evaluation and comparison of bids will be on this basis. Bid evaluation for works will be strictly in monetary terms. If time is a critical factor, the value of early completion to the Borrower may be taken into account according to criteria presented in the bidding documents, only if the conditions of contract provide for commensurate penalties for noncompliance;

(h) Award of the contract will be to the lowest evaluated responsive bidder. Price negotiation with bidders will not be undertaken before award except as provided for below;

(i) Bids may not be rejected for the sole purpose of obtaining lower prices. All bids will not be rejected and new bids invited on the same specifications solely for the purposes of obtaining lower prices, except in cases where the lowest evaluated bid exceeds the cost estimates by a substantial amount. In such cases the Borrower may, as an alternative to re-bidding, negotiate with the lowest evaluated bidder to try to obtain a satisfactory contract, and failing a satisfactory response, with the next lowest evaluated bidder. Rejection of all bids may be permissible when bids are not substantially responsive or there is lack of effective competition; and

(i) A bid evaluation report will be prepared by the Borrower's department or agency requesting the bids setting out a record of all bids submitted, the reasons for disqualification of any bids, the criteria, weighting and evaluation of all responsive bids, the recommended award, and, if recommended award is to other than the lowest price bidder, the reasons therefore.

VII. **Award of Contract**

1. The Article 31 and Article 42 is hereby modified to read as follow:

Eligible bidder having bid substantially responsive to the bidding documents and determined as lowest evaluated shall be recommended for award provided that the bidder has been determined to be qualified in accordance with pre-qualification or post-qualification criteria.

VIII. **Bid Security**

1. Article 28 3(c) would not apply.

2. The following sub-paragraph should be added to paragraph 2 of Article 28:

Bid Security will be valid 30 days longer than bid validity.

IX. **Procurement of Smaller Contracts**

1. Chapter V is not applicable.

X. **Selection of Consultants**

1. Pursuant to Section 3.02 of the Development Credit Agreement, the provisions set forth in Chapter II, superseded by the provisions of the Guidelines: Selection and Employment of Consultants by World Bank Borrowers, dated January 1997 and revised September 1997 and January 1999 (Consultant Guidelines) using Standard Request for Proposal, dated July 1997 and revised April 1998, will apply.

Attachment 4 to Annex 6

FM Action Plan

Weakness	*Action*	*To be done by*	*To be done before*
Lack of capable financial staff in PPMUs and DAF	Appoint a Financial Officer and two accountants in DAF with qualification and experiences acceptable to IDA. Appoint financial staff in PPMUs with qualification and experiences acceptable to IDA.	DAF PPMUs	Negotiation Negotiation
Lack of suitable accounting software in DAF	To procure and install capable computerized accounting software acceptable to IDA to afford recording and reporting tasks.	DAF	Negotiation
Lack of manual/guidance on financial management and disbursement in DAF	IDA will provide necessary guidelines, so that DAF could prepare FM manual for project.	IDA and DAF	Negotiation
Lack of basic element of accounting books, vouchers in PPMUs	Open all relevant accounting books, introduce voucher system, set up financial filing mechanism, set clear TORs for accounting units and division of responsibilities for each PPMU accountant.	PPMUs	Negotiation
Lack of training on IDA procedures for DAF and PPMUs	Practical trainings on financial management and disbursement will be delivered by consultant to strengthen the capacity of accounting people	DAF and PPMUs	Negotiation

Annex 7: Project Processing Schedule

VIETNAM: Rural Energy II

Project Schedule	Planned	Actual
Time taken to prepare the project (months)	20	
First Bank mission (identification)	12/01/2002	12/01/2002
Appraisal mission departure	05/15/2004	5/17/2004
Negotiations	08/15/2004	
Planned Date of Effectiveness	12/01/2004	

Prepared by:
Electricity of Vietnam

Ministry of Industry and the Project Provinces

Preparation assistance:
PHRD grant

Bank mission and consultants:

Bank staff who worked on the project included:

Name	Speciality
Van Tien Hung	Task Team Leader
Robert Taylor	Lead Energy Specialist
Richard Spencer	Senior Energy Specialist
Hoi-chan Nguyen	Senior Legal Counsel
Anil Malhotra	Senior Adviser
Mariko Ogawa	Financial Analyst
Hung Viet Le	Financial Specialist
Phuong Thi Thanh Tran	Environment Specialist
Hong Vu	Resettlement Specialist
Quang Ngoc Bui	Social Specialist
Thang Chien Nguyen	Procurement Officer
Rebecca Sekse	Senior Financial Analyst
Teri Velilla	Program Assistant, EASEG
Lien Thi Bich Nguyen	Program Assistant, EACVF

Annex 8: Documents in the Project File*

VIETNAM: Rural Energy II

A. Project Implementation Plan

Project Implementation Plan-- under preparation

B. Bank Staff Assessments

IDA Identification Mission/Pre appraisal mission aide memoires
Project Concept Document
Procurement capacity assessment report
Policy Framework for RAP
Policy Framework for EMDP

C. Other

Institutional and financial frameworks for rural electrification -- ECA consultants, 2004
Feasibility study for Rural Energy Project-- Vinh Phuc
Feasibility study for Rural Energy Project-- Ha Tinh
Feasibility study for Rural Energy Project-- Ca Mau
Feasibility study for Rural Energy Project-- Ben Tre
Feasibility study for Rural Energy Project-- Quang Ngai
Feasibility study for Rural Energy Project-- Phu Yen
Rural Electrification Master Plan 1999-- COWI consultants
Rural Electrification Master Plan- MPI, 1998
*Including electronic files

Annex 9: Statement of Loans and Credits

VIETNAM : Rural Energy II
03-Feb-2004

Project ID	FY	Purpose	Original Amount in US$ Millions IBRD	IDA	GEF	Cancel.	Undisb.	Difference between expected and actual disbursements[a] Orig	Frm Rev'd
P059663	2004	VN-Road Network Improvement	0.00	225.26	0.00	0.00	230.27	0.00	0.00
P071019	2003	VN-GEF Demand-Side Management & Energy	0.00	0.00	5.50	0.00	5.50	0.33	0.00
P044803	2003	VN-PRIMARY EDUC FOR DISADVANTEGED CHI	0.00	138.76	0.00	0.00	195.70	0.88	0.00
P075399	2003	Public Financial Management Reform Proj.	0.00	54.33	0.00	0.00	57.83	-1.03	0.00
P051838	2002	VN-PRIMARY TEACHER DEVELOPMENT	0.00	19.84	0.00	0.00	21.36	7.94	0.00
P059936	2002	VN -Northern Mountains Poverty Reduction	0.00	110.00	0.00	0.00	119.33	28.88	0.00
P073778	2002	VN-GEF-System Energy Equitization-Renewa	0.00	0.00	4.50	0.00	5.29	0.53	0.00
P073305	2002	VN-Regional Blood Transfusion Centers	0.00	38.20	0.00	0.00	44.70	11.64	0.00
P072601	2002	VN - Rural Finance II Project	0.00	200.00	0.00	0.00	177.02	-26.98	0.00
P066396	2002	VN-SYSTEM ENERGY, EQUITIZATION & RENE	0.00	225.00	0.00	0.00	259.54	65.43	0.00
P052037	2001	VN-HCMC ENVMTL SANIT.	0.00	166.34	0.00	0.00	179.03	22.34	9.84
P062748	2001	VN - COMMUNITY BASED RURAL INFRA.	0.00	102.78	0.00	0.00	113.59	16.08	0.00
P042927	2001	VN-Mekong Transport/Flood Protection	0.00	110.00	0.00	0.00	109.67	78.50	0.00
P059864	2000	VN-RURAL TRANSPORT II	0.00	103.90	0.00	0.00	43.92	22.17	0.00
P042568	2000	VN - COASTAL Wetl/Prot Dev	0.00	31.80	0.00	0.00	30.79	23.10	0.00
P056452	2000	VN-RURAL ENERGY	0.00	150.00	0.00	0.00	71.96	60.75	0.00
P004833	1999	VN-Urban Transport Improvement	0.00	42.70	0.00	8.19	19.64	26.08	1.16
P004845	1999	VN - MEKONG DELTA WATER	0.00	101.80	0.00	0.00	81.95	70.84	0.00
P004828	1999	VN-HIGHER EDUC.	0.00	83.30	0.00	0.00	67.47	49.73	23.37
P051553	1999	VN-3 CITIES SANITATION	0.00	80.50	0.00	0.00	64.17	34.33	0.22
P004839	1998	VN - FOREST PROT.& RUL DE	0.00	21.50	0.00	0.00	17.71	15.63	11.28
P045628	1998	VN-TRANSMISSION & DISTR	0.00	199.00	0.00	0.00	117.67	110.03	23.07
P004844	1998	VN-AGRIC. DIVERSIFICATION	0.00	66.90	0.00	0.00	37.15	23.88	10.54
P004843	1998	VN-Inland Waterways	0.00	73.00	0.00	0.00	49.91	45.55	11.99
P004830	1997	VN-WATER SUPPLY	0.00	98.61	0.00	31.28	15.56	50.67	8.61
P004838	1996	VN-NATIONAL HEALTH SUPPORT	0.00	101.20	0.00	2.35	24.86	34.15	0.00
		Total:	0.00	2544.72	10.00	41.82	2161.60	771.47	100.09

VIETNAM
STATEMENT OF IFC's
Held and Disbursed Portfolio
June 30 - 2003
In Millions US Dollars

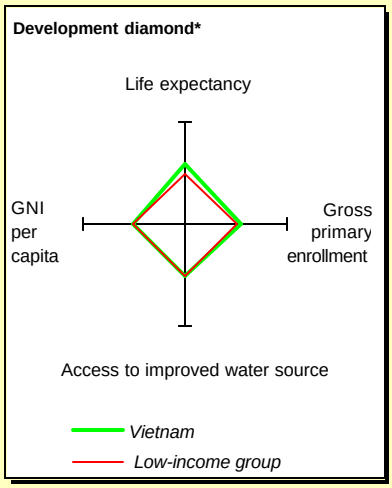
		Committed				Disbursed			
		IFC				IFC			
FY Approval	Company	Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
2003	ACB-Vietnam	0.00	5.02	0.00	0.00	0.00	0.00	0.00	0.00
2002	AZ/AGF Vietnam	0.00	1.32	0.00	0.00	0.00	1.32	0.00	0.00
2002	CyberSoft	0.00	1.25	0.00	0.00	0.00	1.25	0.00	0.00
2002	Dragon Capital	0.00	2.00	0.00	0.00	0.00	2.00	0.00	0.00
2002	F-V Hospital	5.00	0.00	3.00	0.00	5.00	0.00	3.00	0.00
2003	Glass Egg	0.00	1.75	0.00	0.00	0.00	0.00	0.00	0.00
1996	Holcim Vietnam	18.54	0.00	0.00	31.29	18.54	0.00	0.00	31.29
1998	MFL Vinh Phat	0.15	0.00	0.00	0.00	0.15	0.00	0.00	0.00
1997	NATL	14.56	0.00	0.00	11.34	14.56	0.00	0.00	11.34
1995/97	Nghi Son Cement	16.99	0.00	0.00	12.43	16.99	0.00	0.00	12.43
2001	RMIT Vietnam	7.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	SMH Glass Co.	6.11	0.00	0.00	0.56	6.11	0.00	0.00	0.56
2003	Sacombank	0.00	2.93	0.00	0.00	0.00	2.77	0.00	0.00
2002/03	VEIL	0.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	VILC	0.00	0.75	0.00	0.00	0.00	0.75	0.00	0.00
	Total Portfolio:	68.60	23.02	3.00	55.62	61.35	8.09	3.00	55.62

		Approvals Pending Commitment			
FY Approval	Company	Loan	Equity	Quasi	Partic
2002	F-V Hospital	0.00	0.00	0.00	0.00
2000	Interflour	0.01	0.00	0.00	0.01
1999	MFL Chau Giang	0.00	0.00	0.00	0.00
1999	MFL Minh Minh	0.00	0.00	0.00	0.00
2000	MFL Mondial	0.00	0.00	0.00	0.00
2000	MFL-AA	0.00	0.00	0.00	0.00
	Total Pending Commitment:	0.01	0.00	0.00	0.01

Annex 10: Country at a Glance

VIETNAM: Rural Energy II

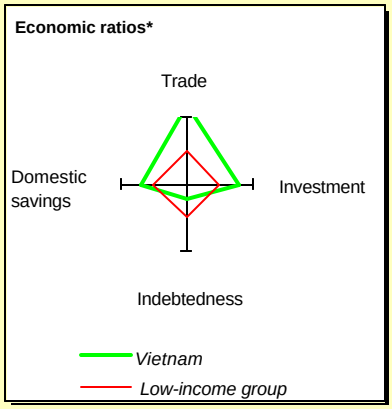
POVERTY and SOCIAL	Vietnam	East Asia & Pacific	Low-income
2002			
Population, mid-year *(millions)*	80.5	1,838	2,495
GNI per capita *(Atlas method, US$)*	430	950	430
GNI *(Atlas method, US$ billions)*	34.8	1,740	1,072
Average annual growth, 1996-02			
Population *(%)*	1.3	1.0	1.9
Labor force *(%)*	1.7	1.2	2.3
Most recent estimate (latest year available, 1996-02)			
Poverty *(% of population below national poverty line)*	..	..	..
Urban population *(% of total population)*	25	38	30
Life expectancy at birth *(years)*	70	69	59
Infant mortality *(per 1,000 live births)*	26	33	81
Child malnutrition *(% of children under 5)*	34	15	..
Access to an improved water source *(% of population)*	77	76	76
Illiteracy *(% of population age 15+)*	7	13	37
Gross primary enrollment *(% of school-age population)*	106	106	95
Male	109	105	103
Female	102	106	87



KEY ECONOMIC RATIOS and LONG-TERM TRENDS

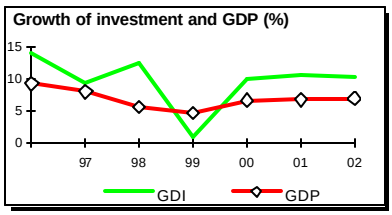
	1982	1992	2001	2002
GDP *(US$ billions)*	..	9.9	32.7	35.1
Gross domestic investment/GDP	..	17.6	31.2	32.1
Exports of goods and services/GDP	..	34.7	54.6	55.5
Gross domestic savings/GDP	..	13.6	28.8	28.1
Gross national savings/GDP	..	..	30.9	..
Current account balance/GDP	..	-0.8	1.6	-1.5
Interest payments/GDP	..	0.4	1.1	0.8
Total debt/GDP	..	246.6	38.5	38.0
Total debt service/exports	..	7.1	6.7	5.9
Present value of debt/GDP	..	..	33.5	..
Present value of debt/exports	..	..	60.8	..

	1982-92	1992-02	2001	2002	2002-06
(average annual growth)					
GDP	5.2	7.4	6.9	7.0	..
GDP per capita	2.9	5.8	5.5	5.7	..

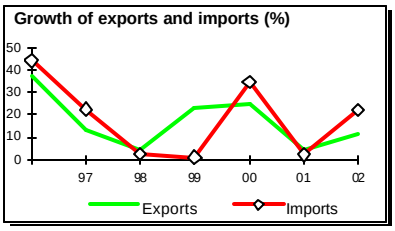


STRUCTURE of the ECONOMY

	1982	1992	2001	2002
(% of GDP)				
Agriculture	..	33.9	23.2	23.0
Industry	..	27.3	38.1	38.5
Manufacturing	..	15.4	19.8	20.6
Services	..	38.8	38.6	38.5
Private consumption	..	80.7	64.8	65.7
General government consumption	..	5.8	6.3	6.2
Imports of goods and services	..	38.8	56.9	59.5



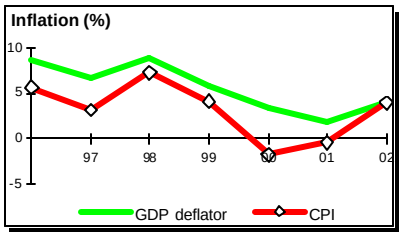
	1982-92	1992-02	2001	2002
(average annual growth)				
Agriculture	3.1	4.2	3.0	4.1
Industry	5.0	11.2	10.4	9.4
Manufacturing	1.9	11.3	11.3	11.6
Services	7.9	6.6	6.1	6.5
Private consumption	..	5.0	5.6	7.9
General government consumption	..	3.4	6.6	5.4
Gross domestic investment	..	13.8	10.8	10.6
Imports of goods and services	..	23.9	2.3	22.2



The diamonds show four key indicators in the country (in bold) compared with its income group average. If data are missing, the diamond will be incomplete.

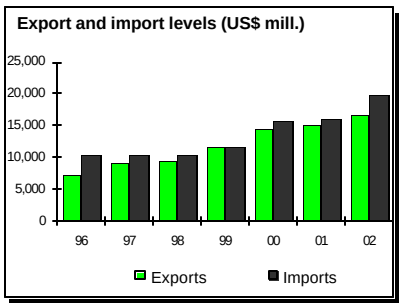
PRICES and GOVERNMENT FINANCE

	1982	1992	2001	2002
Domestic prices				
(% change)				
Consumer prices	..	37.7	-0.4	4.0
Implicit GDP deflator	..	32.6	1.9	4.1
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	19.0	21.4	21.0
Current budget balance	..	0.0	5.4	5.5
Overall surplus/deficit	..	..	-2.5	-2.3



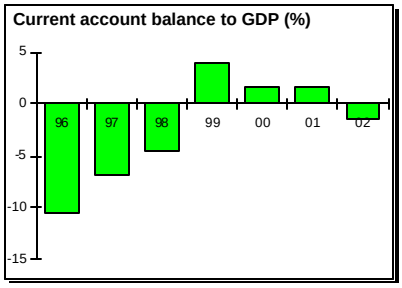
TRADE

	1982	1992	2001	2002
(US$ millions)				
Total exports (fob)	..	2,475	15,027	16,706
Rice	..	300	588	725
Fuel	..	756	3,175	3,270
Manufactures	..	..	..	..
Total imports (cif)	..	2,950	16,162	19,733
Food	..	82	..	..
Fuel and energy	..	616	1,871	2,017
Capital goods	..	950	..	..
Export price index *(1995=100)*	..	..	..	..
Import price index *(1995=100)*	..	..	..	..
Terms of trade *(1995=100)*	..	..	..	..



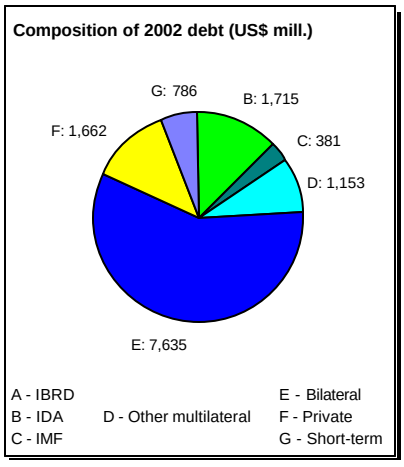
BALANCE of PAYMENTS

	1982	1992	2001	2002
(US$ millions)				
Exports of goods and services	..	3,199	17,837	19,654
Imports of goods and services	..	2,950	17,783	21,177
Resource balance	-659	249	54	-1,523
Net income	-85	-384	-634	-766
Net current transfers	90	59	1,100	1,767
Current account balance	-654	-76	521	-522
Financing items (net)	458	538	-196	986
Changes in net reserves	196	-462	-325	-464
Memo:				
Reserves including gold *(US$ millions)*	..	..	..	..
Conversion rate *(DEC, local/US$)*	0.9	11,202.2	14,725.2	15,279.5



EXTERNAL DEBT and RESOURCE FLOWS

	1982	1992	2001	2002
(US$ millions)				
Total debt outstanding and disbursed	43	24,332	12,584	13,332
IBRD	0	0	0	0
IDA	35	57	1,344	1,715
Total debt service	0	232	1,213	1,174
IBRD	0	0	0	0
IDA	0	1	10	13
Composition of net resource flows				
Official grants	67	113	263	..
Official creditors	17	248	993	686
Private creditors	0	140	-591	-641
Foreign direct investment	13	385	1,300	1,100
Portfolio equity	0	0	0	0
World Bank program				
Commitments	0	0	739	558
Disbursements	16	0	279	261
Principal repayments	0	1	2	2
Net flows	16	-1	277	259
Interest payments	0	0	8	11
Net transfers	16	-1	268	248



Additional Annex 11: Incremental Cost Analysis

VIETNAM: Rural Energy II

Overall Context for Energy Efficiency in Vietnam

Almost 2,000 communes and 4 million households in rural Vietnam are currently without access to electricity – each around 20% of the total. An additional 6,000 communes previously electrified have poor coverage at the household level, and receive poor quality, unreliable service at high prices. The distribution companies providing these services have very high technical losses and are financially too cash-starved to either improve the efficiency of or to expand their systems.

The Government's Rural Power Distribution Program

The Government of Vietnam's program for rural electrification aims to increase household coverage to 90%, extend the grid to all the communes for which it is economically and physically feasible to do so, and rehabilitate poor-performing rural networks by 2010.

To meet this objective, it is planning a substantial physical investment program, estimated to cost a total of $2,261 million between 2000 and 2010, broken down as follows:

- For connecting communes to the network and households within the commune, a total investment of around $1,218 million;
- For providing power to remote communes, a total investment of $40 million; and
- For rehabilitating the networks of existing communes at medium voltage (MV) and low voltage (LV), a total of $1,003 million.

In parallel with the physical investment required, the government has outlined the main principles for rural power distribution reform. There have been two milestone decrees issued, which have shaped the future of the rural power sector, namely:

- Decree 22 of 1999, which stipulated that: (i) Electricity of Vietnam (EVN) would be responsible for all MV distribution; (ii) provincial authorities would be responsible for all LV distribution; and (iii) investment in LV distribution from all sources was encouraged; and
- Decree 45 of 2001, which (i) required that all entities involved in electricity production, transmission, distribution or related operations must be licensed; (ii) encouraged diversification in investment and management of rural electrification facilities; and (iii) provided for a national ceiling retail price of 700 Dong/kWh set by the Prime Minister, but allowing provincial prices to be set by the Chairman of the Provincial People's Committee.

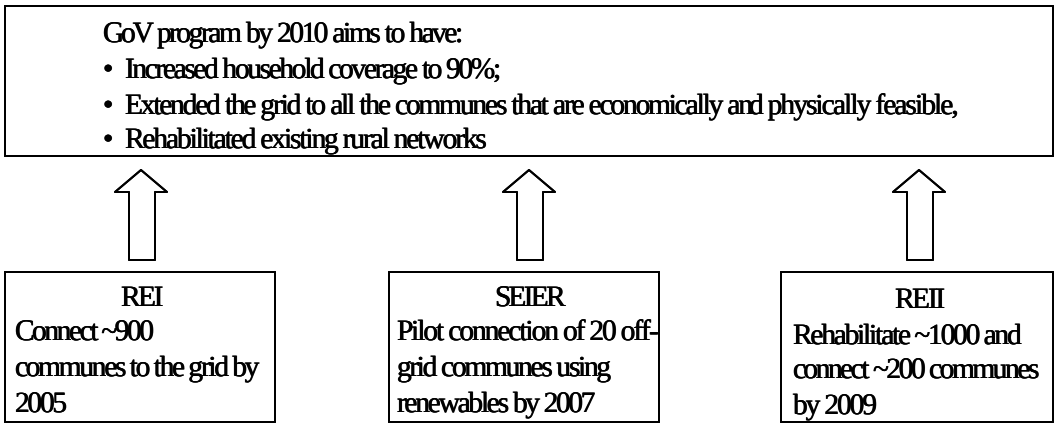
World Bank and GEF Support for Rural Electrification

The World Bank/GEF support to Vietnam's rural electrification program mirrors the Government program by addressing rural electrification within the broader context of poverty alleviation and rural development. Through discrete operations designed to run on parallel tracks the two institutions are providing the following support:

- Expanding access to those rural communes still not connected to the national grid, although connection is technically and economically feasible, is being addressed by the IDA-financed Rural Energy Project (REI). This project, still under implementation by EVN, aims to connect 900 communes before the project closes in 2005. The overall policy framework for rural electrification was also developed under this project.
- Providing electricity to those remote communes that cannot in the near future be economically connected to the grid is being addressed by the System Efficiency Improvement, Equitization and Renewables Project (SEIER). The renewable components, co-financed by GEF, will: (i) pilot stand-alone renewable-based provision of electricity, primarily from small hydro; and (ii) support the development of private sector participation in both off- and on-grid renewable project development. These components include developing regulations permitting small renewable power producers to connect to the grid, facilitating access to finance, supporting the power purchase agreement process, and assisting with feasibility studies.
- The poor condition and lack of effective management of commune-level LV networks constructed and managed by local groups rather than the national utility, will be addressed by Rural Energy II (REII). As with previous projects, REII will include a physical investment component for the rehabilitation and extension of the networks, as well as a reform component.

Figure 1 depicts the World Bank/GEF support for the Government of Vietnam's rural electrification program diagrammatically.

Figure 1: World Bank /GEF Support for GOV Rural Electrification Program



Baseline Scenario

The baseline RE II project would cover the rehabilitation and expansion of about 1,000 commune-level LV networks in some 30 provinces – about one-sixth of the total. It would also connect some 200 communes to the grid for the first time. For grid-connected communes to be eligible for rehabilitation and expansion, the commune must have: (i) a high potential for economic development; (ii) sufficient income from the sale of electricity to cover operational costs; (iii) losses of greater than 20 %; (iv) a power tariff higher than the ceiling set by the GoV for the rural areas; and (v) household-level electricity access of less than 80%. The commune must also constitute more than 500 households, have a monthly electricity consumption of at least 30 kWh/household and a share of productive use of at least 15 per cent.

The project will be phased, starting with 6 provinces which are most advanced in their preparation. Part of the judgment of the state of preparation is the expression and demonstration of willingness to proceed with the reforms beyond merely the name change needed to satisfy the minimum requirements of Decrees 22 and 45. The first 6 provinces are expected to be ready to implement physical rehabilitation, with feasibility studies completed and reforms under way, by about September 2004. The second, third and fourth phases will follow, comprising further groups of six, nine and nine provinces respectively.

The baseline scenario strongly focuses on the physical rehabilitation and extension of the distribution system, together with a program of reform and regulation comprising the following activities:

- Development & implementation of a framework for regulation of companies and cooperatives by the provincial Departments of Industry that covers tariffs & prices, conditions of service, metering, billing, collections, accounting standards, and financial oversight. This would include basic training for the LDUs in their legal obligations;
- Development and implementation (through MoI and provincial Departments of Industry) of a program to establish standard curricula and training for electricians, meter readers and other common distribution job functions;
- In conjunction with the MOI and the Provincial Department of Industry, development, introduction, and application of standard specifications for planning, installation, repair of common LV distribution network components, including sizing of transformers, wires, poles, etc, and basic safety requirements in the LV distribution system, especially standards for grounding, protection, and insulation.
- Assisting the LDU determine the legal entity which most suits the needs and wishes of the consumers it serves; and identifying and supporting the necessary legal processes managers of the LDU must undergo to set it up.

The inclusion of these activities represents good practice for management of the rehabilitated assets. It contributes to the sustainability of the investment by partially mitigating the tendency of the distribution system to revert to its pre-rehabilitation state. A budget of $1 million has been set aside for this purpose, to be financed by IDA. The program would continue to rely heavily on the local capacity of EVN's Provincial Supply Departments (PSDs) for both technical and commercial operations, for which in-kind funding has been assumed.

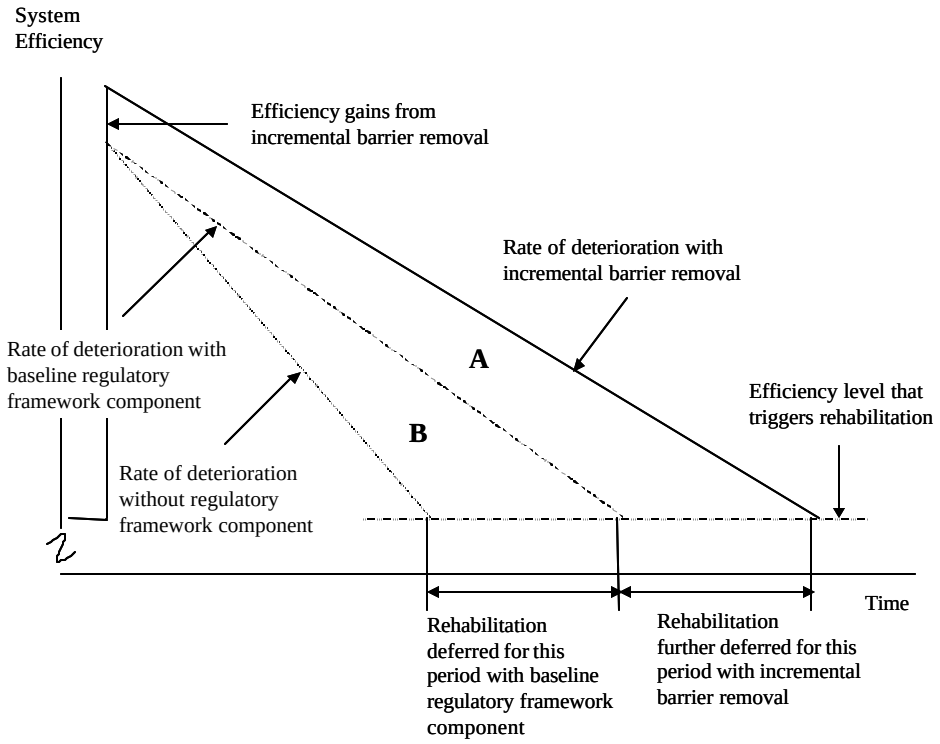
Table 1: Baseline Project Costs

Component Name	Budget	Source of Finance			
		IDA	GOV	Private*	PCs†
Rehabilitation and expansion of LV system in 1,200 communes in 30 provinces	242.75	162.80	45.25	34.70	
Rehabilitation and expansion of MV system in north, central and southern regions	71.41	55.70			15.71
Technical assistance:	1.00				
Framework for regulation		0.30			
Training standards for personnel		0.10			
Equipment standards		0.10			
Basic training to LDUs		0.50			
Totals	**315.16**	**219.50**	**45.25**	**34.70**	**15.71**

Barriers to Energy Efficiency In Rural Distribution Grids

Sustained improvements to efficiency in the rural distribution grids can be achieved in two discrete but compatible ways. First, the initially rehabilitated or newly-built network can achieve a higher initial standard of efficiency, and second, the rate of performance efficiency erosion can be reduced. Conceptually, this idea is illustrated in Figure 2 below. In this diagram, the incremental efficiency improvement – to which GHG emissions reductions are directly proportional – is represented by area A in the diagram, while area B is that which can be achieved by the regulatory component which is part of the baseline project.

Figure 2: Achieving and Sustaining Higher Efficiency



But there are barriers to both starting off with more efficient systems immediately after rehabilitation, as well as reducing the rate of performance erosion to the greatest extent possible. The barriers are discussed below.

Regulatory Impediments to Efficient LDU Operations

As with all regulatory interventions, the tendency of the regulated entity is to comply with only the minimum requirement mandated. In the baseline case, experience has shown that the regulated entities will strive to meet only the minimum staff qualifications and equipment specifications. In the baseline case, the LDUs will lack sufficient incentives to:

- Improve efficiency at both design and operating stages, since the tariff will be adjusted downwards as soon as costs are reduced;
- Consolidate operations (for example by LDUs merging), from which scale economies and technical efficiency benefits follow, because the distribution system can be rationalized, including permitting management of the MV as well as the LV system.

Capacity Constraints to Higher Efficiency

If higher levels of efficiency are to be achieved, it will only come with a more proactive approach which seeks to build the capacity of the LDUs to become more efficient, while at the same time giving them greater incentives to do so. The barriers to achieving this enhanced capacity include:

- Lack of capacity of the LDUs to manage themselves as autonomous businesses in technical and commercial terms. As indicated above, the LDUs will be dependent on EVN's PSDs, which themselves have limited resources spread over many LDUs. Timely advice and support may not be available, with the result that decisions and actions on commercial and technical improvements will be delayed or forgone;
- Lack of real financial independence of the LDUs since they depend on either province or ODA financing. Further system investments to improve efficiency – for example by undertaking mini-rehabilitations – will be delayed or forgone if such sources of financing are not available.

Rehabilitation of existing LV networks and expansion/installation of new LV grids without a thoroughgoing program of reform and capacity building will thus place at risk the core benefits of rehabilitation, namely efficiency improvements, improved affordability and household coverage.

Replication

An additional barrier, assuming that the necessary institutional reforms and capacity building can be put in place in the 1,000 communes that participate directly in the project, is the need to replicate in subsequent projects the demonstration effect which will be achieved under REII. This barrier, a lack of knowledge among the non-project LDUs and provinces, and probably some skepticism about new management methods and improved standards, will need to be addressed as part of REII. The first step of replication will be within REII itself. Given that most of the innovative work will take place in the first and second phases, replication of the successful innovations will need to be carried out to the third and fourth phase projects.

The potential for replication outside the project is considerable, given that some 5,000 LDUs will not be included in REII but will have to reform and rehabilitate at some point. Without efforts to replicate, the changes in the non-project LDUs are likely to be minimalist and designed only to comply with Decrees 22 and 45. In an absence of any efforts to replicate the positive experience from REII, even if the non-project LDUs do manage to secure financing for rehabilitation, it is likely that any efficiency gains that are brought about will be lower and will be eroded more rapidly.

Barrier Removal Strategy

The barrier removal strategy is provide technical assistance which is targeted at:

- Ensuring that the regulatory regime that is established will provide incentives for LDUs to strive for efficient operations. These incentives will provide regulatory 'sticks' by introducing minimum standards, including for staff qualifications, equipment and system design. The regulations will also provide 'carrots' by giving incentives for the LDUs to consolidate and thus take advantage of economies of scale, and to benefit their owners (or members where cooperatives are involved) from improved performance

- Providing the LDUs with sufficient capacity to manage themselves in a technically, financially and commercially efficient manner. Financial and commercial efficiency will have an impact on the technical efficiency of the system, by ensuring that proper monitoring and corrective actions are taken when indicators suggest technical inefficiencies are the cause of poor performance;
- Building the mechanisms and capacity needed to foster replication of best practice. Ideally, this would result from the regulatory and other incentives in place for LDUs to maximize performance. Based on experience in introducing energy efficiency in other environments, however, it is expected that the LDUs will need educating and convincing about the potential of energy efficiency, especially given that they will be largely unreformed and unrehabilitated at the start of the process.

GEF Project Alternative

The GEF alternative must respond to the unique circumstances of the electricity distribution sub-sector in Vietnam, the main features of which are:

- A highly disaggregated institutional structure consisting of several thousand small distribution entities, many of which are not formally recognized legal entities;
- A near complete absence of capacity to manage and operate distribution systems in a commercially, financially and technically sound way;
- A focus on building the distribution network from the bottom up – by formalizing and then aggregating the existing LDUs – rather than the normal reform focus of unbundling vertically integrated monopoly structures.
- A centralized culture in GOV agencies and power enterprises unable to delegate decision-making to front line staff and exercise administrative/management oversight without interference or rescinding authority;
- A unitary government system in which powers are decentralized to the provincial and in some cases district level.

Under the baseline, IDA and local sources will finance all the physical rehabilitation investments in 1,000 LDUs and connect 200 communes for the first time. The baseline will also finance a component that will put in place the framework for regulation of the LDUs.
Under the GEF alternative, an enhanced component has been designed to respond to the uniqueness of Vietnam's distribution sub-sector. In consequence, the regulatory framework component would be substantially expanded with the objective of:

- Broadening and deepening regulatory reform;
- Creating the capacity to manage and operate electricity distribution systems and entities;
- Replicating best practice to other LDUs not included in the early phases of the project.

The enhanced technical assistance component is the increment of additional activity for which GEF cofinancing is being sought. It is quite distinct from the other, physical investment components, which are being financed by IDA and local Vietnamese sources. The objectives of the physical investment components and the enhanced technical assistance component are also distinct, but of equal importance, since neither can succeed without the other.

Broadening and Deepening of Reform Component

The reform component can be extended and enhanced to maximize the efficiency gains that result from regulation, including:

- Training regulators in managing for performance efficiency and regulatory techniques to encourage sustained high performance by LDUs. In addition, the reform component will structure the regulatory framework to increase the incentives for LDUs to maximize efficiency – for example by seeking ways to encourage LDUs to consolidate;
- Reviewing regulatory requirements to ensure that the barriers are removed and incentives are in place to encourage high performance behavior by LDUs, including consolidation;
- Experimentation with performance-based regulation at the organizational level and employee incentive schemes at the personnel level that operate together to create conditions for continued and sustained performance improvements. Several of the phase 1 provinces could undertake variations of performance based regulation and the results could be compared for effectiveness and replicability.

Introduction of Institutional Development and Capacity Building Component
An institutional development and capacity building component would include the following activities:

- Develop customized training and support programs for LDU management and staff during the LDUs' creation and early stages, to develop and promulgate improved practices and techniques for technical and managerial personnel within the LDUs. This may be achieved through the continued use of EVN PSDs on a contract basis, as well as encouraging private sector provision of training and support which would include: (i) day-to-day activities such as meter reading, billing and commercial management as well as simple technical work; (ii) support for distribution planning and engineering for improved-performance designs for LV systems and, possibly, MV systems; and (iii) undertaking initiatives for reducing losses and bulk power purchase requirements, including technology solutions (prepayment meters), rate solutions (low-income rates or subsidies), and customer services solutions (village electrician), and energy efficiency solutions (assistance to purchase of CFLs and other efficient appliances);
- Development of an integrated approach to economic development that helps to optimize overall energy use (productive and household) given local conditions;
- Training, information and outreach for local financing agencies so that LDUs (both REII and non-project LDUs) can obtain local counterpart financing for rehabilitation and continued system expansion from non-government sources. Demonstrating sustained high performance levels by following the guidance in both the baseline and the enhanced reform component will reassure financiers that the rehabilitation and extensions are sustainable and thus a good business prospect.

Introduction of Replication Component

The replication component would have two purposes. First it would seek to distill best practice learned during the first phase of REII and promote it during the subsequent phases. This would be expected to be a relatively small part of the effort but will provide useful 'learning by doing' experience for the second purpose. Second it would replicate the best practice learned during REII among non-REII LDUs as they undergo reform and rehabilitation. An estimated 500 LDUs would be covered from within the project. Every province and district PC (around 300) outside

the project would be targeted with some material and the most promising non-project district/LDUs would be provided with follow up materials. Activities under this component would include:

- Identification of the needs of potential LDUs and stakeholders, based on the evidence of experience in the first- and second-phase project provinces, and distilling the best practice lessons from it;
- Preparing and disseminating materials through literature, video, TV and visits for PPCs and GoV departments in later phase and non-project provinces describing the new regulations, the changes coming and how they can prepare for them;
- Preparing and disseminating educational materials including leaflets and handbooks, describing the lessons from experience, provided to later phase and non-project CEGs and consumers;
- Preparing and disseminating information on how to form an LDU, provided to commune, district and province leadership; and
- Community development activities, including commune- and district-level meetings with officials and other stakeholders in what to expect

The replication component would enable the GOV to provide the project development and management support to other, non-REII LDUs that is currently being provided under REII preparation and which will continue during REII and successor project implementation for the later-phase provinces. Support for this activity could make a substantial impact on the energy efficiency gains expected from the sustainable LDU models that would result from both the baseline IDA-financed activity as well as the enhancements provided by GEF under the extensions proposed above.

Estimated Costs

The estimated costs of this incremental activity are shown in Table 2 below:

Table 2: Indicative Budget – Incremental Institutional Development and Capacity Building, Creation of Regulatory Frameworks and Replication

	Budget ($000)
Development and Introduction of Regulatory Framework	
Training of regulators	300
Experiment with Performance-based regulation	750
Institutional Development and Capacity Building	
Customized training and support programs for LDU staff	2,250
Development of integrated approach to economic development	250
Training, information and outreach for local financing services	750
Consultative Group costs	250
Replication	
Distil best practice from first phase of REII	450
Replication to REII and other LDUs	1,000
Total	6,000

Project Benefits

Project benefits are based on measurable improvements in the efficiency of the typical LDU. These are illustrated in Table 3 below. The pre-rehabilitation characteristics of the commune are assumed to be those upon which they are selected for rehabiltation as set out in Section D1 of the PAD. In addition the following assumptions are made:

- Net Margin on sales assumes bulk power tariff of 429 VND/kWh and retail price ceiling of 700 VND/kWh;

- Year 1 Performance Results (immediately following rehabilitation). Base case assumes 30 kWh monthly average household usage. GEF alternative has more customers and lower consumption costs because of superior outreach and DSM type approach;

- Year 5 Comparative Performance Results assuming 75% retention of T&D efficiency gains, productive use & connected households for the Baseline Case and 100% retention of T&D efficiency gains + increased end-use efficiency & higher HH penetration for the GEF Alternative;

- Year 10 Comparative Performance Results assuming 50% retention of T&D efficiency gains, productive use & connected households for the Baseline Case and 100% retention of T&D efficiency gains + increased end-use efficiency & higher HH penetration for the GEF Alternative;

- Year 15 Comparative Performance Results assuming 25% retention of T&D efficiency gains, productive use & connected households for the Baseline Case and 100% retention of T&D efficiency gains + increased end-use efficiency & higher HH penetration for the GEF Alternative; and

- Year 20 Comparative Performance Results assuming no retention of T&D efficiency gains, productive use & connected households for the Baseline Case and 100% retention of T&D efficiency gains + increased end-use efficiency & higher HH penetration for the GEF Alternative.

Table 3: Typical Project Benefits, Baseline and GEF Alternative

	LV Network Losses	Non-Technical Losses	Total H/holds in Commune	H/holds w/ Electric Access	Total Monthly Billed Usage (kWh)	Total Monthly Losses (kWh)	Net Margin on Sales ($)	Bulk Power Purchase (kWh)
Pre-rehabilitation (GEF and baseline)								
	30%	10%	1000	500	18,000	12,000	-$18.00	30,000
Baseline Year								
1	10%	0	1,000	800	36,000	4,000	$536.	40,000
5	15%	2.5%	1,131	830	33,100	11,033	$282.	44,134
10	20%	5%	1,280	832	33,698	11,233	$288	44,931
15	25%	7.5%	1,448	833	31,854	15,337	$137	47,190
20	30%	10%	1,639	819	29,495	19,663	-$30	49,158
GEF Alternative Year								
1	10%	0	1,000	900	33,750	3,750	$503.	37,500
5	10%	0	1,131	1,018	38,185	4,243	$569.	42,428
10	10%	0	1,280	1,152	43,203	4,800	$643	48,003
15	10%	0	1,448	1,303	48,880	5,431	$728	54,311
20	10%	0	1,639	1,475	36,869	6,145	$823	61,448

Aggregating the incremental benefits from a typical LDU over the 1000 LDUs expected to be rehabilitated under RE II yields an incremental energy over the lifetime of the project (2005 – 2011) of 209 GWh. Over the lifetime of the rehabilitation, 20 years, the cumulative saving resulting from the GEF activities in Year 20 is 1.6 TWh. The financial results would also be significantly improved, as annual margin on sales, by the end of the project in 2011 average LDU margin would be nearly $600 in the with GEF case compared with just under $370 without.

The incremental benefits for a non-REII LDU will be greater because the total benefit corresponds to the larger area A+B noted in Figure 2. The level of penetration and success with these LDUs must be assumed ex ante. The potential is 5,000 LDUs, but it is unrealistic to expect that all of them will implement the rehabilitation and reforms perfectly, so the outcome will be below what is theoretically possible. Even assuming a penetration rate of 50% and that those undertaking reform and rehabilitation only manage 50% of the efficiency improvements that are possible, the energy saving is expected to be 261 GWh over the lifetime of the project and a little over 2TWh during the 20 year rehabilitation lifespan. It must be emphasized that these numbers are sensitive to assumptions about the level of success in enabling non REII LDUs to carry out the same program of reforms as those supported under the project.

Global Benefits

The incremental carbon savings over the project period and over 10 years is shown in Table 3. This uses a direct methodology, based on an abatement factor.

	Cumulative Electricity saving (GWh)	Cumulative carbon saving (tonnes CO2)
REII LDUs only		
Project Lifetime 2005 – 2011	209	115,022
20 year rehabilitation lifetime	1,657	906,029
Non-REII 'replicators'		
Project Lifetime 2005 – 2011	261	143,778
20 year rehabilitation lifetime	2,071	1,132,537

Incremental Costs and Benefits

Incremental costs and benefits are shown in Table 4 below.

Table 4: Incremental Costs and Benefits

	Baseline	GEF Alternative	Increment
Capacity and Institutional	LDUs set up in legal form; prices, service standards and financial oversight in place; regulated minimum standards for training and skills for LDU staff and equipment efficiency	LDUs set up in legal form; prices, service standards and financial oversight in place; regulated minimum standards for training and skills for LDU staff and equipment efficiency. LDUs have capacity for efficient day-to-day operations, distribution planning for improved performance designs and loss-reducing initiatives. LDUs gain access to local financing from non government and IFI sources Regulatory framework in place that creates incentives for LDUs to maximize efficiency gains	LDUs capable of efficient day to day operations, planning and for loss-reducing initiatives. LDUs have access to local financing. LDUs have regulatory incentives to maximize efficiency
Technical and non-technical losses	In a typical commune, monthly losses rising from 4,000 kWh immediately after rehabilitation to 19,500 kWh after 10 years. Cumulative total losses in 1,000 communes over 10 years amount to 1,419 GWh	In a typical commune, monthly losses rising from 4,000 kWh immediately after rehabilitation to 6,500 kWh after 10 years Cumulative total losses in 1,000 communes over 10 years amount to 630 GWh	Avoided monthly losses rising to 13,500 kWh in a typical commune Avoided cumulative losses of 789 GWh

	Baseline	GEF Alternative	Increment
Financial Cost	In a typical commune, financial cost of additional power purchased and then lost amounts to $560 per month 10 years after rehabilitation Cumulative total losses in 1,000 communes over 10 years amount to $40.5 million Program cost for technical assistance to introduce the regulatory and other changes estimated at $1 million	In a typical commune, financial cost of additional power purchased and then lost amounts to $186 per month 10 years after rehabilitation Cumulative total losses in 1,000 communes over 10 years amount to $18.02 million Program cost to introduce capacity building, and replication elements and enhance reform estimated at $ 7 million	Avoided monthly financial cost to a typical commune of $374 Avoided cumulative losses of $22.48 million Incremental program cost $ 6 million
CO2	Annual CO2 emissions arising from losses in typical communes amount to 116 tonnes after 10 years Cumulative total of CO2 emissions resulting from losses in 1000 communes of 649,000 tonnes over 10 years	Annual CO2 emissions arising from losses in typical communes amount to 39 tonnes after 10 years Cumulative total of CO2 emissions resulting from losses in 1000 communes of 276,000 tonnes over 10 years	Avoided annual CO2 emissions from a typical commune of 77 tonnes. Avoided emissions of 911,000 tonnes CO2 over the 20 year lifetime of rehabilitation

Additional Annex 12: STAP Roster Technical Review

VIETNAM: Rural Energy II

February 29, 2004

Comments on the draft GEF Project Brief for the Rural Energy II Project for Vietnam

Mikio Matsumura on the STAP Roster

The Project is well prepared considering the unique situation of the power distribution sector in Vietnam. It is quite reasonable to improve efficiency of the distribution sector as well as demand-side usage in parallel with a development of generation and transmission sector. The Project will contribute to efficient power distribution and expansion of grid-based rural electrification, thus contribute to reduction of power generation, i.e., greenhouse-gas emission, and to conversion of household energy to clean and efficient one. The Project objectives are in line with the Operational Strategy and Programs of the GEF.

1. Support to Strengthen Institutional and Policy Framework for RE

Loss reduction efforts in distribution sector cannot be sustainable unless a good management system and effective operational procedures are established in distribution entities especially in rural area. We sometimes find cases in which modern information system cannot be utilized because of poor quality of business processes or poor reliability of data maintenance. It is heavily dependent on capability of managers/staff in a distribution utility organization to be successful in loss reduction. The Project intends to convert more than one thousand informal commune electricity groups to legally constituted Local Distribution Units (LDUs) at the provincial or district level. This is a big challenge and requires a careful coordination among stakeholders. The Project includes USD 6.75 million[1] TA component to strengthen LDUs and focuses on the issue. The approach under the Project to strengthen institutional capacity is adequate and feasible..

In order to secure successful formation of LDUs and their sound functioning, an organizational section in the government responsible for LDUs (not merely for RE) should be established. Staff in the section should be trained so that they can guide LDUs. It shall have some authority to control LDUs. It is unlikely that small enterprises or cooperatives seek for merging without outer forcing once they are created. Electric cooperatives in some country have faced difficulties in merging even they have mutual benefits since board members are reluctant to resign and they may be connected to politicians who are keen to realize electrification in their election area. In addition, performance of LDUs may widely vary especially in finance, then merging would be more difficult even if it is technically possible. Therefore, it is recommended to include in the TA a study on rationale consolidation plan of commune electricity groups into LDCs, according to geographical, commercial, operational, and organizational criteria.

[1] At time of STAP review, TA program was $6.75 million but it was increased to $7 million at appraisal

Basic business procedures of LDUs to handle customers should be developed first. It is quite important to design business procedures for new connection, meter reading, billing, bill collection, debt control, disconnection and customer management so that an LDU is properly operated. It may create new job opportunities such as meter reading for local people. There could be reasonable differences in business procedures for each LDU due to local situation. In any case, setting up of such business procedures based on manual (non-IT) operation system shall be in the first priority. Once such a good manual system is in place, it would be easy to introduce modern information technology later to improve efficiency.

2. Physical Component

Under the Project, EVN is in charge of MV line and transformers, while LDUs are in charge of LV line installation. Provincial People's Committees (PCCs) are expected to secure harmonization between MV and LV system. It is necessary to set up an engineering standard to minimize system losses for MV and LV network. Rationale locations of transformers shall be determined based on technical criteria rather than negotiation between them.

The Project assumes that rehabilitation of the existing LV system and new connections will encourage productive use of electricity, then yield more consumption, which can help new electrification in the area. This seems rather optimistic approach. It is necessary to have local funding system for small business or commercial activities to invest for productive use of electricity. Local distribution business depends on local economy.

Connections of service drop wires to users are to be paid by the users. This cost sharing mechanism itself is reasonable, but it may result in less number of connections than expected due to burden for one time payment for rural people. It should be considered to introduce installment plan for payment of connection fee.

Since meter management is one of the key technical skills in LDUs, portable instruments for measurement of meter accuracy shall be purchased under the Project for LDUs.

Response by Task Team to STAP Review

Comment	**Response and Reference**
Setting up business procedures based on a manual (non-IT based) system should be the first priority.	Agreed. The LDU implementation mechanism is described in Section C4 (Institutional and implementation arrangements) and the activities in Annex 2 (Detailed project description).
An organizational section in the government responsible (not merely for RE) should be established	The Government has decided that the regulator's responsibilities will include overseeing the LDUs – including rural electrification – and this is expected to be reflected in the law which is due to be considered later in 2004. The exact nature of the regulator, for example whether it will be part of MOI or fully independent has yet to be determined. See for example Sections B3 (Sector issues to be addressed by project and strategic choices and in particular the paragraphs on legal and regulatory framework) and C2 (Key policy and institutional reforms supported by the project)
Performance of LDUs may vary widely, especially financial, and merging would be difficult even if it were technically possible. It is recommended that the TA	During project preparation, a study on the institutional and financial frameworks for rural electrification was commissioned and the report is available on the project files. The report broadly agrees with the reviewer's

include a study on rational consolidation plan of commune electricity groups according to geographical, commercial, operational and organizational criteria.	position and concludes that: • LDUs should be allowed to consolidate if they wish and the people they serve request it; • EVN's subsidiary provincial service departments, which are likely to gain increasing autonomy, could be in a position to take over LDUs or contract them to provide local services, once institutional obstacles are overcome; • A gradual transition is appropriate and consolidation of LDUs is likely to be a long term process lasting perhaps 10 years. The report thus makes recommendations that the regulatory framework be established to permit but not force consolidation. Further TA to develop a rational plan for consolidation does not, therefore, seem appropriate. This is reflected in the project design – see Sections B3 (Sector issues to be addressed by project and strategic choices and in particular the paragraph on weak institutions) and C2 (Key policy and institutional reforms supported by the project).
It is necessary to set up an engineering standard to minimize system losses for MV and LV network. Rational locations of transformers should be determined based on technical criteria rather than negotiation between them.	The implementing agencies will be strongly encouraged to hire the same designer for both parts of the system and ensure that the designer is qualified to undertake design to EVN's engineering standards. The project document recognizes this issue as a risk, because under the current regulations, the LV system is owned and operated by the LDU and the MV system by EVN's subsidiaries, hence two separate implementing agencies are involved. This issue is discussed in Section F2 (Critical risks) and also the project design summary (Annex 1).
It is necessary to have local funding system for small business or commercial activities to invest for productive use of electricity.	The TA component will include assistance to identify productive uses for small businesses and households and to determine investment needs and financing sources. There is no component within the project because other mechanisms are available for small enterprises to obtain financing for investment, including the Vietnam Bank for Social Policies. Rural finance has been supported with IDA credits. See Annex 2 (detailed project description)
It should be considered to introduce an installment plan for payment of collection fee.	Agreed. The TA for the LDUs will help them work through this issue. See Annex 2 (detailed project description)
Portable instruments for the measurement of meter accuracy shall be purchased under the Project for LDUs	Agreed. Part of the purchase of electrical equipment for each of the LDUs will include such instruments. See Annex 2 (detailed project description)

Additional Annex 13: Summary of Resettlement and Ethnic Minority Development Plans

VIETNAM: Rural Energy II

Impacts on Land Acquisition and Ethnic Minorities, Tools for Social Safeguards

The project would improve access to energy to about 2 million households in Vietnam, including many families living in some of the poorest communes. Ugrading and expansion of the rural power networks will involve modest land acquisition and small community-wide socio-economic impacts. The project will not cause culturally specific impacts on ethnic minority communities. For the ownership and implementation arrangements, Electricity of Viet Nam (EVN) and its PCs (Power Companies 1, 2, and 3) prepared six separate Resettlement Plans (RPs; Ca Mau, Ben Tre, Phu Yen, Quang Ngai, Ha Tinh and Vinh Phuc) and three Ethnic Minority Development Plans (EMDPs; (Ca Mau, Vinh Phuc and Ha Tinh provinces). All RPs and EMDPs of Phase 1(a) are based on the Project Resettlement Policy Framework (RPF) and Strategy for Ethnic Minorities (SEM) which was developed by the Borrower and which fully satisfy the requirements of the World Bank's OP 4.12 on Involuntary Resettlement and OD 4.20 on Indigenous People. The RPs and EMDPs have been prepared in close consultation with the Displaced Persons (DP), Ethnic Minority Communities in the project areas, relevant local authorities and key stakeholders. The RPs and EMDPs of the subsequent phases will be prepared separately in the implementation phase for each project province and the same RPF and SEM will be followed.

The Resettlement Plans of Phase 1(a)

Objective. Every effort was made through consultation, design, construction measures and construction schedules to minimize involuntary resettlement and adverse impacts on assets. Resettlement and compensation programs are designed so as to allow the improvement or at least the maintenance of the DPs' pre-project living standards. All RPs incorporate agreements reached with the projects provinces on the route alternatives and substation localities.

Socioeconomic Survey and Inventory of the Project Impacts

In order to assess project impacts, more than 20% socio-economic survey and 100 % census/inventory of DPs were carried out from September 2003 to February 2004. The surveys obtained key information for preparing and evaluating the implementation of RPs and EMDPs. At the beginning of project implementation, a Detail Measurement Survey (DMS) will be carried out by Provincial and District Resettlement Committees of the six project provinces that participate in phase 1(a). At that time, the number of DPs and impacted assets will be reviewed, confirmed and adjusted as necessary, especially in the case when the time between RPs preparation and RPs implementation is long.

The number of DPs is high because of the DPs are scattered along the lines. However, each of the subprojects will have low-intensity impacts. Most of impacts on land will be temporary, and permanent acquisition will occur only for tower foundations and substations. Impacts on houses will be mostly partial and generally will not require the relocation of families outside their

residential plots. By the nature of the project and based on the surveys, impacts are classified by seven categories as follows:

Category 1: *Temporary acquisition of land in the Right Of Way (ROW)*
Category 2: *Temporary acquisition of residential and garden land in ROW without house or other structures.*
Category 3: *Temporary impact on residential and garden land. Partial house/building within ROW (area in ROW less than 10% of total area) and the demolished area does not impact to the remaining house/building. Residential land and garden land outside of ROW is sufficient for re-organizing (not less than 60 m2).*
Category 4: *Temporary impact on residential and or garden land. Impact more than 10% or less than 10% of total house/building area but the demolished area will impact to the remaining of house/structure . Land outside of ROW is sufficient for reorganizing (equal or more than 60 m2).*
Category 5: *Temporary impact on residential and or garden land in ROW. Full or partial house/building impacted and land outside of is not sufficient for reorganizing (less than 60 m2)*
Category 6 : *Permanent acquisition of land for tower foundations, substation and access roads etc.*
Category 7: *DP impacted on business or other services*

The number of DPs and type of impact are summarized in Table 1 below.

Table 1: Number of DPs to be Affected in six project provinces –Phase 1(a)

Province	Number of affected families	Number of Families to be relocated	Number of family losing more than 10% of productive land holding	Land Acquisition (m2) (Permanently and Temporarily)
1. Ca Mau	4,820	0	0	66,36613,385
2. Ben Tre	12,368	0	0	66,872128,786
3. Phu Yen	14,280	0	0	20,4752,183,934
4. Quang Ngai	58,250	0	0	43,8085,274,230
5. Ha Tinh	34,507	0	0	51,4791,935,881
6. Vinh Phuc	7,730	0	178	50,7464,269,924
Total	**131,955**	**0**	**178**	**299,74614,256,140**

Note: these numbers could be different from DMS to be carried our by PCs and local authorities later.

Legal Framework

The RPs follow Vietnam and World Bank policies related to land acquisition, compensation and resettlement. Since there are differences between the WB's and Vietnam's policies, the Project requires a waiver of the Vietnamese Government for articles of decrees and regulations concerning compensation and resettlement (as described in the RPF).

Eligibility for Compensation and Resettlement

According to the policies set forth in RPF and six RPs-Phase 1(a), DPs *with and without legal papers* counted in the inventories of affected families, or able to prove their residence in affected areas prior to RP cut-off dates, are to be considered legitimate and eligible for compensation for their losses and for assistance in restoring and improving their livelihoods.

The cut-off dates were specified in each RP of province. DP who moved into the project affected areas after the cut-off dates will be considered as illegal and therefore will not be eligible to compensation and rehabilitation assistance.

Compensation for lost assets will be provided *at the substitution cost*. Compensation for land will be either land for land or cash for land at the replacement cost according to DPs' preferences.

Legal DPs are entitled to the following allowances: (i) Resettlers will be assisted with: (i) six months relocating allowance of 30 kg of rice equivalent per person per month; (ii) transportation allowance; and (iii) restoration/rehabilitation assistance for DPs permanently losing more than 10 % of total productive land holding or permanently lost of business. The DPs will be fully compensated and assisted in a timely manner.

Implementation Arrangements

Each RP will be implemented independently by PC, its PMB and relevant local authorities. Resettlement task forces will be divided among central GOV (MOI, EVN and its PCs), local authorities and their Resettlement Committees different levels. MOI, EVN and its PCs will carry out inter-provincial coordination functions. Resettlement/rehabilitation tasks in each province will be the responsibility of Local People's Committees at the provincial, district and commune levels.

In order to carry out resettlement and compensation tasks effectively, the Resettlement Committees will be established at the provincial and the district levels. The resettlement team/unit will also be formed in each PC and PMU. The task forces are clearly demarcated between these Committees and teams/units.

Compensation and resettlement programs will be implemented to ensure that local authorities and DPs representatives participate in planning and decision making processes. The PCs and their PMBs under EVN will continue the dialogue with local authorities and DPs during RP implementation.

Public Information, Consultation and Participation

The DPs have been, and will continue to be, fully informed on the details of compensation and resettlement policy; compensation-relocation processes; complaint and grievance mechanisms, and monitoring and evaluation throughout the resettlement process. In particular: (i) they were already consulted about the project and the selection of alternatives routes; (ii) at the beginning of the project implementation, DPs will receive training about the details of the project policy and implementation (using resettlement pamphlets, group meetings, and posters posted in the public places); and (iii) DPs have, and will continue to, participate in the preparation and implementation of the resettlement and rehabilitation programs.

Monitoring and Evaluation

PCs and their PMBs (under EVN) are responsible for internal monitoring. Monitoring indicators are included in the RPs. The PCs and PMBs will collect information from provinces and districts regularly. The database will be updated regularly. Every six months, the PCs and PMUs will submit the progress reports to EVN and IDA.

The implementation of RPs will also be monitored by the External Monitoring Agencies. Those agencies will be selected following the submission of the technical and cost proposals. The External Monitoring Agencies will prepare their inception reports and semi-annual reports on monitoring and submit to PCs, PMBs and then to IDA.

Complaints and Grievances

Complaints and grievances regarding compensation and rehabilitation will first be dealt with by the PCs, PMBs and commune authorities. If no amicable solution is reached, the complaints may be appealed to the district authorities and then to provincial authorities. As a last resort, the complainants may appeal to District or Provincial Courts. At each level, the complaint must be redressed within 15 days. If the complaints are not redressed satisfactorily, complaints must be submitted to the higher levels no later than 15 days after the complainants have been informed, the complaints submitted later will not be considered. The claim will be dealt with in accordance with the new Ordinance on Complaints and Denunciation of Citizens. All the grievances procedures including those at the Courts will be free of charge to Complainants.

Costs and Budgets

The total resettlement cost for RPs-Phase 1(a) is estimated at VND 38.4 billion, equivalent to US$2.5 million, including contingencies. The costs for each RP and total cost for RPs-Phase 1(a) of project is summarized in Table 2 below.

Table 2: Estimate Cost of Resettlement

RAP of Province	Cost estimated (VND)	Cost estimated (US$)
1. Ca Mau	3,580,222,572	231,000
2. Ben Tre	18,048,543,889	1,192,903
3. Phu Yen	2,249,854,667	145,152
4. Quang Ngai	5,661,855,821	365,281
5. Ha Tinh	4,381,356,634	282,668
6. Vinh Phuc	4,431,565,000	295,438
Total (US$)	**38,353,398,583**	**2,512,442**

The source of the budget for RP implementation will be counterpart funds (EVN finances for compensating to impacts by medium voltage T/Ls and Project Provinces finance for compensating to impacts by low voltage T/Ls).

Ethnic Minority Peoples

For the subprojects to be developed in the areas of Ethnic Minorities of Ca Mau, Quang Ngai, Ha Tinh and Vinh Phuc provinces, every effort has been made through consultation, design, construction measures and construction schedules to reduce unnecessary involuntary resettlement and other adverse impacts on Ethnic Minorities. Nevertheless, some adverse impacts on them (land acquisition) are unavoidable. The impacts on ethnic minorities are summarized in Table 3.

Table 3: Summary of Land Acquisition Impact on Ethnic Minorities

Province		Affected Houses	Land Acquisition
	Number of EMDPs	Partially	FullyTemporarily (m2)Permanently (m2)
1. Ca Mau	34	0	064308
2. Quang Ngai	435	0	084,370848
3. Ha Tinh	14	0	01,68056
4. Vinh Phuc	1,379	0	01,8924,326
Total	**1,858**	**0**	**088,0065,538**

Table 3 shows that the land acquisition impact is only on individuals and in low-intensity. Most of land impacts will be temporary. No families have be relocated to another locality in phase 1(a). Very few families of Ethnic Minorities will be affected by the need to permanently acquire land for constructing of towers foundations and substations, and no households will lose more than 10% of their total productive land holdings.

The subprojects do not cause any culturally specific impacts on ethnic minority households and their communities. The nature of impacts does not result in community-wide socio-economic effects. However, in order to ensure compliance with Bank OD 4.20 on Indigenous People, three separate Ethnic Minority People Development Plans (EMDPs) were prepared based on the feedback of Ethnic Minorities in the project areas through consultation and participation in the period of project preparation. Main activities proposed in EMDP are (i) EM were and will continue to be consulted, fully informed (in their languages) and will participate in RAP/IPDP preparation and implementation; (ii) DPs of EM who are affected by land acquisition will be compensated and assisted according to the entitlement policy defined in RPF and RPs; (iii) training for electric safety; (iv) help them having access to loans from VBARD or Bank of Social Policies; and (v) maximize their benefit from the project (such as by maximizing the number of EM connecting to the grids).

The total cost for EMDPs-Phase 1(a) is estimated at US$71,047 . The costs for each EMDP and total cost for EMDP-Phase 1(a) of project is summarized in Table 4.

Table 4: Estimate Cost of EMDPs

Province	Cost estimated (VND)	Cost estimated (US$)
1. Ca Mau	70,200,000	4,530
2. Quang Ngai	274,000,000	17,678
3. Ha Tinh	39,000,000	2,516
4. Vinh Phuc	718,000,000	46,323
Total (US$)	**1,101,200,000**	**71,047**

Additional Annex 14: Environmental Summary

VIETNAM: Rural Energy II Project

EA Reports for the Project:

EVN prepared 6 Environmental Assessments/Environmental Management Plans (EA/EMPs), one for project investments in each of the six provinces in Phase 1 of this project. The EAs/EMPs address all environmental issues satisfactorily, and in compliance with Vietnamese and Bank environmental regulations, policies and procedures. An Environmental Assessment Template for all energy projects and a specific Environmental Guideline and Framework for RE2 have been developed to guide the preparation of other project phases and the implementation of RE2-Phase 1. These documents have been included in the PIP.

Environmental Impacts

The EA analysis has shown that the impacts are minor, temporary and within the national environmental standards. These impacts will be mitigated and monitored as provided in the EMPs.

The major issue that identified and addressed in the environmental review process was the that in two provinces, the project would serve communes that are located in the buffer zones of national parks (Tam Dao National Park in Vinh Phuc province and Ha Tinh province). Detailed EAs for the investments in these buffer zones found that the impacts would be minor, supported by the following: (i) the communes are located from 2 to 5 km or more from the core zones of these national parks, and no access roads or other project-related activities are closer to the core zones than this; (ii) the land uses around the existing distribution network are mainly agriculture, small roads, and plantation forests. The vegetation ranges from agricultural to semi-natural, and there are no Red Book animal species in the project areas; and (iii) the project would rehabilitate the existing distribution network, and access roads will not be constructed or improved. Therefore, access to the core zones of the national parks by local people and construction workers will not be improved; and (iv) the EAs for these investments in the buffer zones have been reviewed and approved by the management boards for the two national parks.

The remaining environmental issues are minor, and include:

(i) For the development of access roads, substations, and transmission/distribution lines, contractors will employ appropriate techniques to protect the environment during construction;

(ii) Increased levels of dust and noise from the use and movement of equipment will be minimized by checking technical specifications of vehicles and equipment;

(iii) Rehabilitation of road damages and other transport disturbance due to the transportation of building materials will subject to the responsibility of the contractor as specified in the bidding documents;

(iv) To protect forest, reserved land and biodiversity, all transmission and distribution routes will be selected carefully with most routes following existing roads connecting the load centers. No routes will be allowed to pass through core zones of protected areas (PAs).

Permission by appropriate DARD or PAs management boards should be sought and specific mitigation and monitoring plan is required if there will be an issue of the routes affecting natural habitats;

(v) Soil erosion and landslide will be minimized by constructing stable embankment and re-vegetation of pole and substation pads;

(vi) EMF is not a serious problem with low and medium voltage lines and nationally accepted standards will be applied for the development the ROWs;

(vii) Mine clearance will be carried out before crews begin construction. Some of the northern communities in the project have stated that there are some land mines remaining near Vietnam's international borders. This and other unexploded ordinance may occur at depths up to 10 meters. However, the construction activities occur at depths of 1.8 m for MV and 1.5 m for LV, and the limit of construction activities are at depths of 4 m at most. While some explosives may remain in selected areas, they occur at depths of 10 m, and would not be affected by the construction. Moreover, the rehabilitation investments of this project occur in the same areas that were investigated during phase I; and

(viii) The use of PCB based cooling oils for transformers is prohibited as a loan condition.

Summary of environmental issues have been included in the feasibility studies, which have referred to EAs for the details. Nevertheless, the implementation of EMPs in the EAs will be made as a project conditionality to ensure that these actions will be included in the technical design and bid specifications.

Public Consultation and Disclosure

Public consultation. Initial consultation was conducted by the Borrower in the form of discussion and agreement with the respective local government agencies and communes with regard to the route alternatives. Further public consultation involving DPs and representatives of local NGOs (e.g. Women Union, Youth Union, Farmer Union, Fatherland Front Association of the elderly people), as required by the Bank safeguard policies, were conducted before pre-appraisal (Nov-Dec, 2003). No objections to the project or environmental concerns other than those addressed in the EAs have been raised during the consultation process. However, the DPs suggested some additional mitigation measures that have been incorporated in the EMPs. Records of those discussions and written agreements are attached to the EA reports.

Public disclosure: The Borrower displayed EAs as per WB safeguard requirements. Display of the EAs (in Vietnamese) has taken place in the provincial power companies. EAs in English and Vietnamese have been displayed in the Hanoi VDIC prior to appraisal and two sets of EAs sent to InfoShop in Washington DC.

Environmental certificate: According to the Circular 490/1998/TT-BKHCNMT, an environmental certificate will be attained from relevant provincial DONREs for each province. Due to the large number of project sites so that the task team has not been able to conduct sufficient field visits during the project preparation, environmental certificate for each sub-project has been required from provincial environmental authority before client's submission of EA final draft to the Bank. This arrangement will also facilitate the responsibility of the local environmental authority over the implementation of EMP. All six environmental certificates have been issued for 6 provinces and two permissions to carry out project activities in the buffer zones

of the Tam Dao National Park and the Ke Go lake Nature Reserve have been granted. All the environmental certificates and permissions are attached to the EA reports.

Environmental Management Plan (EMP)

EMPs have been submitted as part of the EA reports. These identify institutional responsibility and estimated budgets for implementing the mitigation measures, monitoring plan, and building up the capacity for environmental management and supervision. An implementation plan of EMP has been included in the PIP.

The mitigation plan includes specific mitigation measures, identifies institutional responsibility and provides the mitigation costs, which will be included in the installation and construction cost for the project.

The monitoring plan has identified monitoring parameters such as dust, noise, deforestation, control of access roads and soil erosion, oil leakage/spillage, and ROW clearance. Monitoring will be carried out mainly by visual observation.

Environmental impacts during construction such as dust, noise, road damage and transportation disturbance, ROW clearance, soil erosion, and oil leakage will be regularly monitored (visually) by the technical supervision staff of each PMU in compliance of the Site EMP (SEMP) that has been developed in the EA reports. An independent safeguard consultant, hired by EVN, will provide semi-annual report on the general implementation of EMP (and RP). Local communities have been requested to participate in the monitoring by providing monthly report to the PMUs.

Monitoring will be carried out by the technical supervision staff of each PMU. An independent safeguard consultant, hired by EVN, will also provide semi-annual reports on the implementation of the EMPs (and RPs), including results of consultation with local communities regarding environmental concerns and complaints. Where feasible, mitigation measures will be included in construction contracts. There will also be community-based monitoring of EMP implementation. This was piloted under the Rural Energy I project, and was successful because communities have a special interest in ensuring that environmental impact are minimized. Communities will provide monthly reports to the PMUs.

Training on environmental management and monitoring of EMP implementation will be provided to the PCs and the staff of the Project Management Units, in the transmission companies and in EVN, local authorities and contractors.

Environmental monitoring data will be provided to supervision missions and the local authorities as part of the quarterly progress reports. Copies of Aide Memoires in regard to environmental aspects will also be sent to the local authorities and respective provincial DONREs. The transmission companies and the PCs are responsible to report on compliance with the environmental certificates to local authorities (eg. DONREs and DARDs) and they are subject to environmental inspection when required.

The cost for the implementation of EMPs is estimated at $107,000. This includes the estimated costs for monitoring and capacity building for both the construction and operational phases for the six EMPs under phase I.

The development of the EA reports has followed the technical guidance, which was provided at a hands-on training for EVN and PCs and their in-house consultants.