



**REQUEST FOR CEO ENDORSEMENT/APPROVAL**  
**PROJECT TYPE: FULL-SIZED PROJECT**  
**THE GEF TRUST FUND**

**Submission Date: 04/01/2011**

**PART I: PROJECT INFORMATION**

**GEFSEC PROJECT ID:** 3972

**GEF AGENCY PROJECT ID:** P116846

**COUNTRY(IES):** Vietnam

**PROJECT TITLE:** Vietnam Clean Production and Energy Efficiency Project

**GEF AGENCY(IES):** World Bank (WB)

**OTHER EXECUTING PARTNER(S):**

**GEF FOCAL AREA(s):** Climate Change

**GEF-4 STRATEGIC PROGRAM(s):** CC-SP2-Industrial EE (see preparation guidelines section on exactly what to write)

**NAME OF PARENT PROGRAM/UMBRELLA PROJECT:**

Expected Calendar (mm/dd/yy)	
Milestones	Dates
Work Program (for FSPs only)	06/24/2009
Agency Approval date	05/17/2011
Implementation Start	07/01/2011
Mid-term Evaluation (if planned)	10/01/2013
Project Closing Date	06/30/2016

**A. PROJECT FRAMEWORK** (Expand table as necessary)

**Project Objective:** The project development objective (PDO) is to strengthen the capacity of the Government of Vietnam and other key stakeholders for the effective delivery of the national energy efficiency program in key industrial sectors, thereby improving energy efficiency and reducing associated greenhouse gas emissions.

Project Components	Indicate whether Investment, TA, or STA <sup>2</sup>	Expected Outcomes	Expected Outputs	GEF Financing <sup>1</sup>		Co-Financing <sup>1</sup>		Total (\$) c=a+ b
				(\$ a)	%	(\$ b)	%	
1. Energy efficiency action plan for key industrial sectors	TA, Investment*	Industries adopt energy efficient production technologies and cost-effective management practices  Group of enterprises implement plans to achieve agreed-upon energy efficiency targets	Energy efficiency action plan in at least 4 industry sectors formulated  Voluntary agreement program for energy efficiency in at least 5 pilot enterprises demonstrated  Supportive government policy mechanisms introduced	\$1,680,000	5.9%	\$27,025,000	94.1%	\$28,705,000
2. Development of energy service providers	TA	Energy service providers and key market players acquire advanced knowledge on energy	Energy service providers trained  Energy service industry awareness raised	\$490,000	83.1%	\$100,000	16.9%	\$590,000

		efficiency services industry						
		Energy efficiency service industry increase market acceptance and legitimization						
3. Capacity building for program management, and monitoring and evaluation (M&E)	TA	Implementing agency acquire skills, and increase overall resources and effectiveness	Staff trained and expertise engaged in program management	\$164,407	59.4%	\$112,500	40.6%	\$276,907
			Staff trained and expertise engaged in M&E	\$40,000	51.6%	\$37,500	48.4%	\$77,500
<b>Total Project Costs</b>				A\$2,374,407	8.0%	B\$27,275,000	92.0%	\$29,649,407

<sup>1</sup> List the \$ by project components. The percentage is the share of GEF and Co-financing respectively of the total amount for the component.

<sup>2</sup> TA = Technical Assistance; STA = Scientific & Technical Analysis.

\* Please see explanations below in **B. Sources of confirmed co-financing for the project.**

**B. SOURCES OF CONFIRMED CO-FINANCING FOR THE PROJECT** (expand the table line items as necessary)

<i>Name of Co-financier (source)</i>	<i>Classification</i>	<i>Type</i>	<i>Project</i>	<i>%*</i>
Government Contribution	Implementing Agency	In-kind / Cash / Grant	\$1,775,000	100%
IDA Climate Change Development Policy Operation (DPO)	National Government	Soft Loan	\$20,000,000	[1]
Industrial Companies	Private Sector / Enterprises	Loan / Equity	\$5,500,000	[2]
<b>Total Co-financing</b>			B\$27,275,000	[3]

\* Percentage of each co-financier's contribution at CEO endorsement to total co-financing.

<sup>1</sup> Funds expected to be earmarked from financial mechanism to be operationalized in 2012 through the 3<sup>rd</sup> cycle of the first climate change DPO's Pillar II: Mitigation - Adopt roadmap on energy efficiency and benchmarking for at least two key energy intensive industrial sectors. For additional explanation, please refer to **Part II (Project Justification – B. Describe the consistency of the project with national and/or regional priorities/plans – Outline of coordination with other related activities).**

<sup>2</sup> Financial contributions expected from of industrial companies implementing energy efficiency action plans and voluntary agreements during the implementation period of the project.

<sup>3</sup> For additional explanation, please refer to **Part IV (Explain the alignment of project design with the original PIF).**

**C. FINANCING PLAN SUMMARY FOR THE PROJECT (\$)**

	<i>Project Preparation a</i>	<i>Project b</i>	<i>Total c = a + b</i>	<i>Agency Fee</i>	<i>For comparison: GEF and Co-financing<sup>1</sup> at PIF</i>
GEF financing		A\$2,374,407	\$2,374,407	\$237,441	\$2,374,407
Co-financing	\$40,000	B\$27,275,000	\$27,315,000		\$101,500,000
<b>Total</b>	\$40,000	\$29,649,407	\$29,689,407	\$237,441	\$103,874,407

<sup>1</sup> For additional explanation, please refer to **Part IV (Explain the alignment of project design with the original PIF).**

**D. GEF RESOURCES REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES)<sup>1</sup>**

GEF Agency	Focal Area	Country Name/ Global	(in \$)		
			Project (a)	Agency Fee ( b) <sup>2</sup>	Total c=a+b
<b>Total GEF Resources</b>					

<sup>1</sup>No need to provide information for this table if it is a single focal area, single country and single GEF Agency project.

<sup>2</sup>Relates to the project and any previous project preparation funding that have been provided and for which no Agency fee has been requested from Trustee.

**E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:**

Component	Estimated person weeks	GEF amount(\$)	Co-financing (\$)	Project total (\$)
Local consultants*	1,214.6	\$187,083	\$1,625,000	\$1,812,083
International consultants*	674.2	\$1,982,917	\$0	\$1,982,917
<b>Total</b>		\$2,170,000	\$1,625,000	\$3,795,000

\* Details to be provided in Annex C.

**F. PROJECT MANAGEMENT BUDGET/COST**

Cost Items	Total Estimated person weeks/months	GEF amount (\$)	Co-financing (\$)	Project total (\$)
Local consultants*	982.5	\$140,000	\$102,736	\$242,736
International consultants*				
Office facilities, equipment, vehicles and communications*		\$24,407	\$17,911	\$42,318
Travel, training, and capacity building*		\$40,000	\$29,353	\$69,353
Others**				
<b>Total</b>		\$204,407	\$150,000	\$354,407

\* Details to be provided in Annex C. \*\* For others, it has to clearly specify what type of expenses here in a footnote.

**G. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT?** yes  no

(If non-grant instruments are used, provide in Annex E an indicative calendar of expected reflows to your agency and to the GEF Trust Fund).

**H. DESCRIBE THE BUDGETED M&E PLAN:**

The data for the project’s outcome and results indicators will come from information to be gathered by the Project Management Unit (PMU) and included in the progress reports (see also Part III: Institutional Coordination and Support, B. Project Implementation Arrangement). The cost of data collection, monitoring, and evaluation will be covered by the administrative budget of the PMU, and no additional costs will be required to support M&E. The M&E implementation will evaluate collected data from progress reports, and the M&E data will be used to measure the effectiveness of the project as well as to monitor the results of the technical assistance activities.

## **PART II: PROJECT JUSTIFICATION:**

(In addition to the following questions, please ensure that the project design incorporates key GEF operational principles, including sustainability of global environmental benefits, institutional continuity and replicability, keeping in mind that these principles will be monitored rigorously in the annual Project Implementation Review and other Review stages.)

### **A. STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED GLOBAL ENVIRONMENTAL BENEFITS TO BE DELIVERED:**

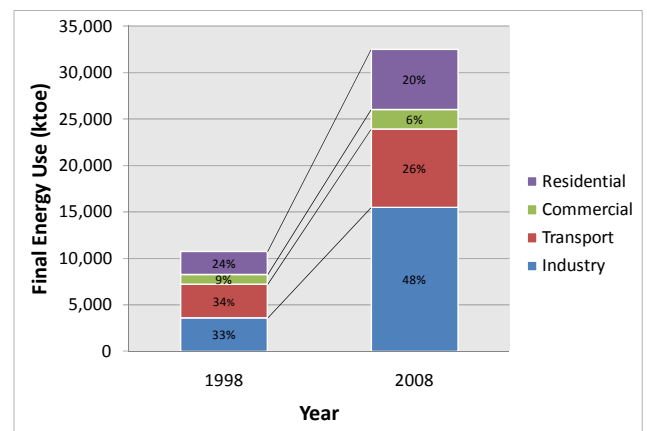
#### **Country Context**

Vietnam's economic reforms and steady macroeconomic management over the past decade stand as a remarkable progress. The gross domestic product (GDP) growth has historically averaged about 7 percent per year from 1998-2008. With widespread improvements in the lives of Vietnamese, the rate of poverty has fallen from around 37 percent in 1998 to 14 percent in 2008, lifting some 16 million people out of poverty. Vietnam's energy sector has also changed radically with the transformation from an agricultural society relying primarily on traditional biomass fuels to a modern mixed economy. Reflecting the growth of the country's economy, the energy elasticity of GDP is very high at 1.7; commercial energy use<sup>1</sup> has grown at an even faster pace, averaging about 12 percent annually during the last ten years. The increasing popularity of modern commercial fuel and electricity for household use, the development of motorized transport, and the steady and rapid growth of industry have become key pillars in the economy, driving this increase in commercial energy use.

#### **Sectoral and Institutional Context**

The energy sector in Vietnam has witnessed a rapid growth to meet the demands of a developing nation. The final energy consumption grew from 10.8 million tons of oil equivalent (toe) in 1998 to 32.5 million toe in 2008. The industrial growth has been one of the key drivers of Vietnam's increasing energy intensity. In 1998, industry accounted for 33% of the final energy use; in 2008 it accounted for 48 percent or almost half of the final energy use (see Figure 1). Industrial value added in constant prices grew by 9.5 percent per year during 1998–2008, and the share of industry in GDP rose from 35 percent in 1998 to 43 percent in 2008. Because industry is the most energy-intensive main economic sector, this increase in the industrialization of Vietnam's economy by itself contributes to the increase in Vietnam's overall energy intensity.

Figure 1: Vietnam commercial energy use, 1998 and 2008



These rapid increases in energy consumption and energy intensity of economic growth present Vietnam with triple drivers for a robust energy efficiency program: (a) energy supply security; (b) competitive economic growth; (c) and sustainable environmental development.

<sup>1</sup> The term "commercial energy" refers to coal, petroleum products, natural gas, and electricity. Traditional biomass fuels are excluded, since data on their use, and especially use trends over time, are scarce and unreliable.

- *Energy supply security.* While Vietnam is a net exporter of energy today, it is expected to become an importer within the next 5-10 years. Oil production has declined steadily in the past few years, while consumption has continued to increase. Coal, alongside hydro and natural gas, are the backbone fuels for electricity production. Due to limited supply, coal is beginning to be imported to meet domestic needs. The prospect of increased reliance on imported energy resources over the next decade raises concerns about security of supply and vulnerability to international energy price fluctuations. Energy efficiency improvements would help to mitigate these risks.
- *Competitive economic growth.* The recent cost of energy to Vietnam's consumers is estimated at about US\$14-15 billion per year at international petroleum product prices. Many energy sector stakeholders indicate that there are substantial unexploited opportunities for energy efficiency improvements, which could help to reduce the cost of energy to the economy. Increasing energy efficiency would help to improve industrial competitiveness by lowering production costs as well as ease household budgets and reduce government energy bills, thereby freeing up resources for investment in priority socioeconomic areas.
- *Sustainable environmental development.* The rising energy use also has environmental consequences, especially because of Vietnam's growing greenhouse gas (GHG) intensity that will be exacerbated by its shift to coal as a major generation fuel. As in other countries facing such issues, meeting demand by improving energy efficiency and utilizing energy that is currently wasted is perhaps the best single option for reducing any potential vulnerability to climate change.

Vietnam's government has launched a series of major efforts to provide conducive environment for expanding its energy-efficiency promotion work during the last seven years: (a) in 2003, the Government issued the Decree on Efficient Utilization of Energy and Energy Conservation; (b) in 2006, the Prime Minister approved the Vietnam National Energy Efficiency Program (VNEEP) for the period 2006–2015, which was prepared by the Ministry of Industry and Trade (MOIT); and (c) in 2010, a Law on Energy Efficiency and Conservation (Law on EE&C) was approved by the National Assembly.

The VNEEP is a national target program, and the first-ever comprehensive plan to institute measures for improving energy efficiency and conservation (EE&C) in all sectors of the economy in Vietnam. VNEEP Phase I (VNEEP-I) from 2006-2010 aimed to start up actively all components of the program, and VNEEP Phase II (VNEEP-II) from 2011-2015 aims to expand each component, based on lessons learned from Phase I. The program's energy savings targets are 3-5 percent and 5-8 percent of total national energy consumption for VNEEP-I and VNEEP-II, respectively. The initial years of the VNEEP-I implementation have focused mostly on education, capacity building, and studies. The MOIT is completing the assessment of the VNEEP-I, and results are expected to show that energy savings target was achieved. With the progress achieved during the first phase, VNEEP-II is now in a good position for further review of its objectives and targets, and development of more detailed implementation and action plans to achieve these targets. In addition to the Government's national programs, a number of parallel efforts that support the six components of the VNEEP-I<sup>2</sup> have been initiated in direct cooperation with donor agencies. Support has not only included financial packages, but also technical assistance to local agencies and consultants implementing the projects in industry, commercial, residential, and public sectors.

The WB, through its International Development Association (IDA), has been supporting energy-efficiency efforts in Vietnam since 1997. Its program began with a US\$3.6 million technical assistance grant for planning

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<sup>2</sup> The VNEEP-I had six components: (a) State Management on Energy Efficiency and Conservation; (b) Education and Information Dissemination; (c) High Energy Efficiency Equipment; (d) EE&C in Industrial Enterprises; (e) EE&C in Buildings; (f) EE&C in Transportation.

and pilots, initiation of load management and research functions, and development of a commercial building code. A follow-on US\$18.2 million IDA/GEF project—the Vietnam Demand-Side Management and Energy Efficiency Project (DSM-EE Project) from 2003-2010—including support for (a) implementation of several larger DSM programs with Vietnam Electricity (EVN) and its power companies (PCs); (b) development and implementation of a pilot commercial energy-efficiency program, which included training of energy service providers and provision of audit-investment grants; and (c) development of some pilot market transformation programs with solar water heaters and air conditioners, and technical advice to policy development and capacity building of MOIT’s Energy Efficiency and Conservation Office (EECO). More recently, the World Bank has provided technical assistance (TA), which is funded by the Asia Alternative and Sustainable Energy Program (ASTAE) trust funds, to review and provide advice on activities proposed under the different components of the VNEEP-II.

Despite these initiatives for energy efficiency from both the government and donor community, significant barriers remain such that many energy-saving opportunities remain unexploited:

- The government’s support under the VNEEP for key industries to improve, upgrade, and optimize technologies aiming at energy saving and efficiency remains challenging. Many industrial enterprises consider energy savings not a priority due to lack of long-term national targets and action plans for improving energy efficiency. Industrial enterprises tend to carry out minimal or low cost energy efficiency measures only. Since industrial enterprises need to modernize and become competitive, industrial enterprises prefer capacity expansion and revenue generation, rather than take on the risks associated with energy efficiency projects, due to insufficient in-depth expertise and low awareness on energy saving measures.
- As a government policy mechanism, market-based programs, e.g., voluntary agreements with industries for stimulating long-term commitment to energy efficiency—although successfully implemented in many countries with mixed or fully market economies—are still new concepts in Vietnam. There are practically inadequate pilot programs to introduce, demonstrate, and disseminate the important long-term impacts of voluntary agreements<sup>3</sup> including increase in awareness of enterprises regarding energy efficiency, acceleration of energy-efficient technology adoption, and facilitation of cooperative environment within an industry as well as with the government. For enterprises joining voluntary agreements, there is an absence of well-defined participation incentives (the “carrots”), such as supporting programs and policies; or disincentives (“the stick”), such as penalty for regulation non-compliance.
- While the government encourages and aims to create favorable conditions for the growth of energy efficiency industry in Vietnam, the development of energy service companies (ESCOs) lingers in its infancy stage. Major donors—including the World Bank through its DSM-EE project and United Nations Development Programme (UNDP) under its Promoting Energy Conservation in Small and Medium Scale Enterprises (PECSME) project—have supported the capacity building of energy service providers with regard to both business and technical aspects, and gained market development to some degree. After both projects ended in 2010, expanded and continued capacity building of energy service providers is needed to build upon the success of these early initiatives, since the development of energy efficiency industry is a long-term process that may take several years to fully develop.

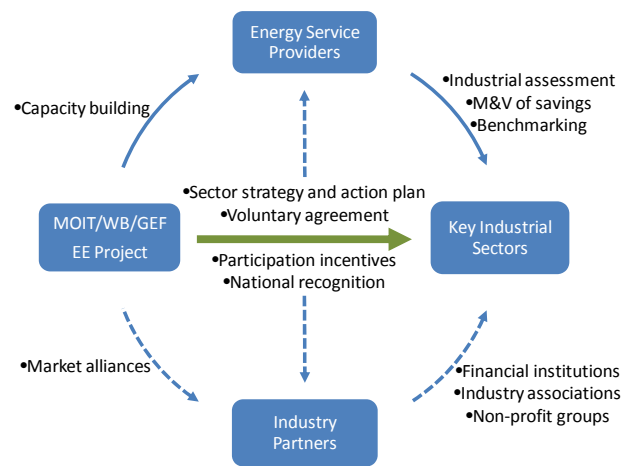
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<sup>3</sup> At the pilot stage, voluntary agreements may refer to either (a) self-commitment or declaration of targets by industry entering into action with the government or (b) negotiated agreements wherein targets voluntarily adopted by industry are agreed between government and industry in a process of negotiations.

The proposed GEF project is intended to provide TA to participants in the energy efficiency market (with specific emphasis on the industry sector and energy service providers) as well as MOIT’s EECO, and support the government in achieving the energy efficiency targets of the national energy efficiency program through various delivery mechanisms. This is a substantial undertaking for the government in the next several years as it requires a shift from the paradigm of growth through investment in new capacity and use of additional resources to one of growth through better use of capacity and resources. This GEF project is also needed for pre-investment activities to develop action plans, capacity building, policy support mechanisms to attract and enable financing programs, since implementation of a national energy efficiency

program involves long-term engagement and approach to address the key issues and gaps that could influence the success of investment projects. Figure 2 shows the project framework for the MOIT/WB/GEF project, which supports sectoral action plan and voluntary agreement for key industry sectors that in turn receive participation incentives including national recognition. The capacity building for energy service providers strengthen their capability to offer services such as audit and assessment, M&V of savings, and benchmarking. The project framework provides pre-investment activities and enabling environment to engage industry partners such as financial institutions, and other interested groups including industry associations and non-profit groups.

Figure 2: MOIT/WB/GEF Project Framework

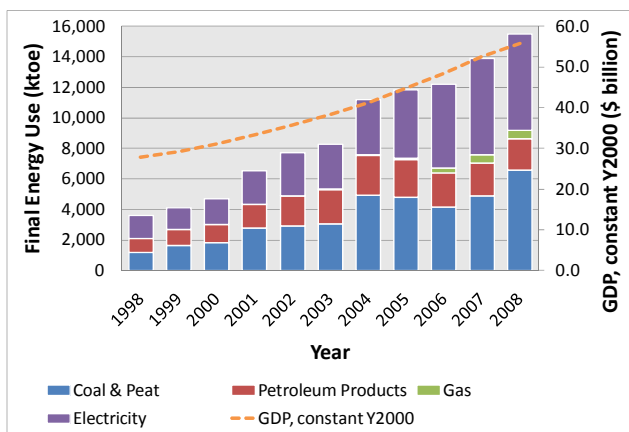


**Component 1: Energy Efficiency Action Plans for Key Industrial Sectors**

The combined industrial fuel and electricity use in Vietnam, which accounts for about 48 percent (almost half) of the total commercial energy use in 2008, is one of the top priority areas to achieve the challenging 5-8 percent energy efficiency target of the VNEEP-II; in 1998, industry accounted for only one-third of the final energy use. Industrial growth has been one key driver of Vietnam’s increasing energy intensity.

Industrial final energy use has grown from 3.6 million toe in 1998 to 15.5 million toe in 2008—more than four times in just ten years (as shown in Figure 3). A rapid growth in industrial value added provided the impetus for this growth in energy use. Industrial value added in constant prices grew by 9.5 percent per year during 1998–2008, and the share of industry in GDP rose from 35 percent in 1998 to 43 percent in 2008. The energy intensity of industrial production itself rose very sharply, from 129 kilogram of oil equivalent (kgoe) per US\$1000 in 1998 to 278 kgoe per US\$1000 in 2008, in constant prices. This indicates that the types of new industrial production put on line this decade are substantially more energy intensive than what was in place at the end of the 1990s.

Figure 3: Vietnam Industrial Final Energy Use, 1998–2008



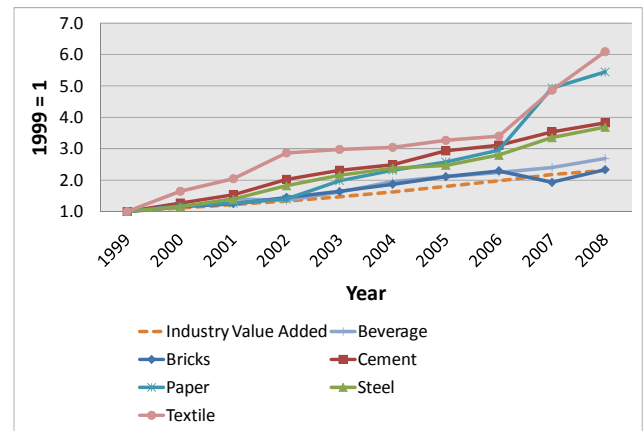
This component will support TA for development of energy efficiency action plans targeting energy-intensive and high-growth industry sectors (such as beverage/food, brick/ceramic, cement, chemical, paper, and textile), charting the course for setting long-term goals, and outlining specific strategies for achieving industrial energy

efficiency. The selected key industry sectors are characterized by high energy-intensity that offers significant quantity of energy savings, high growth that is expected to continue in the future, or both<sup>4</sup>. A number of industrial enterprise surveys and assessments have already been implemented by other donors in energy intensive industrial sectors such as steel and cement. Changes in the structure of industry play a major role in determining industrial energy demand and the intensity of energy use per unit of industrial value added. Figure 4 plots the growth in production of several key energy-intensive and high-growth commodities. Each of these has been growing faster than industrial output value as a whole—indicating a movement toward more energy-intensive basic commodity production. Based on recently implemented energy conservation projects over the last five years in the industrial sector, economically achievable energy saving potential is estimated to be about 12-19 percent for “light” industries and 8-12 percent for “heavy” industries. Studies on energy demand forecast breakdown indicate that the energy savings from the industrial sector can account for 50 percent of the total energy savings resulting from VNEEP-II.

The essential steps for developing energy efficiency action plans will include assessment of the sectoral energy efficiency potential, demonstration of voluntary agreement, assistance to individual enterprises, and development of supporting programs and policies. This component is basically designed using a two-stage approach that is composed of the following elements: (a) formulation of industrial sector strategy and action plan; and (b) demonstration of voluntary agreement. Initially, this component will analyze the energy savings potential of key technological fields for specific process optimization in up to four selected energy-intensive and high-growth sectors cited above as well as horizontal technologies that can be commonly used in many processes and/or systems. Specific action plan will outline a framework of priority policies and measures with a view to achieve the targeted or identified savings potential in each selected sector. The action plan will also help to mobilize public-private partnerships, such as voluntary agreements, in reducing energy consumption intensity in Vietnam’s key industries. At least five enterprises will be selected for pilot voluntary agreements. Customized expert TA will be further provided to participating industrial enterprises in reviewing the current energy efficiency potential and assessment of their facilities, finalizing energy efficiency targets and energy conservation plans, and implementing these plans in order to achieve the agreed-upon targets. The government will introduce other policy mechanisms, such as (but not limited to) government facilitation, industrial assessments, regulation, and/or national recognition to assist the enterprises in reaching their energy efficiency targets.

The energy efficiency action plan for key industrial sectors can provide a platform for (a) coordinating a myriad of energy efficiency programs, funding sources, and industrial technology innovations; (b) starting dialogues with stakeholders involved in the proposed action plans; and (b) connecting both public and private sectors initiatives—with the government providing leadership and strategic direction to ensure long-term attention to energy sustainability. The pilot voluntary agreements can become the building block for a future national

Figure 4: Growth in Production of Selected Energy-Intensive Industrial Commodities, 1998–2008



<sup>4</sup> Industries are also classified as “light” or “heavy.” In general, a heavy industry is characterized by capital-intensive and less labor-intensive operations, and the products made by a heavy industry are less likely to be targeted toward end consumers (as opposed to light industry).



program promoting commitment by key industry sectors and top designated enterprises to improve energy efficiency through public-private sector partnership. Voluntary agreements can build energy efficiency in the corporate agenda of industrial enterprises by becoming increasingly committed and informed to reduce energy usage, even with relatively simple measures that generate significant cost savings. Furthermore, voluntary agreements in industrial sector can be used as a tool for developing a long-term strategic plan, increasing industrial energy efficiency, and engaging not only industrial enterprises, but also including government, industry associations, financial institutions, and other stakeholders. By and large, voluntary agreements are expected to provide an innovative and effective means to support the national energy efficiency program through motivation of key industry sectors to improve energy efficiency and reduce GHG emissions.

## ***Component 2: Development of Energy Service Providers***

The effective delivery of the VNEEP-II requires concerted efforts of all key market players such as government, enterprises, energy service providers, and financial institutions. In many countries, the development of energy service providers to become ESCOs has been a cost-effective vehicle to install energy efficient technologies, mobilize financing, and upgrade facility's performance through EPC<sup>5</sup>. The savings generated from the projects through reduction in energy costs are used to offset the cost of financing, installing, operating, and maintaining the energy efficiency measures. Once the project has been paid off, the savings would essentially be an extra disposable income for the facility. Saving energy also improves comfort conditions in the facility and reduces environmental impacts.

This component will focus on expanded capacity building of energy service providers, key market players, and many stakeholders as one mechanism to deliver increased energy savings in the energy efficiency market. Under the DSM-EE Project, the term “project agent” is used rather than ESCO to represent energy service providers that participated in the Commercial Energy Efficiency Program (CEEP)<sup>6</sup>. The rationale is that there are several misconceptions about whether ESCOs must offer a full range of project services (e.g., energy audit, project design, financing, installation, etc.) and/or provide performance guarantees. Project agents may include energy auditors, equipment suppliers, leasing companies, ESCOs, installation contractors, and engineering companies. At the end of the DSM-EE Project, the CEEP program has provided US\$1.1 million grant to 118 projects—mostly for commercial buildings—with total investment of US\$5.3 million, and supported at least 30 project agents that received training in all aspects of delivering energy efficiency services. While the project agents have implemented a number of projects, the concepts of EPC implemented by ESCOs have not yet been fully developed. The development of energy service providers is a long-term continuous process that may take several years to nurture and reach maturity stage, as experienced in other developing countries. With limited activity in commercial financing of energy efficiency projects to date, the engagement of banks and financial institutions is also essential for the long-term viability and sustainability of an energy efficiency market.

The key activities for this component will comprise TA programs to raise broad awareness on the energy efficiency industry. The specific activities to be financed will include:

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<sup>5</sup> EPC projects are generally classified as: (a) ESCO Financing—also called Shared Savings model; and (b) Enterprise Financing—also called Guaranteed Savings model. In mature markets, Outsourcing—also called Outsourced Savings model—is another model with many variations such as Build, Operate and Transfer (BOT), Build, Own, Operate, and Transfer (BOOT), or Design, Build, Operate, and Maintain (DBOM).

<sup>6</sup> The CEEP was designed to develop and test appropriate business models and mechanisms and catalyze a sustainable energy services market to support small-scale energy efficiency investments (ranging from US\$15,000 to US\$150,000).

- Comprehensive survey and analysis of emerging energy service providers or ESCOs<sup>7</sup> in Vietnam including their nature of operations and current state of development (based also on previous projects and studies by the World Bank and other international donors); evaluation of market size of the energy efficiency market and growth potential in terms of target sectors and type of projects or technologies;
- Evaluation of financing support structures and recommendation of funding mechanisms suitable for greater uptake of energy efficiency services in the Vietnamese marketplace; some sources of funds to be evaluated may include, but not limited to, commercial banks and lending institutions, development funds and grants, revolving funds, loan guarantees, venture capital firms and equity funds, strategic partners (e.g., utilities and engineering firms), leasing companies, and equipment vendors and manufacturers, etc.;
- Assessment of current capacity building needs of key market players; and development and delivery of advanced training programs and customized support for key market players especially for energy service providers to continue building their core technical competency in identifying and packaging viable energy-efficiency opportunities;
- Development of best practice or in-depth guidelines for EPC, which includes EPC methodology and process, ESCO business models, model detailed feasibility study agreement, standard or sample energy performance contract, measurement and verification (M&V) procedures, etc. to enhance market transparency;
- Dissemination of ESCO services and projects to increase information about energy-efficiency projects, financing opportunities, and services offered by ESCOs through a variety of channels such as publication of case studies, launching of awareness campaigns, collaboration with industry associations, etc.

While financing is essential for promoting energy efficiency investment and ESCO business, industry stakeholders regarded the lack of in-depth industry expertise as a crucial barrier to overcome. An energy service provider requires a number of advanced skills—business development and marketing, engineering and technical design, energy-savings and process optimization technologies, project and contract management, financial and accounting, and M&V—to be successful in the energy service business for industries. Marketing to large end-users is also a key element to provide avenue through which energy service providers can outreach to potential clients and financiers. Additional activities under this component could include (a) advocacy of industry’s potential, needs, and concerns to Government policy makers, which provide legal clarity and highly favorable operating environment for ESCOs; (b) international cooperation activities regarding country-specific approaches to ESCO development, since there is rarely single model that fits all countries.

The capacity building for energy service providers and key market players can further boost the development of the energy service industry and promote that the concept of providing package of turnkey energy services, most especially to industrial enterprises, can be financially and technically viable under Vietnamese conditions. Although the energy service business is relatively new in Vietnam, many neighboring countries have introduced the concept in recent years and achieved successful market developments to reduce energy consumption and address environmental concerns. It is important that the development of service providers be linked to supportive programs from the government to create continuous demand for energy services and provide a stable platform for development of energy efficiency service industry.

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<sup>7</sup> Energy service providers or companies may be grouped into three broad categories: (a) traditional ESCOs, (b) retail energy service companies owned and/or affiliated with utilities, and (c) other entities with ESCO-like operations, including consulting and engineering firms, equipment vendors, power marketers, and property service companies

### ***Component 3: Capacity Building for Program Management, and Monitoring and Evaluation (M&E)***

The EECO, an administrative organization formed under the MOIT, is tasked to implement the VNEEP-II. With less than 20 staff members, the EECO is facing shortage of manpower as major obstacle relative to the magnitude of activities that must be carried out to support the national energy efficiency program. The nationwide implementation of the VNEEP-II (as well as the recent Law on EE&C) necessitates massive capacity building for program management and supervision in all levels of government administration. This component will center on the capacity building of the implementing agency's EECO to implement the proposed GEF project to support VNEEP-II<sup>8</sup>. The support to EECO will involve provision of expert assistance and training activities in carrying out various energy efficiency projects, programs, and policies (including project management of the proposed GEF project). Key staff sufficiently aware and trained will ensure that there are strong workforce and adequate governance to implement energy efficiency programs and sustainable practices.

#### **B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL AND/OR REGIONAL PRIORITIES/PLANS:**

The Vietnam Energy Efficiency Project fully supports the objectives of the Country Partnership Strategy (CPS) for Vietnam from FY07 to FY11, which consists of four pillars: (a) improve the business environment; (b) strengthen social inclusion; (c) strengthen natural resource and environment management; and (d) improve governance. The third pillar includes (a) promotion of sustainable business practices, and use of energy saving equipment and technologies, and (b) improvement of energy system efficiency.

#### **• DESCRIBE THE CONSISTENCY OF THE PROJECT WITH [GEF STRATEGIES](#) AND STRATEGIC PROGRAMS:**

The project objectives are fully consistent with GEF's Focal Area Strategies and Strategic Programming for GEF-4 (2007-2010) that was approved by the GEF Council in September 2007. One of the long-term objectives and strategic programs for Climate Change in GEF-4 is to promote energy-efficient technologies and practices in industrial production and manufacturing processes. Climate change mitigation continues to be a focal area strategy for the new GEF-5 programming. GEF investments in programs under energy efficiency, renewable energy, and sustainable transport will be expanded and broadened, building on the past success and emerging experience, with more emphasis on programmatic approaches to achieve large-scale tangible results and GHG impact. The climate change mitigation strategy for GEF-5 will consist of six objectives. The first objective will focus on technologies at the stage of market demonstration or commercialization where technology push is still critical. The second through fifth objectives focus on technologies that are commercially available but face barriers and require market pull to achieve widespread adoption and diffusion. The last objective is devoted to supporting enabling activities and capacity building.

#### **• JUSTIFY THE TYPE OF FINANCING SUPPORT PROVIDED WITH THE GEF RESOURCES:**

The type of financial support proposed for GEF resources would be TA and market development to support pre-investment activities. This project is primarily aimed at reducing the risks that investment programs in energy efficiency are launched in an environment in which they will not prosper, for lack of an adequate institutional framework and capacity within government and key actors. Technical assistance in investment projects in Vietnam has often lagged the investment components, and the proposed project is an attempt to address this shortcoming. Is it essential to implement capacity building and other TA activities first before energy efficiency investment program is committed—although other donors' funding may be more advanced than this—since implementation of a national energy efficiency program involves country-wide, multi-sector, and long-term

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<sup>8</sup> This component also includes Project Management. The term "capacity building for program management" is used to better align with the capacity building and reorganization requirements of the VNEEP-II program management team within the MOIT's EECO.

engagement and approach to address the key issues that could influence the success of loan projects for energy efficiency (see also Part IV: Explain the Alignment of Project Design with the Original PIF).

- **OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:**

The WB's support to energy-efficiency efforts in Vietnam began in 1997 with a US\$3.6 million technical assistance grant provided by the Swedish International Development Agency (SIDA) administered by IDA, for: (a) Demand-Side Management (DSM) planning and pilots with EVN; (b) initiation of load management and research functions, also with EVN; (c) development of initial equipment standards with Ministry of Science and Technology (MOST); and (d) development of a commercial building code with the Ministry of Construction (MOC). Based on the results of this initial technical assistance work, IDA approved a follow-on Phase 2 project, the Vietnam DSM-EE Project (2003–2010). Results of the DSM-EE Project have been substantial, including the following:

- Successful transformation of the CFL market in Vietnam from less than 1 million lamps a year in 2004 to more than 10 million by 2007;
- Peak demand reduction of 30.1 MW and energy reduction of 243 GWh from CFL program—with total impacts, including market transformation estimated at 310.1 MW and 2506 GWh;
- Approval and implementation of 118 commercial energy-efficiency projects (aggregate investment of US\$5.3 million) with expected energy savings of 353 GWh for the project period and training of more than 100 service providers (referred to as project agents<sup>9</sup>).

More recently in 2010, the WB published a study entitled, “Vietnam: Expanding Opportunities for Improving Energy Efficiency,” which seeks to (a) provide a general overview of energy demand trends in Vietnam and needs to promote energy efficiency further, (b) summarize the main current Government and international donor efforts in the area of energy efficiency in Vietnam, and (c) provide the Government with suggestions and recommendations on how to expand energy-efficiency results in the future. Based on the findings of the study, and discussions with MOIT, other donors, and stakeholders, the WB team proposed that the new, Clean Production and Energy Efficiency Project. The proposed GEF project builds on the lessons learned from past and on-going projects on energy efficiency in Vietnam, and incorporates best practices on successful program and policy models from around the world to strengthen the implementation of the VNEEP-II. As previously shown in Figure 2, the project framework is designed so that the components of the proposed project can be utilized to formulate energy efficiency action for key industry sectors individually, or with the option of coordination with other complementary activities from industrial partners and parallel programs from other donors.

In addition to the Government's VNEEP, a number of parallel or supportive efforts have been initiated in direct cooperation with donor agencies. Some of these programs predated VNEEP, while others were developed alongside the national program. Support has not only included financial packages, but also technical assistance to local agencies and consultants implementing the projects. Some of the larger-scale programs that have been completed or that are currently under implementation in Vietnam are summarized in Table 1.

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<sup>9</sup> Under the WB DSM-EE Project, the term “project agent” is used rather than Energy Service Company (ESCO) to represent energy service providers that participated in the CEEP. The rationale is that there are several misconceptions about whether ESCOs must offer a full range of project services (e.g., energy audit, project design, financing, installation, etc.) and/or provide performance guarantees. Project agents may include energy auditors, equipment suppliers, leasing companies, ESCOs, installation contractors, and engineering companies.

Table 1: Major completed and ongoing energy-efficiency and conservation programs in Vietnam

Donor	Policy	Industry	Commercial buildings	Residential	Public	Power sector
<b>Asian Development Bank (ADB)</b>	<ul style="list-style-type: none"> <li>• Law on EE&amp;C</li> <li>• Energy Savings Fund (ESF)</li> </ul>	<ul style="list-style-type: none"> <li>• Industrial survey and audits</li> <li>• Training of energy managers, energy conservation centers, and ESCOs</li> <li>• EE financing</li> </ul>		<ul style="list-style-type: none"> <li>• Carbon financing for CFLs and solar water heaters</li> </ul>	<ul style="list-style-type: none"> <li>• Carbon financing for lighting in public buildings</li> </ul>	<ul style="list-style-type: none"> <li>• EVN power plant rehabilitation (proposed)</li> </ul>
<b>Agence Française de Développement (Afd)</b>		<ul style="list-style-type: none"> <li>• Technical assistance on EE</li> </ul>		<ul style="list-style-type: none"> <li>• EE housing credit line (proposed)</li> </ul>	<ul style="list-style-type: none"> <li>• Urban EE strategies (proposed)</li> </ul>	<ul style="list-style-type: none"> <li>• Load management</li> <li>• DSM</li> </ul>
<b>Danish International Development Agency (DANIDA)</b>		<ul style="list-style-type: none"> <li>• Energy audits</li> <li>• Training of energy managers, auditors</li> <li>• Economic incentives for investment</li> </ul>				
<b>Japan International Cooperation Agency (JICA)</b>	<ul style="list-style-type: none"> <li>• Law on EE&amp;C</li> <li>• EE Master Plan / VNEEP roadmap</li> <li>• EE database</li> </ul>	<ul style="list-style-type: none"> <li>• Concessional loans for high EE equipment</li> <li>• Energy audits</li> <li>• Training of energy managers, auditors</li> </ul>				
<b>Swiss Development Cooperation (SDC)</b>		<ul style="list-style-type: none"> <li>• Creation of Vietnam Clean Production Center</li> <li>• Energy and clean production audits</li> <li>• Study of brick-making</li> <li>• Green credit line for clean production</li> </ul>				
<b>United Nations Development Programme (UNDP)</b>  <b>United Nations Industrial Development Organization (UNIDO)</b>	<ul style="list-style-type: none"> <li>• Law on EE&amp;C</li> </ul>	<p>UNDP</p> <ul style="list-style-type: none"> <li>• Energy audits in SMEs</li> <li>• Loan guarantee program for SMEs</li> <li>• Training of energy auditors, ESCOs</li> <li>• Information dissemination, demonstrations for EE in SMEs</li> </ul> <p>UNIDO</p> <ul style="list-style-type: none"> <li>• Clean production audits in industry</li> <li>• Energy management system standards</li> </ul>	<ul style="list-style-type: none"> <li>• Building code development (proposed)</li> </ul>	<ul style="list-style-type: none"> <li>• Regional appliance and labeling</li> <li>• Incandescent phase-out</li> </ul>	<ul style="list-style-type: none"> <li>• Public street lighting</li> <li>• Lighting in schools</li> </ul>	
<b>The World Bank International Development Association (IDA)</b>	<ul style="list-style-type: none"> <li>• Law on EE&amp;C</li> </ul>	<ul style="list-style-type: none"> <li>• Audit and investment grants for electric equipment</li> <li>• Training of auditors, ESCOs</li> </ul>	<ul style="list-style-type: none"> <li>• Audit/investment grants</li> <li>• Training of auditors, ESCOs</li> </ul>	<ul style="list-style-type: none"> <li>• Bulk CFL purchase</li> <li>• Promotion of EE FTLs</li> </ul>		<ul style="list-style-type: none"> <li>• Transmission &amp; distribution (T&amp;D) loss reduction</li> <li>• Load management</li> <li>• DSM programs</li> </ul>
<b>International Finance Corporation (IFC)</b>		<ul style="list-style-type: none"> <li>• Clean production financing and business support</li> <li>• EE financing credit line/enhancement</li> </ul>				

Figure 5: Outline of coordination with other major activities

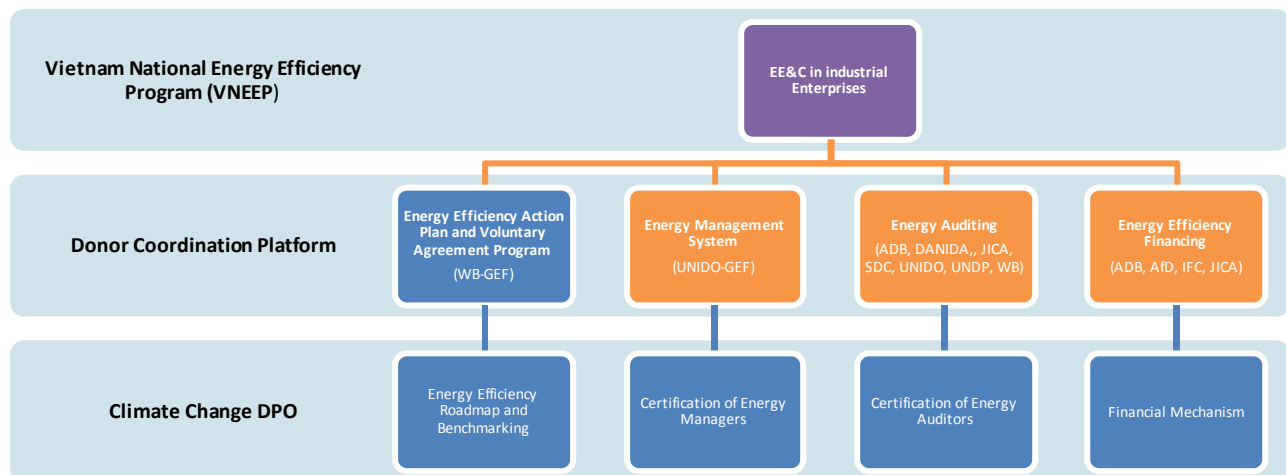


Figure 5 illustrates further the coordination of the proposed GEF project with other donor-related activities and the climate change DPO. The energy efficiency action plan, which is a prerequisite for voluntary programs, will contain the following basic elements: (a) energy efficiency road map; (b) industrial assessments or special investigations; (c) sector benchmarking; (d) process optimization, modification, and/or integration. The energy efficiency action plan for key industries and voluntary agreements are very timely to support the VNEEP-II's targets during the next five years, and complement other donor activities for industrial energy efficiency, conservation, and management, which are already taking place, or are introduced at the same time. Figure 5 shows a simplified outline of the project's high linkage with other donor activities to support the energy efficiency targets of VNEEP-II. Energy auditing, energy management system, and energy efficiency financing programs of other donors are essential elements that fit into an energy efficiency action plan. Energy auditing evaluates the energy end-use of an industrial plant, identifies opportunities to reduce consumption, performs economic analysis of energy efficiency measures, and proposes energy-saving solutions. Obsolete and wasteful technologies are often identified for retrofit to more optimal design. The Law on EE&C states that designated energy using units, which refer to entities that annually use high volume of energy as defined by the Government, must implement energy audit regime either through in-house or hiring of energy auditing firms. Energy Management System (EMS)—based on the Plan-Do-Check-Act (PDCA)<sup>10</sup>—is a management system approach which enterprises can adopt to assess their energy consumption, identify opportunities to use energy more efficiently, establish energy efficiency goals, and monitor and measure progress toward these goals on a continual basis. Planning the design and implementation of an EMS is the key factor for success. UNIDO is in the forefront of EMS programs in Vietnam with its project, “Promoting Industrial Energy Efficiency through System Optimization and Energy Management Standards in Vietnam.” All profitable energy saving projects identified through energy auditing or EMS generally have to be carried out through energy efficiency financing, where other donors are already currently offering its own programs.

As also shown in Figure 5, the proposed GEF project is highly linked to the climate change DPO, which is designed to support the implementation of the government's multi-sector platform and institutional

<sup>10</sup> Plan-Do-Check-Act (PDCA), also known as Deming Cycle, is an iterative four-step problem-solving process typically used in continual process improvement for businesses. It is also widely used in quality, environmental, energy management, and other standards developed by the International Organization for Standardization (ISO).

development agenda. The proposed DPO is designed as a programmatic series of three cycles, allowing adjustments to account for the needs of the government and the evolving understanding of climate change. For the first of a series of three operations, an IDA credit of US\$70 million is under preparation for Bank approval during fiscal year (FY) 2011. The overall annual value of the programmatic multi-sector and multi-donor support program is expected to be about US\$220 million and includes contributions from the JICA, AfD, and the Canadian International Development Agency (CIDA). Table 2 shows the policy matrix for Vietnam climate change DOP series.

Table 2: Policy matrix for Vietnam climate change DPO series

Vietnam Climate Change Development Policy Operation					
Goals		2010	2011	2012	Results
		1 <sup>st</sup> Cycle	2 <sup>nd</sup> Cycle	3 <sup>rd</sup> Cycle	
<b>Pillar I: Adaptation</b>	Improving the resilience of water resources	Developed National Target Program for water resources management based on the Water Sector review	Submit National Program on water resources management	Submit implementation plan for the National Program on water resources management	Strengthened legal and organizational arrangements for a programmatic, integrated and adaptive approach to address water resources management, irrigation water supply and use efficiency, and salinity intrusion
<b>Pillar II: Mitigation</b>	Exploiting energy efficiency potentials	Submitted the Decrees to implement and to enforce the Law on EE&C	Adopt guidelines for the qualification and certification of energy auditors, and for the certification of energy managers	Adopt roadmap on energy efficiency and benchmarking for at least 2 key energy-intensive industrial sectors	Strengthened the regulatory framework for the implementation of the Law on EE&C
<b>Pillar III: Cross-Cutting Climate Change Policy and Institutional Framework</b>	Strengthening the capacity to formulate, prioritize and implement climate change policies	Updated provincial level climate change scenarios  Developed provincial disaster risk management plans	Establish institutional framework for implementation of low carbon development study  Adopt and pilot implementation of M&E system for national and provincial disaster risk management plans	Complete and endorse a low carbon reference scenario for Vietnam (2010-30) and identify potential climate vulnerabilities  Formulate design standards for mainstreaming DRR into priority infrastructure investments	Scientific, analytical and technical basis that guides the development of priority climate change actions and targets has improved  Measures to address climate risk are reflected in planning and supported by improved coordination and monitoring.
	Strengthening the financing framework to support climate change action	Approved guiding principles related to the Financial Mechanism for using ODA for climate financing through budget support	Establish Climate Change Finance Access Task Force	Operationalize the Financial Mechanism	Climate finance is planned according to priorities and multi-sectoral allocation process

Source: Concept Note, IDA First Climate Change Development Policy Operation

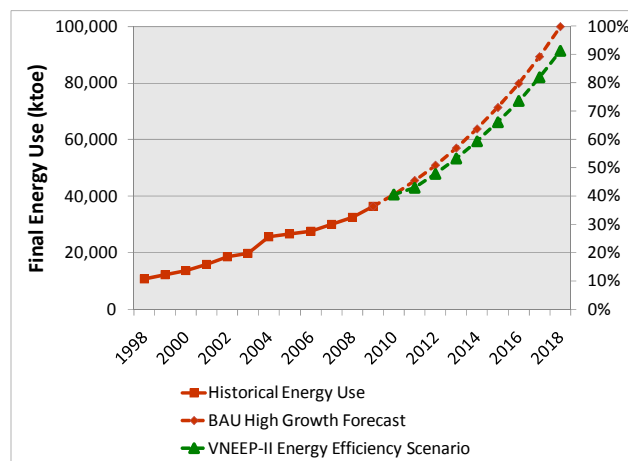
As highlighted in Table 2 under the second pillar, a proposed trigger for the 2<sup>nd</sup> cycle is to adopt guidelines for the qualification and certification of energy managers and energy auditors; adopting roadmaps on energy

efficiency and benchmarking for at least two key energy-intensive industrial sectors is a trigger for the 3rd cycle. Moreover, as a policy action for the 2<sup>nd</sup> cycle, MOIT intends to adopt guidelines and procedures for designated enterprises to prepare and submit annual and five-year energy efficiency plans; for the 3<sup>rd</sup> cycle MOIT intends to adopt guidelines establishing objective, scope and procedures for the M&E framework for VNEEP-II. The third pillar will address cross-cutting policy and institutional evolutions to strengthen government’s capacity to formulate, plan, finance, and monitor climate change actions in Vietnam. Vietnam’s capacity to implement climate policy measures depends on a sound financing framework. The government of Vietnam has decided that a financial mechanism is needed to direct the actual flow of resources provided through the Support Program to Respond to Climate Change (SP-RCC). Prior action for this cycle, the Prime Minister—through Decision 8981/VPCP-QHQT, December 10, 2010—has recently approved the guiding principles related to financial mechanism of using the Official Development Assistance (ODA) for climate priorities through budget support. These guiding principles were prepared by MOF with consultation with other relevant government agencies. MOF would have to issue and apply the guidelines in order to operationalize the principles approved by the Government (trigger for the third cycle).

- **DISCUSS THE VALUE-ADDED OF GEF INVOLVEMENT IN THE PROJECT DEMONSTRATED THROUGH INCREMENTAL REASONING :**

The Business as Usual (BAU) describes the situation or context relevant to the proposed project intervention in a country or proposed project site as it would expectedly unfold without the GEF support. If Vietnam’s GDP grows at some 7 percent per year during the decade of 2009–2018, and the country’s energy use/GDP elasticity continues at the 1.7 witnessed during the last decade, industrial energy demand would grow by about 12 percent per annum. If left unattended, this average growth rate for ten years would yield another tripling in energy use, with final energy consumption exceeding 100 million toe by 2018 (see Figure 6). Continuing industrialization can be expected as one of the key drivers to move Vietnam’s energy demands at rates well in excess of economic growth. VNEEP-II targets 5-8 percent reduction of the total national energy consumption from the period 2011-2015—in comparison with the scenario that does not take into account energy saving potential in socio-economic development forecast. As shown in Figure 6, with the VNEEP-II targets extrapolated up to 2018, the energy reduction potential can reach 6-9 percent of the national energy consumption.

Figure 6: BAU and VNEEP-II Energy Efficiency Scenario



Note: 2009-2010 data “Business-as-Usual” Scenario” are estimated.

Major challenges facing the VNEEP-II implementation to improve the BAU include obtaining resources to promote energy efficiency; determining appropriate levels of funding for various initiatives; maximizing energy savings results and the capacity enhancements; and providing clearer roles for private sector participation and leverage. In order to achieve the VNEEP-II target under the energy efficiency scenario, the limitation of the current State budget of US\$2-3 million per year for program implementation means that additional donor funds must be mobilized for specific set of activities. The Government must prioritize its activities carefully, and increasing leverage is also critical—for example, to use public funds as seed money for ideas that can be scaled up most especially by the private sector. This can be seen as the area where the proposed GEF project can



provide value added—the best and most lasting results usually stem from pilot programs or trial efforts that are built with sufficient and growing local capacity for delivery.

While the funding for the proposed GEF project may be relatively small and limited to fully transform the industrial energy efficiency market, the absence of such funding would likely result in missed opportunities for the Government’s VNEEP-II to contribute in the market transformation process by: (a) using energy efficiency action plans to establish energy efficiency roadmap for potential energy savings in key industries, coordinate parallel or complementary donor support activities in these areas through an umbrella framework, and make better use of limited resources; (b) analyzing high-priority process optimization technologies to provide insight where future energy efficiency investments can make significant impact; (c) testing cost-effectiveness of voluntary programs to design scale-up efforts for long-term commitment to energy efficiency as a resource; and (d) fostering continued development of energy service providers and develop funding mechanisms to deliver increased energy efficiency in the market. Moreover, the energy efficiency action plans and roadmaps for key industry sectors provide natural pathways for simulating further investments in the Vietnamese market. Without the GEF support, roadblocks to energy efficiency investments would be much larger, and barriers to achievement of VNEEP-II’s targets would be far greater. Equally important, the energy efficiency action plans would prioritize areas for energy efficiency investments, without which the MOIT would have no strong basis to request funding from the MOF to operationalize the financial mechanism for energy efficiency through the climate change DPO.

**• INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MANAGEMENT MEASURES:**

The overall project risks are rated moderate, and the risks identified are manageable and mitigation measures are in place. As shown in Table 3, the major risks are classified as (a) project stakeholder risks, (b) implementing agency risks, (c) project risks.

Table 3: Project risks and mitigation measures

Risk Category	Risk Rating	Risk Description	Proposed Mitigation Measures
<b>Project Stakeholder Risks</b>	Low	Stakeholder engagement in delivering energy efficiency and market-based instruments that support national energy efficiency policies of the Government may gain low participation from industrial enterprises.	<p>The enforcement of the recently enacted Law on EE&amp;C will stress the responsibilities of industrial enterprises in dealing with energy efficiency and conservation, which includes formulation and implementation of annual plans.</p> <p>The project will use active participation and on-going engagement approach, in which stakeholders actively engage in all parts of energy efficiency action plan and strategy development, although the responsibility for the final decision or action plan formulation rests with the Government. A variety of participation techniques will used, such as training workshops, focus groups, opinion polls, market surveys, and consensus conferences, depending on the situational needs.</p>
<b>Implementing Agency Risks</b>	Medium	The staff shortage and low capacity of the implementing agency may affect the quality of project preparation and implementation.	The mitigation of the implementation capacity risk will be best achieved by combining efforts to streamline Bank procedures, upgrading staff levels and skills in the EECO at MOIT, and providing TA and support from the project team. The project has established a PMU within MOIT.

Risk Category	Risk Rating	Risk Description	Proposed Mitigation Measures
			The task team will maintain close contact with the implementing agency to (a) advise on Bank requirements, (b) ensure that project preparation and implementation proceed as planned, and (c) assist to resolve any outstanding issues.
<b>Project Risks</b>			
<ul style="list-style-type: none"> <li>Design</li> </ul>	Medium	Although market-based mechanisms, such as voluntary agreements and EPC, have been used as policy tools to achieve successful market developments in Europe and North America, these concepts are still in their infancy stage in Vietnam.	<p>The project will be designed to incorporate lessons learned and best practices on successful program and policy models from around the world, which can be replicated in Vietnam and adapted for implementation in local conditions and emerging markets. The project will make use of design practices that start with simple yet flexible and effective concepts to save energy and minimize environmental impacts.</p> <p>The development of energy service providers will build on the achievements and lessons learned from the previous World Bank demand-side management and energy efficiency project, by an expanded support program to energy service providers for capacity building of core technical competency (such as more sophisticated business and financing models involving performance contracting), market positioning on target segments, and incorporating risk mitigation elements into projects.</p>
<ul style="list-style-type: none"> <li>Social and Environmental</li> </ul>	Low	The project involves TA, training, and capacity building in order to improve energy efficiency in selected sectors and enterprises, without posing any adverse social and environmental impacts.	Although no major adverse safeguard policies are associated specifically with this project, the Bank safeguard specialist(s) can provide TA to the implementing agency to strengthen its capacity for environmental assessment and environmental management supervision on as needed basis.
<ul style="list-style-type: none"> <li>Program and Donor</li> </ul>	Low	No serious overlapping of donor activities are foreseen, and if there are complementary donor programs, they do not affect nor endanger the development objectives of the project.	<p>As previously shown in Figure 5, the proposed project will facilitate a platform for donor coordination. Donor coordination meetings will assist in harmonization and alignment of donor programs that are needed to ensure each donor activity supports the VNEEP's objectives and outcomes. The next stages of donor coordination may include shared planning and strengthened consultative processes for complementary programs to the extent that they fit in with the needs of the VNEEP.</p> <p>A matrix of donor energy-efficiency programs—both ongoing and planned—will be maintained and constantly updated by the project team.</p>
<ul style="list-style-type: none"> <li>Delivery quality</li> </ul>	Low	The project activities are highly technical requiring services of consultants with specialized skills.	The quality of project delivery depends on the technical capacity of the implementing agency to prepare and implement project components, particularly the preparation of Terms of References (ToRs) for the consultants. The Bank team has prepared an Implementation Support Plan (ISP) that describes how the Bank will (a) support the implementation of the risk mitigation measures, (b) provide the necessary technical

Risk Category	Risk Rating	Risk Description	Proposed Mitigation Measures
			advice early on in the process, and (c) identify the minimum requirements to meet the Bank’s fiduciary obligations.

• **EXPLAIN HOW COST-EFFECTIVENESS IS REFLECTED IN THE PROJECT DESIGN:**

Sectoral energy efficiency action plans and voluntary agreements for industry sectors have been used in many countries as a policy option for energy efficiency improvement and reduction of associated GHG emissions. Voluntary actions for industries—combined with other policy measures and incentives under the right conditions—can have lower costs than sole regulatory or mandatory instruments. The rationale behind voluntary actions is to increase involvement of industrial enterprises in all aspects of energy efficiency action plan and strategy development. In that process, the costs and responsibilities for energy savings and GHG reductions are shared with the government and the enterprises—although the final decision for policy formulation still rests with the government. Voluntary actions also promote greater flexibility for enterprises to mix and match cost-effective measures to improve energy efficiency, such as industrial assessments, detailed equipment audit, benchmarking, energy management system, and process optimization, modification, and/or integration techniques—as compared to strict regulations for industrial energy conservation.

With the enactment of the Law on EE&C, the real challenge of building large enforcement capability begins if the regulations are to work effectively. Similar to the laws enacted in China, Japan, Thailand, and some other countries, Vietnam’s Law on EE&C require large consumers to report on energy consumption and plans to improve efficiency, and to designate internal energy managers responsible for energy-efficiency work. Meeting the training, monitoring and reporting, and supervision requirements of such a system would be a very large and important undertaking. On the other hand, voluntary programs—although they still entail resources for implementation—can require a fraction of the enforcement cost of regulatory programs. However, voluntary agreements should not be considered as total substitute for regulation, but rather be used as complementary cost-effective instrument. Since participating enterprises in voluntary programs may incur transaction costs, it is important for the government to still provide a range of technical assistance, and financial support or incentives.

The assessment of the project’s cost-effectiveness will follow the “Manual for Calculating GHG Benefits of GEF Projects: Energy Efficiency and Renewable Projects.” The project builds capacity, improves the enabling environment, and stimulates replication. With the project, the energy efficiency action plans for key industry sectors would facilitate integrated energy efficiency programs that leverage the benefits of related programs supported by VNEEP. The capacity building for energy service providers and key market players, and uptake of energy efficiency industry would also produce positive impacts to improve energy efficiency. Given the complexity of estimating the benefits of these actions and segregating those that are attributable to the GEF project alone, the boundary of cost-effectiveness would be best limited to the energy efficiency action plans and pilot voluntary agreements only. Since the projects arising out of these action plans and voluntary agreements are not known in advance, Table 4 presents financial analysis of sample energy efficiency projects. Based also on interviews with Vietnamese commercial banks lending to energy efficiency projects, large-scale industrial projects may range from US\$3-5 million, while small-scale commercial projects may reach up to US\$100 thousand in investments per project. The targeted energy efficiency action plans and pilot voluntary agreements are estimated to conservatively generate up to US\$25.5 million of investments on energy efficiency using a bottom-up approach. Thus, the total investment that would be influenced by this project (i.e., excluding positive

project spillover<sup>11</sup>) is about US\$25.5 million, which translates to about 0.36 million tons of oil equivalent (toe) or 1.25 million tons of CO<sub>2</sub> (tCO<sub>2</sub>) over a 10-year project cycle that is typical for energy efficiency projects. With a GEF grant of US\$2.37 million, the net environmental abatement cost is about US\$1.89 per CO<sub>2</sub>, which is comparable with the benefits of other GEF projects. During project implementation, more detailed bottom-up models will be constructed based on savings from specific types of energy efficiency measures arising out of the pilot voluntary agreements, and engineering formulas or algorithms will be used to estimate reductions in energy usage (ex-ante and ex-post evaluation).

Table 4: Financial Analysis of Sample Energy Efficiency Investment Projects

<b>Subproject</b>	<b>Investment (US\$ million)</b>	<b>Annual Energy Savings (toe)</b>	<b>Annual Energy Savings (US\$ million)</b>	<b>Simple Payback Period (years)</b>	<b>NPV @ 12% (US\$ million)</b>	<b>Financial Internal Rate of Return (%)</b>
Boiler renovation	\$7.27	9,032	\$2.12	3.4	\$4.20	26%
Waste heat recovery	\$3.03	5,153	\$1.80	1.7	\$6.38	59%
Motor adjusting speed drives	\$4.21	6,323	\$1.52	2.8	\$3.91	34%

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<sup>11</sup> Spillover effect refers to reductions in energy use, demand, or both caused by the presence of the sectoral energy efficiency action plans, beyond the related gross savings of the direct participants. There can be spillover from both program participants and non-participants. Free riders refer to program participants who would have implemented measures independently, regardless of the sectoral energy efficiency action plans.

### **PART III: INSTITUTIONAL COORDINATION AND SUPPORT**

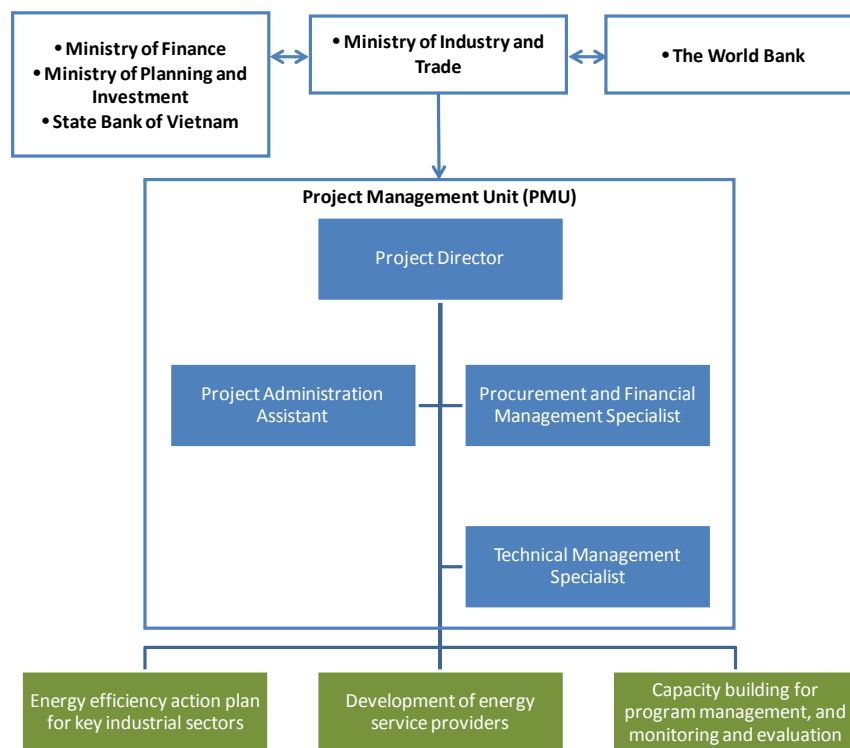
#### **A. INSTITUTIONAL ARRANGEMENT:**

The WB is the only GEF agency involved in the project.

#### **B. PROJECT IMPLEMENTATION ARRANGEMENT:**

The State Bank of Vietnam (SBV) represents the Government of Vietnam in signing the GEF grant agreement. The MOIT, through its EECO, will be the executing agency responsible for implementation of the project. The EECO was under the MOIT (Ministerial Decision No. 919/2006/QD-BCN). The duties and responsibilities of EECO include: (a) formulation of EE&C policies, measures, and action plans; (b) supervision, promotion, and dissemination of EE&C activities; and (b) cooperation with international organizations. For the proposed project, the MOIT has established a PMU that will undertake the day-to-day and overall coordination, supervision, and management of the project. As shown in Figure 7, A PMU Project Director, Project Administration Assistant, Technical Management Specialist, and Procurement and Financial Management Specialist comprise the PMU to manage the implementation of the project sub-components. The PMU will be fully responsible for implementing project sub-components following terms and conditions of the legal agreements, including procurement, financial management, M&E, and project reporting. The Bank, in collaboration with the PMU, supervises, reviews, and appraises the implementation and utilization of the US\$2.37 million GEF grant.

Figure 7: Project implementation arrangements



**PART IV: EXPLAIN THE ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF:**

The proposed project is aligned with the original PIF, with some adjustments in project design to adapt to the changing situation and needs, while maintaining the proposed project objective to improve energy efficiency and reduce associated GHG emissions. Table 4 shows the comparison of project components during the PIF and CEO endorsement.

Table 5: Comparison of project components

<b>PIF</b>	<b>Request for CEO Endorsement</b>	<b>Comments</b>
1. Industrial Investment	1. Energy efficiency action plan for key industrial sectors	Component 1 is consistent in targeting the industrial sector, which accounts for 48 percent or almost half of the final energy use in 2008. Moreover, recent studies on energy demand forecast breakdown indicate that the energy savings from the industrial sector can account for 50 percent of the total energy savings resulting from VNEEP-II.
2. Development of third-party energy service providers	2. Development of energy service providers	Component 2 remains the same in supporting to the development of energy service providers. However, instead of shared-savings model (ESCO financing) only, various financing schemes will be supported by the project <sup>12</sup> .
3. Promotion of energy efficient household electrical appliances		Component 3 in the original PIF was not pursued to concentrate the limited GEF resources to the industrial sector as the current top priority for supporting the challenging 5-8 percent energy efficiency target of the VNEEP-II.
4. Project management	3. Capacity building for program management, and monitoring and evaluation (M&E)	Component 4 in the original PIF, i.e., project management, is now embedded in the capacity building for program management, including support to M&E activities.

Table 5 presents the comparison of project financing. The original PIF that was approved by the GEF Council on June 24, 2009 was envisioned to be a joint project financed by the GEF and the World Bank Group’s the IDA and IFC. However, during the project preparation, the management of both the World Bank and IFC decided that due to practicalities, a truly integrated GEF/IDA/IFC project was not feasible. Instead, two complementary projects—one in the IFC and one in the World Bank—are going on in parallel with the proposed GEF project, while maintaining the proposed project objective to improve energy efficiency and reduce associated GHG emissions especially in the industry sector.

In May 2010, the IFC signed with Vietnam Technological and Commercial Joint-stock Bank (Techcombank) a US\$25 million loan (5-7 years term) for energy efficiency and clean production (EE/CP) lending. Techcombank is committing another \$25 million to build a total portfolio of \$50 million of EE/CP projects targeting SMEs over the next two years. Techcombank plans to provide long-term financing to support companies in efforts to replace equipment, and upgrade technology and systems for greater efficiency, increased productivity, cost saving, and emission reduction. The eligibility criteria requires that a project, including an investment in goods and services, will result in at least a 15 percent reduction in energy used per unit of production, or energy/fuel used for non-process technology related measures. The IFC is currently working on similar lending program or financial intermediary operation with other commercial banks. In September 2010, the IFC’s Vietnam: Sustainable Energy Finance Program (V-SEF) was approved by the Trust Fund Committee (TFC) of the Clean Technology Fund (CTF). The CTF, one of two Climate Investment Funds, promotes scaled-up financing for

<sup>12</sup> See also previous footnote 5 regarding classification of EPC projects; while the shared-savings model (or ESCO financing) is a good introductory model, experience in other countries indicate that such model tended to favor large ESCOs with access to financing, and small ESCOs faced difficulties contracting further debt for a steady stream of projects, due to growing high debt-to-equity ratio concerns. Thus, guaranteed savings model (or enterprise financing) may be a good alternate model to target the industrial sectors in Vietnam.

demonstration, deployment and transfer of low-carbon technologies with significant potential for long-term greenhouse gas emissions savings. The IFC's V-SEF program is the first comprehensive initiative to help develop Vietnam's Sustainable Energy (SE) private financing by supporting local financial institutions and addressing market barriers on a programmatic basis. Through the V-SEF program, the IFC will provide a combination of its own and CTF financing to private commercial banks and/or leasing companies. The terms of financing will be designed in a way to adequately address the barriers described earlier and to catalyze the uptake and scale-up of energy efficiency investments in Vietnam with minimum level of concessionality required. Through the Program, IFC would lend up to US\$100 million equivalent of its own funds, leveraged by up to US\$28 million equivalent from the CTF.

Table 6: Comparison of project co-financing

Sources of Co-financing	PIF	Request for CEO Endorsement	Complementary Project	Comments
Government Contribution	\$2,000,000	\$1,775,000		The government contribution slightly decreased to better estimate only the portion of state budget for VNEEP-II that is directly related to the GEF project.
Multilateral Agency(ies)	\$50,000,000		\$153,000,000	The complementary financing from the IFC consists of: (a) US\$25 million for EE/CP lending facility at Techcombank; (b) US\$128 million financing for V-SEF (up to US\$100 million of the IFC funds, leveraged by up to US\$28 million from the CTF); IDA credit lending was replaced by climate change DPO to avoid duplicate and competing financial intermediary operation.
IDA/Development Policy Loan (DPO)		\$20,000,000		First of a series of three operations, an IDA credit of US\$70 million (and about additional US\$145 million financing from JICA and AfD, and US\$5 million from CIDA) is provided to climate change DPO, which has been designed with a financing mechanism to support energy efficiency investments—conservatively estimated at US\$5 million per year or total of about US\$20 million within the GEF project implementation period. This co-financing is the estimated portion of the DPO to be requested by MOIT to provide financing for investment priorities identified through the energy efficiency action plans.
Participating Companies	\$700,000	\$5,500,000		Within the boundary of the GEF project, US\$5.5 million is expected to be mobilized from companies investing in energy efficiency action plans and voluntary agreements.
Local Banks	\$45,000,000		\$25,000,000	The above-cited financial intermediary operation of IFC with Techcombank requires participating bank to commit another \$25 million to build a total portfolio of \$50 million.
Others – Consumers	\$3,800,000			Consumer financing refers to the component on promotion of energy efficient household electrical appliances, which was dropped to focus the limited GEF resources to the industrial sector.
<b>Total Co-financing</b>	<b>\$101,500,000</b>	<b>\$27,275,000</b>	<b>\$178,000,000</b>	Other funds would be most likely mobilized in the future for follow-on or replication activities resulting from energy efficiency action plans; the project's M&E may monitor mobilization of these funds through Government reports or other sources.


Since the IFC is taking the lead in engaging financial institutions to develop appropriate lending programs to invest in EE/CP projects, it is therefore not practical to use IDA funds for another financial intermediary operation. On the other hand (as previously discussed in coordination with other related initiatives), IDA credit support is being provided to government energy efficiency programs and investments through the climate

change DPO. A series of three tranches is being proposed; the first in FY11 (US\$70 million) and the next with similar amount or larger—the timing of each next tranche is 12 months. This is part of a collaborative and coordinated approach with JICA and AfD that initiated and co-finance climate change operation. The Bank will do parallel financing, covering part of the thematic areas of the climate change agenda. The Bank climate change DPO has chosen energy efficiency (mitigation) as key for Vietnam, and accordingly the MOIT has been the counterpart for the policy actions in this thematic area. The proposed GEF project will contribute through the TA activities for the MOIT in achieving the climate change DPO policy triggers. The climate change DPO has been designed with a financing mechanism, approved by the Prime Minister at the end of 2010, which will reflow the funds through an item in the budget of support to climate change activities. Through this mechanism and the involvement of the MOIT in the Bank climate change DPO focusing on energy efficiency, the GEF TA will enable the actions and achievement of the criteria for the government’s budget allocation to the MOIT’s support for energy efficiency investments.



**PART V: AGENCY(IES) CERTIFICATION**

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for CEO Endorsement.

Agency Coordinator, Agency name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Karin Shepardson, WB GEF Executive Coordinator		4/1/2011	Jiang Ru	202 473-8677	jru@worldbank.org

## ANNEX A: PROJECT RESULTS FRAMEWORK

Table 7: Project outcomes, outputs, and major activities

<p><b>Project Objective:</b> The proposed project development objective (PDO) is to strengthen the Government of Vietnam's capacity for the effective delivery of the Vietnam national energy efficiency program, thereby improving energy efficiency and reducing associated greenhouse gas (GHG) emissions.</p>		
<p><b>Component 1: Energy Efficiency Action Plans for Key Industrial Sectors</b></p>		
<b>Outcomes</b>	<b>Outputs</b>	<b>Major Activities</b>
<ul style="list-style-type: none"> <li>Industries adopt energy efficient production technologies and cost-effective management practices</li> </ul>	<ul style="list-style-type: none"> <li>Energy efficiency action plan in at least 4 industry sectors formulated</li> </ul>	<ul style="list-style-type: none"> <li>Develop energy efficiency road map</li> <li>Conduct industrial assessments</li> <li>Perform sector benchmarking</li> <li>Analyze process optimization, modification, and/or integration techniques</li> </ul>
<ul style="list-style-type: none"> <li>Group of enterprises implement plans to achieve agreed-upon energy efficiency targets</li> </ul>	<ul style="list-style-type: none"> <li>Voluntary agreement program for energy efficiency in at least 5 pilot enterprises demonstrated</li> </ul>	<ul style="list-style-type: none"> <li>Develop implementation procedure for establishing voluntary agreement program</li> <li>Design of pilot phase mechanisms</li> <li>Provide customized support to participants during implementation</li> <li>Establish monitoring and evaluation system</li> </ul>
	<ul style="list-style-type: none"> <li>Supportive government policy mechanisms introduced</li> </ul>	<ul style="list-style-type: none"> <li>Assess policy framework in relation to voluntary agreement program</li> <li>Develop supportive policy mechanisms</li> </ul>
<p><b>Component 2: Development of Energy Service Providers</b></p>		
<b>Outcomes</b>	<b>Outputs</b>	<b>Activities</b>
<ul style="list-style-type: none"> <li>Energy service providers and key market players acquire advanced knowledge on energy efficiency services industry</li> </ul>	<ul style="list-style-type: none"> <li>Energy service providers trained</li> </ul>	<ul style="list-style-type: none"> <li>Conduct survey of energy service providers</li> <li>Evaluate financing support structures and funding mechanisms</li> <li>Develop and deliver advanced training programs</li> <li>Develop best practice or in-depth guidelines for EPC</li> </ul>
<ul style="list-style-type: none"> <li>Energy efficiency service industry increase market acceptance and legitimization</li> </ul>	<ul style="list-style-type: none"> <li>Energy service industry awareness raised</li> </ul>	<ul style="list-style-type: none"> <li>Disseminate ESCO services and projects</li> <li>Advocate industry's potential, needs, and concerns to Government policy makers</li> </ul>
<p><b>Component 3: Capacity Building for Program Management and Supervision</b></p>		
<b>Outcomes</b>	<b>Outputs</b>	<b>Activities</b>
<ul style="list-style-type: none"> <li>Implementing agency increase capacity for program management and supervision</li> </ul>	<ul style="list-style-type: none"> <li>Expertise engaged</li> </ul>	<ul style="list-style-type: none"> <li>Hire additional support staff</li> </ul>
	<ul style="list-style-type: none"> <li>Implementing agency's staff trained</li> </ul>	<ul style="list-style-type: none"> <li>Participate in training activities and knowledge exchange</li> <li>Conduct M&amp;E activities</li> </ul>

Table 8: PDO level results indicators and framework

PDO Level Results Indicators	Unit of Measure	Baseline	Cumulative Target Values*					Frequency	Data Source / Methodology	Responsibility for Data Collection
			YR 1	YR 2	YR 3	YR 4	YR 5			
<b>PDO LEVEL RESULTS</b>										
<i>Energy efficiency action plans in key industry sectors adopted and launched</i>	Action plan	0			1	2	4	Annual	Project reports and/or surveys	MOIT's PMU
<i>Voluntary program for energy efficiency in pilot enterprises established</i>	Number of pilot enterprises	0			2	5		Annual	Project reports and/or surveys	MOIT's PMU
<i>Energy service providers trained on and applied advanced energy efficiency concepts</i>	Number of energy service providers	0			5	10	15	Annual	Project reports and/or surveys	MOIT's PMU
<b>INTERMEDIATE LEVEL RESULTS</b>										
<i>Assessment of energy efficiency situation and potential in key industry sectors accomplished</i>	Report	0		2	4			Annual	Project reports	MOIT's PMU
<i>Target-setting methodology and mechanism of voluntary agreement developed</i>	Report	0		1				Annual	Project reports	MOIT's PMU
<i>Survey of energy service providers, evaluation of funding mechanisms, and development training program and in-depth guidelines for energy service industry completed</i>	Report	0	1	2	4			Annual	Project reports	MOIT's PMU
<b>GEO LEVEL RESULTS</b>										
<i>Energy savings achieved</i>	thousand toe	0			90.1	234.2	360.4	Annual	Project reports and/or surveys	MOIT's PMU
<i>CO<sub>2</sub> emission reductions associated with energy savings achieved</i>	thousand tCO <sub>2</sub>	0			313.5	815.0	1,253.9	Annual	Project reports and/or surveys	MOIT's PMU

\*Cumulative target values should be entered for the years data will be available, not necessarily annually; 10-year life cycle is used to estimate energy savings and CO<sub>2</sub> emission reductions.

**ANNEX B: RESPONSES TO PROJECT REVIEWS** (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF)

1. Comments: The economic or engineering rationale for combining the industries, residential buildings and commercial buildings needs to be addressed in the project document. Further there is a need for scientific rationale for inclusion of appliances or exclusion of other EE options.

*Responses: In the original PIF components, the rationale for combining industries, residential, and commercial buildings presented a coherent package of energy efficiency intervention, since the GEF project was intended to be blended with an IDA/IFC financing program. At the time of PIF preparation, the residential sector accounted for about 39 percent of total electricity consumption, thus making it a key target area for energy conservation. However, as explained in Part IV, the blended GEF/IDA/IFC financing did not materialize. The GEF project had to be adjusted to focus the limited funding on industries only, and better align it to the current priority energy efficiency priorities of the government.*

2. Comments: Scientific analysis of barriers to promotion of EE technologies and practices is necessary. Barriers are likely to vary with industries, residential and commercial building sectors.

*Responses: Since the proposed project is now focused solely on industries, the barriers presented now are industry-specific. As confirmed through stakeholder consultations, access to financing is not the only barrier to implementation of energy efficiency projects. Many industries in Vietnam are reluctant to invest in energy efficiency due to lack of awareness on potential energy efficiency measures and opportunities, lack of in-depth technical expertise with regard to process optimization technologies, and lack of supportive policies from the government to encourage energy efficient practices.*

3. Comments: Quantitative baseline and incremental reasoning of project interventions is missing and should be provided at the CEO endorsement phase. Clean production approach of WB investments is not explained. Co-benefits of investments in environmentally sound technologies for release of chemicals have to be described.

*Responses: For quantitative baseline and incremental reasoning of project interventions, please refer to Part II (Project Justification – B. Describe the consistency of the project with national and/or regional priorities/plans – Discuss the value-added of GEF involvement in the project demonstrated through incremental reasoning; Explain how cost-effectiveness is reflected in the project design). The concept of “clean production” is associated with energy efficiency action plans, which would also ensure compliance to all applicable Vietnamese air and water pollution standards or any other relevant environmental regulations. Reducing energy consumption through improved energy efficiency reduces both GHG emissions and environmental pollutants such as NO<sub>x</sub>, SO<sub>x</sub>, CO<sub>2</sub>, fine particles, and mercury emissions. Energy efficiency improvements can perhaps yield the greatest contribution over the medium term in Vietnam’s case to mitigating the growth of CO<sub>2</sub> emissions, which contribute to global warming. Energy efficient and environmentally friendly technology choices that are compatible with tight emission standards also help block wasteful, backward, and highly polluting technologies. Air pollution from energy use carries a range of socioeconomic costs, including public health concerns that can manifest themselves as respiratory illnesses and premature death. Energy efficiency improvements are one of the main mitigation tools. In addition, shifts of technology that provide energy-efficiency gains often also provide other environmental co-benefits, increasing the overall value of such shifts, especially over the medium and longer term.*

4. Comments: What criteria will be used in supporting EE production technologies? Among EE technologies with the highest cost-effectiveness and mitigation potential in the industrial sector such as energy efficient electric motor driven systems and advanced small-scale combined heat and power (CHP) including fuel cells and Stirling engines. STAP recommends consideration of such systems as a part of Component 1.

*Responses: The selection criteria in supporting production technologies will be part of the industry sector assessments in Component 1—focusing on “priority” energy efficient technologies that are proven, cost-effective and mature, and offering the largest potential for energy efficiency. The priority technologies can be further classified into industry-specific or cross-cutting, which can be used in any industry. Screening criteria or procedure can be applied to further assess, short-list, and characterize the technologies with respect to the three factors such as energy efficiency, economics, and environmental performance. Sub-criteria may be used in technology prioritization such as size of target market, ease of application, urgency of need, etc.*

5. Comments: Assessment of component versus systems approach for EE is necessary for such a large scale intervention.

*Responses: The “component approach” is explained in Part II (Project Justification – A. State the issue, how the project seeks to address it, and the expected global environmental benefits to be delivered), which describes the project components; the “systems approach” is explained in Part II (Project Justification – B. Describe the consistency of the project with national and/or regional priorities/plans – Outline of coordination with other related activities), which illustrates further the coordination of the proposed GEF project with other donor-related activities and the climate change DPO.*

6. Comments: Financial analysis of incremental investments on EE systems and implications for profitability of industries is necessary.

*Responses: The best estimate of energy savings and GHG reductions are presented in Part II (Project Justification – B. Describe the consistency of the project with national and/or regional priorities/plans – Explain how cost-effectiveness is reflected in the project design). At this stage, the energy savings and GHG reductions can be only associated to the estimated investments in energy efficiency arising out of the pilot projects. During project implementation, more detailed bottom-up models will be constructed based on savings from specific types of energy efficiency measures arising out of the pilot voluntary agreements and sectoral action plans, and engineering formulas or algorithms will be used to estimate reductions in energy usage (ex-ante and ex-post evaluation). Likewise at this time, the financial analysis of investments on EE systems can be demonstrated only through previous experiences in similar industrial energy efficiency projects (as previously shown in Table 4).*

**ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT USING GEF RESOURCES**

<i>Position Titles</i>	<i>\$/ person week*</i>	<i>Estimated person weeks**</i>	<i>Tasks to be performed</i>
<b>For Project Management</b>			
Local			
• Financial management and procurement specialist	\$300	33.3	Provision of support to PMO in financial management and procurement
• Project management specialist	\$250	200.0	Provision of support to PMO in project management
• Program assistant	\$200	200.0	Provision of support to PMO in project administration
• M&E specialist	\$300	133.3	Provision of support to PMO in M&E activities
Justification for Travel, if any: Travel will be required for local site visits and field investigations, and/or international experience exchange.			
<b>For Technical Assistance</b>			
Local			
• Industry sector technical specialists	\$600	311.8	Provision of support to GEF international consultant(s) and consulting services for VNEEP-II parallel activities
International			
• Industry sector technical specialists	\$3,000	311.8	Formulation of energy efficiency action plan for key industry sectors
• Voluntary agreement specialist(s)	\$2,800	142.9	Development, implementation, and marketing of voluntary agreement mechanism
• Strategic planning specialist(s)	\$2,800	31.3	Coordination of strategic plans and supportive policy mechanisms
• M&E specialist(s)	\$2,800	25.0	Development and implementation of M&E activities
• ESCO specialist(s)	\$3,000	163.3	Development of energy service providers
Justification for Travel, if any: Travel will be required for local site visits and field investigations, and/or international experience exchange.			
Justification for consultants: The energy efficiency action plans and development of energy service providers are the selected mechanisms of the MOIT to support the VNEEP-II. The activities in these project components are highly technical requiring services of consultants with specialized skills both locally and internationally. The local consultants will work in close cooperation with international consultants in the adoption of international best practices to local conditions. The industry sectors benefit from the acquisition and application of knowledge from action plans, training programs, best practice or in-depth guidelines, etc., which can spur prioritization of energy efficiency investments.			

\* Provide dollar rate per person week. \*\* Total person weeks needed to carry out the tasks.

**ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS**

**A. EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN.**

Not applicable

**B. DESCRIBE FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION, IF ANY:**

Not applicable

**C. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:**

<i>Project Preparation Activities Approved</i>	<i>Implementation Status</i>	<i>GEF Amount (\$)</i>				<i>Co-financing (\$)</i>
		<i>Amount Approved</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>	<i>Uncommitted Amount*</i>	
Not applicable						
<b>Total</b>						

\* Any uncommitted amounts should be returned to the GEF Trust Fund. This is not a physical transfer of money, but achieved through reporting and netting out from disbursement request to Trustee. Please indicate expected date of refund transaction to Trustee.

**ANNEX E: CALENDAR OF EXPECTED REFLOWS**

Provide a calendar of expected reflows to the GEF Trust Fund or to your Agency (and/or revolving fund that will be set up)

Not applicable