1. Country and Sector Background

**Background**

The economic growth of over 7 percent over the past several years is at the root of many of the issues in Vietnam’s energy sector: growing GDP feeds increasing demand, while meeting that demand enables GDP to continue to grow. The electricity sector has met the challenge well. Household access has increased from 50 percent to 92 percent; and annual per capita consumption increased from 156 kilowatt hours (kWh) to about 650 kWh. But the performance of Vietnam’s electricity sector is coming under pressure as energy consumption looks set to grow at over 10 percent per year for the foreseeable future and a supply shortage is becoming more visible.

The main electricity provider is Electricity of Vietnam (EVN), which met a five-fold increase in demand for electricity from 8.7 Terawatt hours (TWh) in 1990 to 51.3 TWh in 2006. EVN’s average tariff revenue was about 5.3 cents/kWh in 2007, sufficient to make a profit. Losses (technical and non-technical losses plus electricity for EVN’s own consumption) fell to just over 11% in 2006. Through its subsidiary Power Companies (PCs), EVN owns and operates the transmission and medium voltage (MV) distribution systems, the low voltage (LV) distribution to the main urban areas and LV distribution in some rural areas.

Non-EVN actors include two internationally-owned and -financed power plants put in place under build, operate transfer (BOT) arrangements, at the Phu My complex in southeastern Vietnam. Large Vietnamese energy or construction companies also own power plants (IPPs). Between them, IPPs and BOTs accounted for about 21% of generation in 2007. About two-thirds
of LV distribution is owned and operated by local distribution utilities (LDUs) which receive their supply from EVN.

The Government of Vietnam (GoV) passed a market-oriented Electricity Law in November, 2004, followed by the establishment of the Electricity Regulatory Authority of Vietnam (ERAV) in 2005 and the preparation of a roadmap for reform which envisages the unbundling of the sector with separate ownership of generation, transmission and distribution and the introduction of competition initially in generation and later in wholesale and retail supply.

**Major Power Sector Issues**

**Alleviating Shortages.** In May – July 2005, there were shortages of about 10 percent of installed capacity. A critical problem is to build up sufficient reserve margins to avoid load shedding resulting from scheduled and unscheduled outages but cost and pricing of peak power is also an issue.

**The Scale of the Financing Need.** Even conservative estimates suggest that the sector needs about $12 billion between now and 2010 to meet its investment needs, of which about 75 percent would be for generation. Attracting investors for generation, distribution and fuel supply is just as vital because about 40% of generation over the medium term must be financed by private sources. Over the shorter term, the slowdown in domestic lending since March 2008 has had a significant impact the effects of which are still emerging.

**Sector Reform and Restructuring.** Effective mobilization of private sector financing depends on sector reform, development of regulatory institutions and framework, restructuring of the sector actors and ensuring their financial viability, especially EVN. Challenges include implementing the provisions of the 2004 Electricity Law and subsequent directives, finalizing market design, preparing regulations, implementing market reflective efficient wholesale and retail tariffs, restructuring of EVN – and changing ownership companies through equitization or transfers between Government entities.

**Pricing and Tariffs.** The government still controls power tariffs, and in recent years has restricted increases. Reform will bring a new approach to tariff setting, but the current financial crisis may also make tariff increases more urgent than normal, as have recent high levels of inflation within Vietnam which have pushed up the cost of investment in this capital intensive sector.

**The Role of Renewable Energy**

In the context of these challenges, grid-connected renewable energy (with an estimated potential of 2,900 MW in Vietnam) can complement generation from large projects. Over the past 2-3 years, developers (mostly private companies) have shown increasing interest in exploiting renewable energy resources (mainly small hydropower sites) to sell electricity to the national grid. The GoV recognizes the potential for renewable energy to contribute to the sustainable development of the electricity sector while also helping to close the crucial supply-demand gap, particularly in rural areas.
Despite considerable progress, the following barriers to large-scale development of grid-connected renewables remain: (i) high transaction cost of negotiating a power purchase agreement (PPA) with EVN, (ii) an inhospitable and non-transparent regulatory framework with a lengthy approvals process, (iii) the absence of a procedure for allocating (or re-allocating) project sites to those most able to develop them, (iv) weakness of private sponsors to develop a site in a technically, socially and environmentally sustainable manner and take it to financial closure, (v) the same licensing burden as for large projects, (vi) the absence of suitably long financing tenors; and (vii) lack of skills among sponsors and bankers in assessing risk in such projects.

As the cornerstone of the strategy to address these barriers to small-scale renewable energy development, MOIT has issued a standardized PPA and a tariff formula for small renewable energy projects selling to the grid. The tariff is based on the costs that EVN avoids by purchasing renewable energy, and is defined as the avoided cost tariff (ACT). The proposed project is GoV’s main instrument to establish the framework for small-scale grid-connected renewables projects, demonstrate the viability of these projects to the commercial banking sector, and build the requisite capacity and incentives among all stakeholders for large-scale expansion of this sector.

2. Objectives
The objective of the proposed project is to increase the supply of electricity to the national grid from renewable energy sources on a commercially, environmentally and socially sustainable basis.

3. Rationale for Bank Involvement
Since the late 1990s, the Bank has had a wide-ranging engagement in Vietnam’s power sector, making a significant contribution through policy dialogue, analytical and advisory activities, and investment lending. It has covered sector reform and restructuring, development of an efficient supply side, private sector participation and rural electrification.

Within the renewables sector, the Bank has supported the development of Vietnam’s Renewable Energy Action Plan (REAP, adopted in 2001) followed by key elements of the policy and regulatory environment for renewable energy, including development of the ACT and Standardized PPA, financed by the System Efficiency Improvement, Equitization and Renewables Project (SEIER, Cr. 3680-VN, approved 2003).

The Bank’s experience in renewable energy in Vietnam and its ability to bring extensive international experience to bear has informed the policy dialogue, permitted substantive technical assistance and supported the development of a substantial investment pipeline. The combination of continued technical assistance and lending support is needed now to ensure high quality investments are made in renewable energy. IDA is uniquely positioned to provide this package of support.

4. Description
The project will have three components: (1) the investment project implementation component, (2) the regulatory development component, and (3) the pipeline development component. Each component is outlined below:

**Component 1: Investment Project Implementation Component**

**Subcomponent 1: Credit to Support Renewable Energy Investments** (total financing $235.55 million, of which IDA $149.2 million). This sub-component will provide a re-financing facility to participating commercial banks for loans to eligible renewables-based projects up to 30MW developed by private sponsors.

**Subcomponent 2: Technical Assistance for Investment Project Implementation** (total financing $2.43 million, of which $2 million from IDA). This sub-component will provide technical assistance for application review and project management by MOIT and for building the capacity of participating banks and project sponsors to prepare, appraise, finance, and implement renewables-based projects according to international best practices.

**Component 2: Regulatory Development Component** (Total financing $1.02 million equivalent of which $0.8 million from IDA and AU$0.35 million co-financed by TF). This component will provide technical assistance for developing the regulatory infrastructure and building the requisite capacities of MOIT, the Electricity Regulatory Authority of Vietnam and other relevant government agencies for renewable energy development particularly for grid-connected electricity generation projects below 30 MW.

**Component 3: Pipeline Development Component** (Total financing $3.32 million equivalent of which AU$3.15 million financed by TF). This component will support activities to facilitate the large-scale development of renewable energy projects up to 30 MW contributing directly to building a pipeline of renewable energy projects.

These components are intended to sustainably address each of the barriers to the large-scale development of grid-connected renewables.

5. **Financing**

Source: ($m.)
BORROWER/RECIPIENT 0.43
International Development Association (IDA) 152
AUSTRALIA: Australian Agency for International Development 2.24
Borrowing Country’s Fin. Intermediary/ies 37.3
Sub-borrower(s) 47.93
Total 239.89

6. **Implementation**

**Partnership Arrangements**

The Australian Agency for International Development (AusAID) has expressed its intention in providing grant co-financing to the project for the planned technical assistance component of the project. The tentative amount of co-financing is AU$ 3.5 million, or about US $2.2 million at today’s exchange rate. The AusAID financing would be parallel and share the same project
description and implementation arrangements, and would be provided through a World Bank-administered and client-executed Trust Fund.

Implementing Agencies

Project sponsors will approach one of the four PBs with a subproject which will be proposed for financing. To be eligible for refinancing the subproject must be either hydropower, biomass or wind energy, and must have at least 20% equity funding from the project sponsor. In addition it must meet the safeguards requirements for the proposed project, which are contained in frameworks for environment, resettlement, ethnic minorities and dam safety.

The PB will appraise the subproject for both eligibility for refinancing and also for creditworthiness, since the PB will be taking the full credit risk. Provided that the subproject meets the PB’s internal appraisal requirements and the eligibility criteria it will apply for refinancing from the MoIT PMB.

The Project Management Board (PMB) for Rural Energy and Renewable Energy of MoIT will have two main functions: (i) to verify that the proposed projects meet the re-financing criteria for re-financing by PBs; and (ii) to manage technical assistance activities financed by the proposed project. The PMB’s activities will be subject to oversight by MoIT and supervised by IDA.

The PMB will be assisted by an Administrative Unit (AU). The AU will be staffed by dedicated consultants which will, on behalf of the PMB and MoIT ensure that the project meets refinancing eligibility requirements. For projects that trigger the requirements of OP 4.37 on Dam Safety, a Dam Safety Panel will review plans, designs, construction and operation of the dams. On acceptance of the subproject as eligible for refinancing, the AU will process refinancing.

IDA funds will be channeled through the Ministry of Finance, which will establish onlending agreements with the PBs. The onlending agreements will be supervised on behalf of the MoF by the AU, which will manage the payment of refinancing tranches.

7. Sustainability
The keys to sustainability in Vietnam’s power sector are to ensure that the sector continues to meet demand, that benefits of investments exceed their costs, and that costs are recovered from electricity consumers. Vietnam has a good track record to date: the GoV has shown strong commitment to the reform process which has largely been driven by the need to ensure demand in the fast-growing system is met, through gaining access to diversified sources of finance, skills, technologies and fuels. Investment planning is rigorous and PMDP6 shows substantial economic benefits. EVN and the PCs continue to remain profitable without government subsidy, with costs recovered through tariffs. The reform process will further strengthen sustainability by building the regulatory framework, set the grounds for further unbundling of generation, transmission and distribution and reform of wholesale and retail tariff setting by establishing clear and transparent methodologies.

The establishment of an enabling environment for the large-scale development of grid-connected renewables is the key to REDP’s objectives. Technical assistance for relevant stakeholders under REDP will ensure that capacity exists to implement these building blocks. Another critical factor for sustainability is the existence of knowledge which can become the underpinning for the large-scale development of grid-connected renewables. This factor will be addressed through, inter alia, studies for broadening and deepening financing options for developing renewables-based projects, study for streamlining the licensing burden for renewable energy development projects, etc.

8. Lessons Learned from Past Operations in the Country/Sector

Build the enabling business and policy environment. The lack of a transparent and standardized contracting arrangement with the utility that will become the off-taker from grid-connected renewables-based projects and the lack of a standardized, formula-based tariff have been the main hurdle identified by developers in Vietnam and other countries. The ACT and PPA prepared and promulgated by MoIT during preparation are essential to give confidence to sponsors in developing projects.

Introduce predictability for all stakeholders through a floor and ceiling for the tariff. The experience, particularly in Sri Lanka, has been that avoided cost tariffs fluctuate with the international prices of fuels. The REDP design addresses this by placing a floor and a cap on Vietnamese ACT, the tariff negotiated at the inception of a sub-project. For the first 12 years of a power purchase agreement, the tariff will neither fall below 90% nor rise above 110% of the originally negotiated tariff. This mechanism is intended to introduce predictability of tariffs for renewable energy project developers, their lenders and the power offtakers.

Readiness. In operations in Vietnam, including in the energy sector, implementation success has typically been constrained by the lack of readiness at project initiation. Project stakeholders—participating banks, project developers, and the government—are adequately prepared to undertake their roles in the project. The key to readiness, however, is to ensure that the subproject pipeline is adequate.

Fiduciary oversight and execution by governments and their agencies is slow, and further effort is needed to streamline it through clearly set out and agreed procedures, particularly for
procurement and disbursement. This is addressed in the project by the use of a dedicated Administrative Unit (AU), staffed by consultants in the executing government agency.

Provide TA and investment lending in one package. It is preferable to combine TA with investment lending for two main reasons. First investment lending on its own often results in slow uptake of funds as participating banks and sponsors have insufficient capacity to deal with the key problems they face. Second because TA on its own does not address the key issue of availability of financing, while the lack of financing also hampers learning by doing.

9. Safeguard Policies (including public consultation)

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<td>Projects on International Waterways (OP/BP 7.50)</td>
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10. List of Factual Technical Documents

- Resettlement Policy Framework
- Ethnic Minority Planning Framework
- Environment Safeguard Framework
- Dam Safety Framework
- Resettlement Plans of Phase 1 subprojects
- Ethnic Minority Plans of Phase 1 subprojects
- Environment Management Plans of Phase 1 subproject

11. Contact point

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* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas