

**PROJECT INFORMATION DOCUMENT (PID)  
APPRAISAL STAGE**

Report No.: PIDA46701

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<b>Project Name</b>	Vietnam Industry Energy Efficiency for Industrial Enterprises (VEEIE) (P151086)
<b>Region</b>	EAST ASIA AND PACIFIC
<b>Country</b>	Vietnam
<b>Sector(s)</b>	Energy efficiency in Heat and Power (90%), Banking (10%)
<b>Theme(s)</b>	Climate change (100%)
<b>Lending Instrument</b>	Investment Project Financing
<b>Project ID</b>	P151086
<b>Borrower(s)</b>	Socialist Republic of Vietnam
<b>Implementing Agency</b>	Ministry of Industry and Trade
<b>Environmental Category</b>	F-Financial Intermediary Assessment
<b>Date PID Prepared/Updated</b>	14-Dec-2015
<b>Date PID Approved/Disclosed</b>	14-Dec-2015
<b>Estimated Date of Appraisal Completion</b>	17-Dec-2015
<b>Estimated Date of Board Approval</b>	04-Mar-2016
<b>Appraisal Review Decision (from Decision Note)</b>	The Chair authorized the team to appraise the project;
<b>Other Decision</b>	Condition of Negotiation: OM finalized; PFIs selected by SBV/MOF; Draft Subsidiary Loan Agreement prepared by MOF; Effectiveness Condition: Subsidiary Loan Agreement executed with at least one PFI.

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**I. Project Context**

**Country Context**

Vietnam has witnessed impressive economic growth and poverty reduction in the past 25 years. The country's gross domestic product (GDP) has grown from about US\$33.6 billion in 2000 to an estimate of US\$185.3 billion in 2014. Access to electricity services, which was below 10 percent in 1986, has grown to 97 percent in 2011, contributing to reducing poverty and boosting shared prosperity. Expanded grid electrification of rural households was mirrored by a sustained increase in the value of GDP per capita. Rural electrification has been a critical component of the government's program to eliminate poverty, redress imbalances in development, and improve overall welfare levels by providing reliable lighting sources, better living conditions, health care, and other rural services. Using the extreme international poverty line of US\$1.25 per person per day, the extreme poverty headcount in Vietnam fell from 64 percent in 1993 to less than 3 percent in 2012.

## Sectoral and institutional Context

Sector context. In recent years, electricity demand has grown at a rapid pace, averaging 15 percent per year between 2008 and 2010 before dropping to 9 percent in 2011 due to the growth slowdown and increasing to 11 percent in 2012. Vietnam's energy sector is facing two major challenges to meet future energy demand: (a) resource constraints and energy security and (b) high energy demand and huge financing needs. Vietnam has achieved 98 percent electricity access rates connecting over 20 million households and industry and commercial customers—this is a remarkable achievement. Today's biggest energy challenge is to provide those customers with reliable electricity services and meet future demand. Per capita electricity consumption remains relatively low (that is, one-third of China) and it is anticipated that electricity demand will continue to grow fast for the next two decades. Current demand projections show a dramatic increase from 32 GW of installed capacity in 2013 to 70 GW in 2020 to 120 GW in 2030.

Vietnam has limited domestic energy resources and will rely increasingly on imported coal to meet future energy needs. Most of the larger hydropower projects have been developed and Vietnam will need to improve the regulatory and pricing framework to further develop the smaller hydro and largely unexplored solar and wind potential. There is potential to bring more gas into the market from domestic fields. However, these resources will not materially alter the dependence on coal for power generation and industrial usage in the near to medium term. Therefore, increasing reliance on energy sources from abroad over the next decade raises issues of energy supply security, vulnerability to international price fluctuations, and subsequent impacts on domestic energy prices.

The cost of energy to Vietnam's consumers currently amounts to around US\$14–15 billion per year. In the power sector alone, the financing needs are about US\$4–5 billion annually to meet future demand for generation and network investments.

Electricity tariff reform. The 2009 PM Decision 21 initiated the electricity tariff reform process, establishing both the principles of a market-based mechanism to annually adjust the tariffs for the period 2010–2012 and a subsidy regime aimed at protecting vulnerable and poor consumers. This decision was further reinforced by an updated 2011 PM Decision 24, which allows for the tariff to be adjusted during the course of a year to reflect changes in uncontrollable costs (fuel, rate of exchange, and so on). Through the application of these mechanisms, the average electricity tariffs have increased steadily and have started to be revised more than once per year. The PM Decision 2165 from November 2013 approves an average electricity retail tariff bracket in 2013–2015 between a price floor of VND 1,437/kWh (U.S. cents 7.2/kWh) and a price ceiling of VND 1,835/kWh (U.S. cents 9.2/kWh), demonstrating the government's commitment to further adjust electricity prices.

Implementing demand-side energy efficiency. The Vietnam Energy Efficiency Program (VNEEP), approved in 2006, has created a comprehensive set of government-led activities to improve energy efficiency (EE) and conservation. To promote efficient use of electricity and reduce consumption, the government has introduced time-of-use electricity tariffs for medium and large customers and developed an EE standard and labeling road map. A pilot demand side response program using the time-of-use tariff will be implemented by the Ho Chi Minh City Power Company (PC) under the Distribution Efficiency Project financed by the World Bank.

Vietnam's emissions are expected to increase dramatically by 2030. Between 2010 and 2030, Vietnam's overall GHG emissions will increase fivefold, per capita emissions fourfold, and the carbon intensity of GDP by 20 percent.

Meeting future energy demand by improving EE is the single best and cheapest option to improve energy security, help consumers save and cope with potential rate hikes, reduce pollution, and mitigate climate change. If stronger programs and policies are put in place, current wasteful practices can be reduced and more efficient energy use technology can be adopted. This can meet a sizable portion of the business-as-usual demand for increased energy services, at costs which are typically one-fourth the cost of additional energy supply. The Bank's Low Carbon Study has demonstrated that Vietnam could save up to 11 GW of new generation capacity by 2030 if comprehensive demand-side EE investments are carried out.

Rationale for public sector financing and Bank engagement. The Vietnamese government has passed a Law on Energy Efficiency and Conservation, issued a series of decrees to promote EE by the prime minister, and set a target of 5–8 percent of energy savings from 2012 to 2015 compared to the forecast energy demand. The VNEEP is a national target program and the first ever comprehensive plan to institute measures for improving EE and conservation in all sectors of the economy in Vietnam. VNEEP Phase I (VNEEP-I) from 2006 to 2010 aimed to actively start up all components of the program, and VNEEP Phase II (VNEEP-II) from 2011 to 2015 aims to expand each component, based on lessons learned from Phase I. In addition to the government's national programs, a number of parallel efforts have been initiated in direct cooperation with donor agencies.

Despite these initiatives for EE from both the government and donor community, significant barriers remain such that many energy-saving opportunities remain unexploited. The constraints to EE investments are usually not due to the financial viability and maturity of EE technologies but to market failures and barriers, which include (a) low or subsidized energy pricing; (b) the small share that energy costs represented in operating costs, leading to consumers' low interest in energy conservation; (c) a lack of institutional champions due to the fragmented nature of EE measures; (d) limited financing for the up-front capital expenditure; and (e) lack of EE awareness and capacity to identify and develop EE projects.

This is an integrated IBRD/IDA-funded project designed to help remove principal barriers impeding investments in industrial EE projects. The technical assistance (TA) activities will address the knowledge, institutional, and capacity-building needs of the banking and industrial sectors, mitigate the risks concerns of enterprises, and strengthen government supervision of industrial EE. Those efforts will be accompanied by an EE financial intermediary lending program, which will demonstrate viable mechanisms for financing industrial EE investment, and provide direct support to the government EE targets and green growth strategy.

Institutional context. The power sector falls under the auspices of the Ministry of Industry and Trade (MoIT). Through its General Directorate of Energy (GDE), it exercises all state management functions for the energy sector, including EE. The Department of Energy Efficiency and Science and Technology support the GDE in supervising and monitoring the implementation of the EE and Energy Conservation law and related regulations. Energy Conservation Centers established in provinces and cities support energy users and enterprises on efficient uses of energy and raising awareness of energy savings. Within the MoIT and directly under its minister, the Electricity Regulatory Authority of Vietnam is responsible for licensing, technical codes, and performance

standards for distribution and transmission and monitoring the electricity market, supply security, and compliance with technical and performance standards. Tariff setting is assigned in the amendment to the Electricity Law to the MoIT and the Ministry of Finance (MoF).

## II. Proposed Development Objectives

The Project Development Objective is to improve energy efficiency in Vietnam's industrial sector. The project will thereby contribute to achieving the government's energy efficiency and GHG reduction objectives.

## III. Project Description

### Component Name

Energy Efficiency Investment Lending

### Comments (optional)

This component consists of an EE lending program of US\$312 million over five years: (a) US\$200 million is from IBRD debt financing; (b) PFIs will co-finance project activities, financing 20 percent of the loan to IEs; and (c) sub-borrowers (that is, IEs) will contribute 20 percent of investments as equity financing, which is common practice for loan applications in Vietnam.

### Component Name

Technical Assistance and Capacity Building for Improving Energy Efficiency

### Comments (optional)

This TA and capacity-building component will assist (a) the MoIT and relevant government agencies, which are responsible for EE policies and targets, to implement voluntary agreements with relevant industries, improve incentives for industry to carry out EE investments, and develop mandatory EE standards and benchmarks in the energy-intensive industries; (b) PFIs to improve their knowledge, experience, and expertise in identifying, appraising, and implementing EE lending projects in the industrial sector and business development to generate deal flows; and (c) IEs and EE service providers (such as Energy Service Companies [ESCOs]) to develop bankable projects. This component will be closely linked with the ongoing CPEE on developing EE policies and industry voluntary agreements

## IV. Financing (in USD Million)

Total Project Cost:	315.00	Total Bank Financing:	203.00
Financing Gap:	0.00		
<b>For Loans/Credits/Others</b>			<b>Amount</b>
BORROWER/RECIPIENT			112.00
International Bank for Reconstruction and Development			200.00
International Development Association (IDA)			3.00
Total			315.00

## V. Implementation

The project will be implemented by the Ministry of Industry and Trade (MoIT) of Vietnam and the respective selected participating financial institutions (PFIs). The PMB will be established under the MoIT to implement the project on behalf of the MoIT. The PMB will have two main functions under the VEEIEs: (a) to coordinate and supervise overall project implementation including

performance of the PFIs and (b) to manage all TA activities being financed by the proposed project.

Industrial enterprises (IEs) will approach PFIs subproject financing. The PFIs will be fully responsible for the subprojects' appraisal and evaluation and taking all associated risks. The PMB will identify highly qualified EE consulting service providers to help the PFIs in independent review and verification when necessary. IBRD funding will be routed to the PFIs through the Ministry of Finance (MoF).

## VI. Safeguard Policies (including public consultation)

<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b>	<b>No</b>
Environmental Assessment OP/BP 4.01	<b>x</b>	
Natural Habitats OP/BP 4.04		
Forests OP/BP 4.36		<b>x</b>
Pest Management OP 4.09		<b>x</b>
Physical Cultural Resources OP/BP 4.11	<b>x</b>	
Indigenous Peoples OP/BP 4.10	<b>x</b>	
Involuntary Resettlement OP/BP 4.12	<b>x</b>	
Safety of Dams OP/BP 4.37		<b>x</b>
Projects on International Waterways OP/BP 7.50		<b>x</b>
Projects in Disputed Areas OP/BP 7.60		<b>x</b>

**Comments (optional)**

## VII. Contact point

### **World Bank**

Contact: Franz Gerner  
 Title: Lead Energy Specialist  
 Tel: 5777+7309 /  
 Email: fgerner@worldbank.org

Contact: Thi Ba Chu  
 Title: Energy Specialist  
 Tel:  
 Email: tchu@worldbank.org

### **Borrower/Client/Recipient**

Name: Socialist Republic of Vietnam  
 Contact: Doan Hoai Anh  
 Title: Director General  
 Tel: 84439343366  
 Email: anh.doanhoai@sbv.gov.vn

### **Implementing Agencies**

Name: Ministry of Industry and Trade  
 Contact: Dang Huy Cuong  
 Title: General Director  
 Tel: 84439387835  
 Email: cuongdh@moit.gov.vn

**VIII. For more information contact:**

The InfoShop  
The World Bank  
1818 H Street, NW  
Washington, D.C. 20433  
Telephone: (202) 458-4500  
Fax: (202) 522-1500  
Web: <http://www.worldbank.org/infoshop>