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# USAID VIETNAM LOW EMISSION ENERGY PROGRAM (V-LEEP)

**Review of Energy Efficiency and Renewable Energy Funding Programs  
in Vietnam**

September 14, 2017

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# USAID VIETNAM LOW EMISSION ENERGY PROGRAM (V-LEEP)

## Review of Energy Efficiency and Renewable Energy Funding Programs in Vietnam

Prepared for:

USAID/Vietnam, Environment and Social Development Office

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## Acronyms and Abbreviations

<b>BIDV</b>	Bank for Investment and Development of Vietnam
<b>CFP</b>	Carbon Finance Program
<b>DCA</b>	Development Credit Authority
<b>EE</b>	Energy Efficiency
<b>EPC</b>	Energy Performance Contract
<b>ESCOs</b>	Energy Service Companies
<b>FI</b>	Financial Institution
<b>GHG</b>	Greenhouse Gas
<b>GVN</b>	Government of Vietnam
<b>IBRD</b>	International Bank for Reconstruction and Development
<b>IDA</b>	International Development Association
<b>IEs</b>	Industrial Enterprises
<b>MRV</b>	Monitoring – Reporting – Verification
<b>MOF</b>	Ministry of Finance
<b>MOIT</b>	Ministry of Industry and Trade
<b>PFI</b>	Private Financial Institution
<b>RE</b>	Renewable Energy
<b>PMB</b>	Project Management Board
<b>SBV</b>	State Bank of Vietnam
<b>SHB</b>	Saigon-Hanoi Commercial Bank
<b>TA</b>	Technical Assistance
<b>US</b>	United States
<b>USAID</b>	United States Agency for International Development
<b>USD</b>	United States Dollar
<b>V-LEEP</b>	Vietnam Low Emission Energy Program
<b>VCB</b>	Vietcombank / Bank of Foreign Trade of Vietnam
<b>VEEIE</b>	Vietnam Energy Efficiency Industrial Enterprise
<b>VND</b>	Vietnam Dong
<b>WB</b>	The World Bank

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The USAID Vietnam Low Emission Energy program (V-LEEP) is designed to assist the Government of Vietnam (GVN) in establishing an effective policy, regulatory, and incentive environment for low-emission growth in the energy sector, while simultaneously attracting public- and private-sector investment in renewable energy (RE) development and energy efficiency (EE). V-LEEP will promote the development of critical building blocks to scale up clean energy, such as accessible smart incentives for clean energy and EE investments, enabling a competitive environment for renewable energy generation, enhancing renewable power grid integration, and locational concentration of clean energy generation facilities.

Three essential Components structure the core tasks under V-LEEP: 1) Low emission energy strategy development; 2) Renewable energy development; and 3) Energy efficiency adoption and compliance. Deloitte has formulated a program of strategic interventions to strengthen the technical capacity of government officials, private sector players, and national policy initiatives that directly influence and catalyze investment in technologies, practices, and policies to support clean energy and climate change mitigation. These interventions will promote tangible reductions in greenhouse gas (GHG) emissions by supporting both private and public sector participation in clean energy development. V-LEEP also contributes to other relevant development objectives of the GVN such as poverty reduction, private sector development and investment, energy security, and energy access.

The scope of activities is summarized as follows:

#### Component 1: Low Emission Strategy Development for the Energy Sector

Task 1.1: Enhance Government of Vietnam (GVN) capacity to analyze and develop clean energy strategies, and evaluate emission mitigation options for decision making.

#### Component 2: Enhance Capacity and Improve Enabling Environment for Renewable Energy Development

Task 2.1: Enhance capacity of Vietnamese government institutions to improve the enabling environment for renewable energy (RE) development.

Task 2.2: Enhance capacity of RE developers and the private sector in large-scale RE development.

Task 2.3: Increase adoption of RE in industry.

#### Component 3: Increase Energy Efficiency Adoption and Compliance

Task 3.1: Enhance government capacity to strengthen EE policy implementation.

Task 3.2: Enhance EE in energy-intensive industry sectors.

## INTRODUCTION

The purpose of this report is to provide an overview of potential funding mechanisms for EE/RE projects in Vietnam as a means of educating program stakeholders, specifically industry stakeholders in textile, steel, and sugar, as well as energy service companies (ESCOs). The report reviews the following programs in detail for their potential to provide financial support to V-LEEP stakeholders:

- USAID/Development Credit Authority (DCA) Program
- Energy and Environment Partnership Mekong Programme (EEP Mekong)
- Vietnam Energy Efficiency for Industrial Enterprises Program (VEEIE, World Bank)

The report set out to answer to the following questions:

- (1) What is the general objective of each funding program?
- (2) What financing terms does the program offer?
- (3) What eligibility criteria does the program require of borrowers and EE/RE projects?
- (4) What is the application process?

By providing these answers to project developers, V-LEEP can assist them in identifying and arranging long-term and short-term financing for RE and EE projects in addition to the technical support provided under Components 2 and 3.

The report is organized into the following four sections:

**Section 1. Overview of EE/RE funding sources.** This first section includes a description of program objectives/strategy; target beneficiaries, financing mechanisms, GVN counterparts, and key contacts.

**Section 2. Financing terms.** This second section discusses the attributes of each financing package, including loan rates, maturity, currency, and conditions.

**Section 3. Eligibility criteria.** This third section describes how each program selects credit institutions as well as the eligibility requirements for EE/RE projects. An overview of disbursing procedures is included as well.

**Section 4. Application procedures.** This fourth section describes the steps to apply for support from each funding source. Additional information is provided in the annexes.

**Section 5. Recommendations.** The report suggests how financial institutions and project developers in Vietnam might want to consider participating in these financing mechanisms. In addition, it evaluates options for V-LEEP to help them do so.

## Section 1 OVERVIEW OF EE/RE FUNDING SOURCES

Table 1-1 lists the key components of each financing package, which are analyzed further in Section 1.1.

**Table 1-1: Key components of available EE/RE financing packages for the Vietnam market**

Program	Objective	Approach	Project Criteria	Financing Mechanism	Local banks
<p><b><u>Development Credit Authority</u></b></p> <p><b>Funding Source:</b> US Treasury</p> <p><b>Key Contact:</b> USAID, V-LEEP, DCA</p>	<ul style="list-style-type: none"> <li>Reduce risks associated with generating lending to underserved sectors</li> <li>Demonstrate long-term commercial viability of lending in developing markets</li> </ul>	DCA shall develop a partial credit guarantee to private financial institutions (up to 50%) to target (group of) borrowers	Small scale EE and renewable energy projects Large renewable energy projects	Partial guarantee up to 50%	SHB, VPBank, Citibank
<p><b><u>EEP Mekong</u></b></p> <p><b>Funding Source:</b> Ministry for Foreign Affairs of Finland</p> <p><b>Key Contact:</b> Bernhard MeyhoeferProgramme Manager</p>	<ul style="list-style-type: none"> <li>Increase and improve access of rural population to sustainable and affordable energy services and products in Cambodia, Lao PDR, Myanmar, Thailand and Vietnam</li> </ul>	EEP Mekong shall offer grants for project preparation phase and rewards based on project results	Demonstration projects Projects that have potential to be replicated Priority sectors are waste-to-energy and biomass Preference is given to projects with a Finnish partner	Project preparation, Financial support through results-based financing mechanism	N/a
<p><b><u>VEEIE</u></b></p> <p><b>Funding Source:</b> The World Bank</p> <p><b>Key Contact:</b> World Bank Hanoi, MOIT</p>	<ul style="list-style-type: none"> <li>Improve EE in Vietnamese industrial sector, contributing to achieving the government's EE and GHG reduction objectives</li> </ul>	A credit line of \$102 million shall be given to commercial banks (through the MOF) for on-lending to EE projects TA package offered to PFIs and MOIT	Energy efficiency projects with energy savings of at least 20% Projects/borrowers are selected by the commercial banks	Commercial loan and technical assistance	VCB, BIDV

### Section 1.1 Development Credit Authority

#### Objective

The Development Credit Authority (DCA) is USAID's legal authority to issue partial credit guarantees to private financial institutions to share the risk on loans to underserved borrowers or sectors. The objective of DCA is to (i) reduce risks to generate additional lending to underserved markets and sectors and (ii) demonstrate the long-term commercial viability of lending in developing markets.

#### Target beneficiaries

The DCA works with local private banks to provide credit guarantees to priority sectors/customers according to USAID development objectives. In 2003, DCA worked with the ACB and ECB providing guarantees to encourage SME lending at the two financial institutions. Since then, no other guarantee instruments have been initiated in Vietnam.

To evaluate DCA's suitability in Vietnam, a DCA official visited potential participants in April 2017. In the energy sector, DCA has the intention to develop energy-focused guarantees to boost commercial financial institutions lending into the sector. Among local commercial banks, DCA sees the most potential in partnering with VPBank and SHB, as well as Techcombank, VietinBank and VIB Bank. However, DCA will have to conduct due diligence for these banks before entering into any agreements.

Within the energy sector, V-LEEP can work with DCA to provide financial institutions with the following benefits:

- An increase in market share, competitive position and profits; and
- Profit from the supporting technical assistance program by USAID

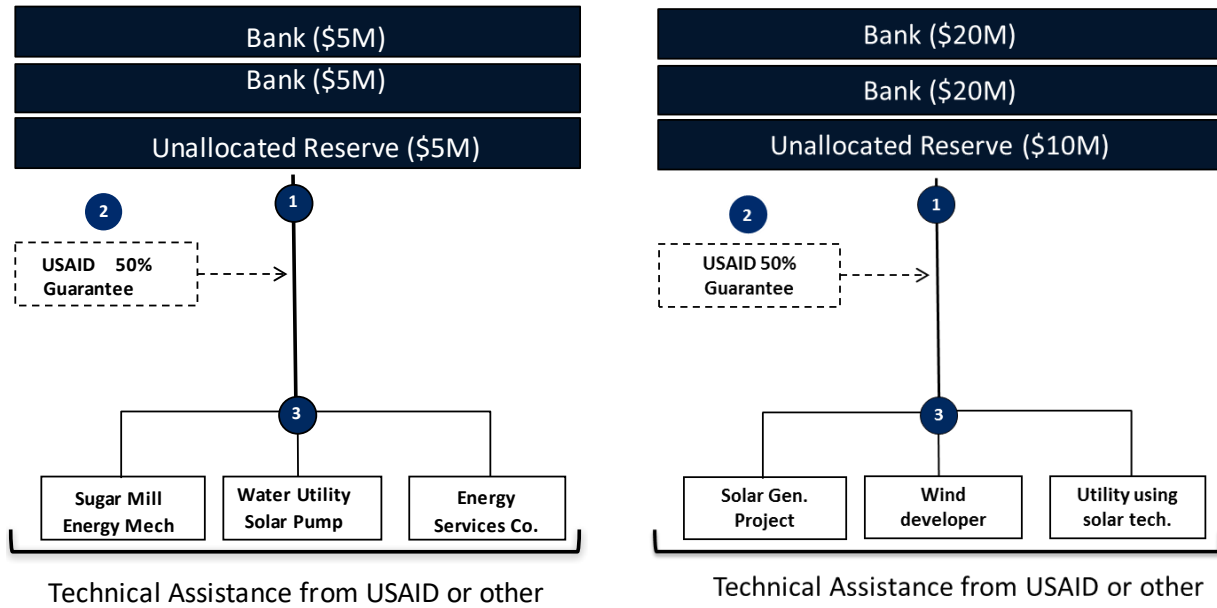
### **Implementation and financing mechanism**

In principle, DCA/USAID may enter into an agreement with local private financial institutions where it defines the scope of the loan and borrowers. Once the agreement is signed, DCA would provide partial guarantee of the lending to the borrower(s) if the loan falls under the scope of this agreement. USAID would then pay a maximum of 50% of the realized loss following receipt of claim from lender. However, it is not yet determined whether V-LEEP would approve the technical aspect of these projects.

Globally, DCA has offered three types of guarantees (including loan guarantees) for identified lenders and borrowers; loan portfolio guarantees for projects in an identified sector; portable guarantees for identified borrowers; and bond guarantees. In Vietnam, DCA intends to design a 7-year, \$15 million USD loan portfolio for small-scale renewable energy and EE projects in 2017 and a 15-year, \$50 million USD loan portfolio guarantee for renewable energy and EE projects.

The small loan portfolio guarantee is designed to enable lending on favorable terms to projects that align with V-LEEP technical assistance. During the first stage, preference is given to cogeneration projects in the sugar sector and projects with DPPA. The second stage will be initiated in 2018, and will focus on large scale projects with loans of up to \$5 million USD.

**Figure 1: Structure of Loan Portfolio Guarantee for Small Energy Projects (left) and Large Energy Projects (right)**



Under the mechanism, commercial banks will make loans to renewable energy projects, EE projects and project developers, and USAID will provide a 50% guarantee of loss of principal if the loan defaults. When borrowers repay their loans, in case of default, DCA will pay out 50% of loan principal.

In addition to financial support, local banks, borrowers and project developers shall receive technical assistance (TA) from USAID (possibly V-LEEP) on how to make these loans.

**Local institutions**

SHB and VP Bank may be appropriate partners for loan portfolio guarantee for small energy projects, and SHB and Citibank for large energy projects. However, since DCA/USAID and these banks have not signed any official agreement, the primary local point of contact remains USAID Vietnam through the V-LEEP program (John Bruce Wells, johnbwells@deloitte.com) and the DCA investment officer, Beth Adler (badler@usaid.gov).

## Objective

Funded by the Ministry for Foreign Affairs of Finland, the EEP Mekong Programme will run until 2018, and aims to increase its impact and effectiveness by narrowing its focus on increasing and improving rural population's access to sustainable and affordable energy services and products in Cambodia, Lao PDR, Myanmar, Thailand and Vietnam. The program seeks to provide greater access to energy services by fast tracking sustainable energy project demonstration and deployment and leveraging private sector investment.

## Target beneficiaries

The program targets both civil society organizations and private sector companies involved in clean energy. Civil society organizations may propose pilot projects on a smaller scale whereas private sector projects that seek support should be close to commercial maturity and have potential for scaling up. To date, the program has primarily supported bioenergy and waste-to-energy projects, but other renewable energy and EE projects are eligible for consideration.

## Implementation and financing mechanism

The program has two main financing incentives:

- **Grants:** Grants support the project preparation phase, which may include the preparation of feasibility studies (FS), cost-benefit analyses, business plan development, and environmental impact studies of sustainable energy projects. It is expected that effective preparation will help project developers approach potential funding sources in the next phase. The grant can be up to 80% of the costs of the FS. The capital investment should be at least €5 million.
- **Results-based financing mechanism:** Through the results-based financing mechanism, financial incentives are provided after predetermined milestones/results have been archived and verified. The total budget of the current phase is €9.1 million. The maximum amount of funding that a project can receive through this mechanism is €1,000,000

To facilitate transfer of know-how and technology in clean energy between the donor country (Finland) and the Mekong Region, preference is given to projects which involve a partnership between project developers in the Mekong Region and service providers in Finland.

## Local institutions

Funding is accessible by responding to calls for proposals, held annually. Application forms are available on EEP Mekong's official website.

Additionally, proposals may be sent directly to the Regional Coordination Unit Office at the address below:

6<sup>th</sup> floor – IREP Building - Ministry of Energy and Mines

Vientiane, Lao PDR

Attention: Bernhard Meyhoefer, Programme Manager Mobile: +856 (0) 20 54470146

Email: [bernhard.meyhoefer@eepmekong.org](mailto:bernhard.meyhoefer@eepmekong.org)

## Section 1.3 Vietnam Energy Efficiency Industrial Enterprises

### Objective

The Vietnam Energy Efficiency Industrial Enterprises program (VEEIE) is a World Bank program that aims to improve EE in the Vietnamese industrial sector, supporting progress towards the government's EE and GHG reduction goals. In addition to energy savings and GHG emissions reductions, the program also offers TA to increase the capacity of local banks and project developers to implement EE and RE projects. The TA portion of the program supports the development of a policy framework (EE circular for food processing industry) and a national database for industrial sectors and (Monitoring, Reporting, Verification) MRV tools.

Under the umbrella of VEEIE, the World Bank (WB) will design a carbon credit-based mechanism to encourage more participants. For each carbon credit generated, the WB will pay about \$4 USD (ten times higher than the market price) to GVN's Ministry of Industry and Trade (MOIT). MOIT will in turn use this fund to provide TA to project developers.

### Target beneficiaries

State owned and private industrial enterprises (IEs) are eligible to participate in the program as long as they have no cross-ownership with the private financial institution (PFI) providing financing. The project aims to support energy intensive industrial sectors with large energy saving potential including the steel, cement, textile, food processing, chemical, and pulp & paper industries. All IEs may participate regardless of size as long as they fulfill minimum demonstrated energy savings.

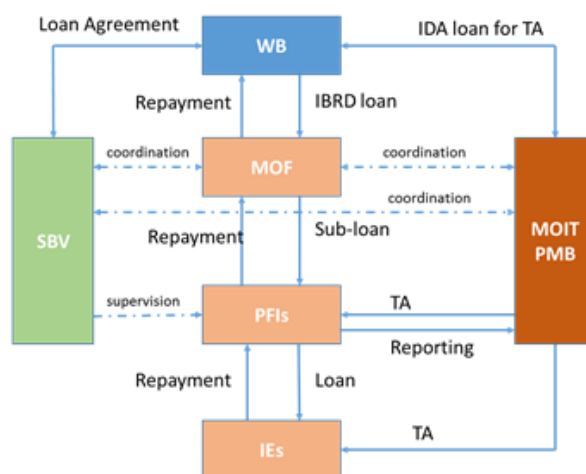
The program also targets ESCOs (including leasing companies) that provide a wide range of services to implement EE projects with performance based agreements under which end users pay for services from demonstrated energy savings.

### Implementation and financing mechanism

VEEIE has two components: (a) EE investment lending, where a \$102 million USD loan from WB's International Bank for Reconstruction and Development (IBRD) loan supports EE investments in IE through selected participating PFIs; and (b) a \$1.7 million USD International Development Association (IDA) loan to provide technical assistance (TA) and capacity building to MOIT, PFIs and industrial enterprises.

The aforementioned Carbon Finance Program (CFP) will be developed in parallel to provide additional financing resources for TA.

Figure 2: Project implementation arrangements



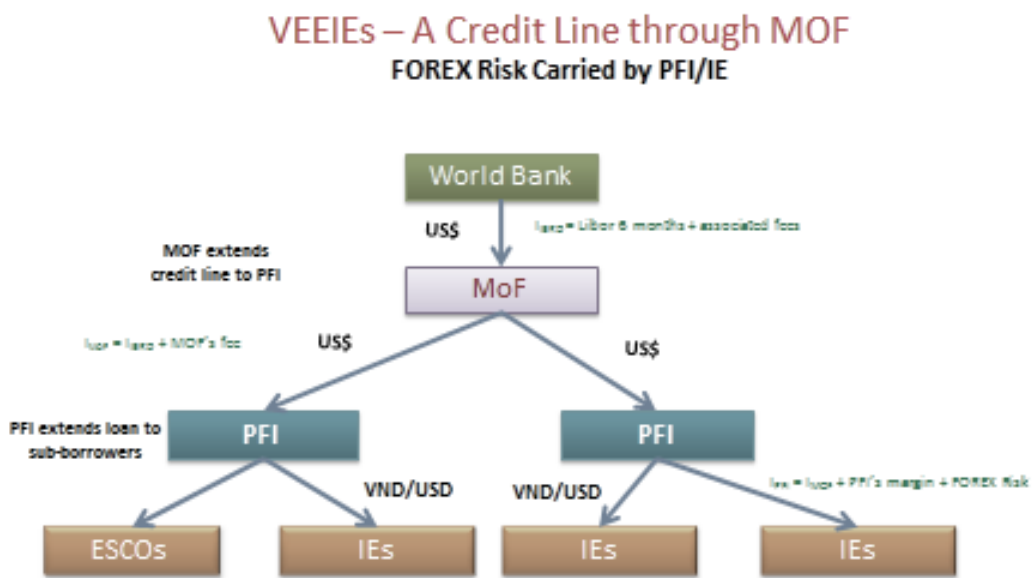
VEEIE will be implemented by MOIT and selected PFIs. The Project Management Board (PMB) will be established under MOIT will implement the project on behalf of MOIT. The PMB has two functions: (i) coordinate and supervise overall project implementation activities, including PFI performances, and (ii) manage all TA activities. The PMB will start their work in September 2017.

PFIs will supervise and monitor each industrial enterprise and their subproject(s) to ensure loan repayment and fulfillment of all other implementation criteria in line with the terms agreed in their subsidiary loan agreements. Technical, social, and environment experts contracted by the PFI will conduct due diligence of subprojects.

Project requirements will also impact the loan agreement between the PFIs and enterprises by requiring full adherence to the WB environmental and social safeguards policies.

IEs will approach PFIs with subprojects and PFIs will be fully responsible for subprojects appraisal and evaluation, assuming all associated risks. The PMB will identify highly qualified EE consulting service providers to help PFIs on independent review and verification, if necessary. IBRD funding will be routed to PFIs through GVN's Ministry of Finance (MOF).

**Figure 3: VEEIE financing mechanism**



A credit line of \$102 million USD channeled through the MOF was agreed between the MOIT, MOF and the WB. With this mechanism, the WB will provide the loan to the Government of Vietnam, represented by the MOF. The MOF will extend the loan to PFIs in USD with the same tenor, and the interest rate from the MOF to PFIs will be the IBRD rate plus a premium (0.25%) charged by the MOF for the cost of management. The PFIs can extend the loan to IEs in USD or VND. If the loan is in VND, the PFIs will carry FOREX risk and the interest rate to IEs shall be determined on a commercial basis by adding up the PFIs' margin and their FOREX risk premium. If the loan to IEs is in USD, PFIs will decide the interest rate to IEs, based on commercial basis by adding margin determined by its cost, subproject risk and sub-borrower's creditworthiness. The loan tenor to IE is agreed between the PFI and IE based on the type of EE and payback period of subprojects. PFIs can revolve loans according to their lending practices within the 10-year tenor.

**Local institutions**

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## Section 2 FINANCING TERMS

The financing terms of the three funding sources are summarized in the table below, with details provided in Section 2.1.

**Table 2-1: Summary of indicative financing conditions to end-borrowers**

Institution	Financing instrument	Fund size (USD)	Tenor	Average sub-loan size	Interest rate
Development Credit Authority	Portfolio Guarantee	\$15M (2017)	7 years	\$500,000	n/a
	Portfolio Guarantee	\$50M (2018)	15 years	\$5,000,000	n/a
EEP Mekong	Grant	€9.1M	< 1 year	Up to 80%	n/a
	Results-based financing		Depends on project	Up to 49% of project size	n/a
VEEIE	Loan	\$102M	Maximum 10 years	Negotiated (between banks and borrowers)	Negotiated (between banks and borrowers)
	TA	\$1.7M	2017-2021	n/a	n/a

### Section 2.1 Development Credit Authority

The guarantee is backed by the full faith and credit of the US Treasury. The guarantee is for non-sovereign debt only. This is typically a 50% partial guarantee on loan principal in either local and/or foreign currency. For individual loans placed under loan portfolio guarantee, the pre-approval is not required. In addition, the guarantees may be paired with USAID or other technical assistance projects that can strengthen the borrower's ability to repay and support the financial institution's lending capacity in a new sector. The indicative terms of the two-loan portfolio guarantee that DCA proposes for the energy sector in Vietnam are provided below.

**Table 2-2: DCA Financing terms**

	Loan portfolio guarantee for small scale energy projects	Loan portfolio guarantee for large scale energy projects
<b>Fund size</b>	\$15,000,000	\$50,000,000
<b>DCA Coverage</b>	50%	50%
<b>Guarantee Ceiling</b>	\$7,500,000	\$25,000,000
<b>USAID Subsidy</b>	\$900,000	\$2,900,000
<b>Local Lender</b>	Possibly SHB, VPBank	Possibly SHB, Citi
<b>Length of DCA's loan guarantee program</b>	7 years	15 years
<b>Average sub-loan Length</b>	3 years	8-12 years
<b>Average sub-loan size</b>	\$500,000	\$5,000,000
<b>Qualifying borrowers</b>	Small RE or EE projects and services companies	Wind, solar, mini hydro, or biogas projects

The proposed guarantee offered by DCA will be suitable for EE projects in high energy consuming sectors. With an average sub-loan size of \$500,000, the technical focus could be to upgrade high efficiency technology and equipment (motors, compressors, and refrigeration systems), to implement energy management systems, and to install more efficient boiler systems or biomass-based boilers; while the large-scale project portfolio could support renewable energy projects. Technical assistance from V-LEEP could help lenders increase their capacity to make clean energy loans, and borrowers to increase their capacity to develop and implement clean energy projects that will help their businesses become more efficient.

V-LEEP plans to incorporate this support into its FY2018 Work Plan. The details of this support are subject discussion with DCA in the near term.

## Section 2.2 EEP Mekong

**Table 2-3: Financial incentives under EEP Mekong**

Project size up to	Maximum Co-funding	Maximum contribution over total project budget
€500,000	€245,000	49%
€1,000,000	€400,000	40%
€1,500,000	€525,000	35%
€2,500,000	€625,000	25%
€5,000,000	€750,000	15%
€10,000,000	€1,000,000	10%

EEP Mekong offers results-based financing incentives with a maximum contribution of up to 49% of project budget for projects up to ten million EUR. The program targets demonstrations and pilot projects (implementation less than 12 months) with potential for replication on a commercial scale. Each year, the program calls for proposals from project developers in the Mekong delta (1 for project preparation support and 1 for financial support). Previous projects supported include demonstration projects such as a household biogas digester (220,000 EUR), market introduction of a biogas digester (286,000 EUR), support for FS and development plan of an electricity system fed by RE in Quang Ngai (50,000 EUR), and a biogas energy and solar heater at a slaughter and foodstuff facility (500,000 EUR). Although the projects selected by the program so far are exclusively biogas and waste-to-energy, EE projects are also considered if appropriate.

## Section 2.3 Vietnam Energy Efficiency for Industrial Enterprises

The credit line under VEEIE does not go directly from the WB to lenders and end users. Instead, funds from the WB are transferred to GVN, MOF; it is therefore considered a sovereign loan. The MOF uses this credit line dedicated to EE to give on-lending to selected PFIs, which are required to pass the due diligence of the MOF. These PFIs can only obtain refinancing from IBRD loans for EE projects if these projects meet the refinancing requirements. As of May 2017, the PFIs selected to participate in the VEEIE program are Vietcombank and BIDV. Initially, Sai Gon-Hanoi Commercial Bank (SHB) was also selected, but did not receive final approval. During the project implementation, more PFIs may be added to the list if they pass the aforementioned due diligence procedures.

**Table 2-4: Summary of VEEIE credit flow and financing conditions**

	<b>Credit line from WB to GVN (MOF)</b>	<b>Credit line from GVN to PFIs</b>	<b>Credit line from PFIs to end users</b>
<b>Fund size</b>	\$102 million USD	\$102 million USD	\$102 million USD
<b>Interest rate</b>	IBRD rate = LIBOR rate (6 months) plus front-end (0.25%) and commitment fees (0.25%) Example: As of April 2017: <b>IBRD rate = LIBOR rate</b> 1.45% + 1.05% = <b>2.5%</b>	Management fee of MOF (0.25%) (Example: As of April 2017: IBRD rate + management fee MOF = 2.5% + 0.25% = <b>2.75%</b>	Negotiated/depends on type of projects
<b>Currency</b>	USD	USD	USD and VND
<b>WB Grant</b>	\$1.7 million through TA to GVN, PFIs and IEs.		
<b>Maturity</b>	10 years	10 years (with grace period of 5 years after VEEIE effective)	Negotiated/depends on type of project Maximum 10 years
<b>Qualifying borrowers</b>	Ministry of Finance State Bank of Vietnam	VCB BIDV Others that pass due diligence (See Section 3)	All IEs that pass the requirements (See Section 3)

PFIs are able to refinance eligible EE projects from the VEEIE Credit Line. PFIs also commit their own funds to each subproject. A maximum of 80% of the amount borrowed by an IE for an eligible EE project from a PFI is eligible for refinancing under the credit line. The contribution of a PFI's funds to the project is encouraged and flexible based on actual conditions, but is not mandatory.

PFIs are responsible for repayment of all principal and interest on their loans to the MOF and will bear all financial and credit risk (and FX risk if on-lending to IEs is in VND) associated with the loan. PFIs will supervise and monitor the IE and their subprojects to ensure repayment of the loan in line with the agreed terms. The loan contract between PFIs and IE requires reporting of information on a regular and timely manner as a condition attached to the loan. PFIs use such reports to assist in the management of their credit exposure and to satisfy reporting requirements to the PMB.

One of the main objectives of VEEIE is to pass responsibility for commercial financing and credit decisions from the GVN to the private sector, with limited involvement of the MoIT and MOF in determining lending rates. Lending terms and conditions are negotiated between PFIs and sub-borrowers, which is standard practice for private sector borrowing. The interest rate varies in each specific case and is not fixed. However, as commercial banks receive a sustainable credit line from the MOF with an interest rate of less than 3%, project developers may be able to access a better loan (longer term, more technical support, more sustainable credit lines and perhaps lower interest rate than market price) depending on the type of project and project developers. Loans from the MOF to PFIs have a 10 year maturity and are denominated in USD. Loans from PFIs to sub-borrowers may be disbursed either in VND or USD in compliance with government regulations. The loan maturity defined by PFIs and sub-borrowers depends on the type of EE subprojects, but shall not exceed 10 years. PFIs determine the interest rate to IEs on a commercial basis by adding a margin determined by cost, subproject risk and the sub-borrower's creditworthiness. PFIs may revolve loans according to their lending practices within the 10-year tenor.

## Section 3 ELIGIBILITY CRITERIA

### Section 3.1 Development Credit Authority

DCA's goal is to influence FI decision making and behavior and encourage FIs to lend to a new type of borrower, develop a new product, lend to a new geography, or lend on improved terms. DCA partial credit guarantees are designed to unlock credit beyond the life of the guarantee agreement. In energy sector, DCA will support FI makes money in a new type of lending to energy projects that is supported by a guarantee. The FI will continue lending without the guarantee, deepening the available credit for clean energy projects. Once other FIs observe DCA's partner developing a profitable business line, they will also enter the market. This cycle of demonstration will lead to more developed financial markets and higher levels of economic growth.

#### **Additionality**

A key assumption driving this model is that the DCA guarantee drives capital market growth by pushing the FI to do something it would not have done without the guarantee. If the FI were to make the same loans to the same borrowers with and without the guarantee, the guarantee would not foster increased access to capital and capital market development, which is DCA's primary goal.

#### **Project Eligibility criteria**

For the loan portfolio guarantee, DCA relies on its local lenders to conduct due diligence for the borrowers and select the right project. However, lending to new type of borrowers and projects may need a lot of capacity building and trainings for FI. Thus, in the first stage, DCA needs to collaborate with a TA to successfully implement the loan portfolio guarantee. The TA may consider helping the pre-check and post check of the project results.

#### **FI Eligibility criteria**

- DCA only provides guarantees for non-sovereign debt
- FI must not be state owned
- FI must pass due diligence conducted by DCA
- FI shall enter into an agreement with DCA on specific loan guarantee products
- FI will develop and implement the loan with its own funding sources

### Section 3.2 EEP Mekong Programme

As the program offers two types of financing there are two sets of eligibility criteria: one for project preparation support and one for the results-based financing mechanism. The Program Board will select the projects to support based on their evaluation of project proposals. A summary of evaluation criteria is provided in the table below:

**Table 3-1: Eligibility criteria for EEP Mekong Program**

	<b>Project Preparation Support</b>	<b>Results-based financing mechanism</b>
<b>Applicant</b>	All project developers	Civil society association Private sector
<b>Technical focus</b>	Clean energy sector, with priority given to bioenergy and waste-to-energy technology. Other such as RE and EE will be considered as well In accordance with the national clean energy policies and priorities	Biomass, biofuels, biogas Hydropower (up to 10MW), solar (PV and thermal), wind Energy efficiency/conservation, waste-to-energy, hybrid (a combination of one or more technical focuses)
<b>Duration</b>	n/a	Project implementation period is limited to 12 months
<b>Project size</b>	The program will consider funding for FS of projects with a minimum capital investment of 500,000 EUR	For small and medium size projects developed by NGP, civil society association: up to 60% of the project value, with the minimum size of proposed projects set at 200,000 EUR. For projects developed by the private sector, the minimum size of the project is 250,000 EUR. EEP grant portion is capped at 1,000,000 EUR.
<b>Basic criteria</b>	Demonstration of financial needs Partnership with companies from Finland Qualified experts to conduct FS Submission of all required forms (cost breakdown, concept note) Funding from a potential financier (priority given to Finnfund, MFA) Development impact	Additionality must be justified The basic eligibility criteria are respected (eligible partners, type of projects activity, technical focus, maximum implementation period, geographical area, minimum self-financing ratio set for the investment) Submission of all required forms Sustainable impact, potential for scaling up For projects that are developed by the private sector, the results are: <ul style="list-style-type: none"> <li>- Increased access to sustainable energy services</li> <li>- Increased renewable energy generation or energy savings</li> </ul>
<b>Other</b>	Project developers are strongly encouraged to contact public or private sector funding institutions to discuss funding for the project.	Partnership with Finnish partner is an advantage

## Section 3.3 Vietnam Energy Efficiency Industrial Enterprises

### Section 3.3.1 Eligibility of Financial institutions

PFI's can only obtain refinancing from IBRD loans for EE projects if these projects meet the refinancing requirements. The PFI's selected to participate in the VEEIE are the Bank of Foreign Trade of Vietnam (Vietcombank) and the Bank for Investment and Development of Vietnam (BIDV).

PFI's are required to fulfill a set of minimum criteria throughout the life of the project in order to participate (listed below). MOIT/MOF/SBV and WB will monitor the performance of PFI's against these minimum criteria on an annual basis during project implementation.

**Table 3-2 Minimum criteria for FI's under VEEIE**

No.	Criteria	Description
1	Experience in EE Financing	The PFI must demonstrate its experience in EE financing by stating number of projects financed and names of projects.
2	EE Financing Strategy and Pipeline	The PFI strategy must include EE financing. The bank must demonstrate an EE subproject pipeline, the PFI can only be formally selected and sign the Project Agreement with the WB if it has EE subprojects ready for financing.
3	Minimum Share Capital	The bank must have a minimum chartered capital of [VND 2 trillion].
4	Minimum Share Capital	The bank must have a minimum of [30] branches (Tier 1) with good geographical coverage in Vietnam.
5	IFRS Accounts	The bank must have unqualified audited accounts which are audited by one of the major international firms for the past two years.
6	Compliance with all SBV Regulations	The PFI must be licensed by the SBV and be in compliance with all the SBV regulations and banking law.
7	Corporate Governance	The PFI must have in place a management structure with clear segregation of duties between the Supervisory Board and the Management Board as well as a good corporate governance process in full compliance with the requirements of SBV Decree 59/2009/ND-CP (and any subsequent revised versions of this regulation).
8	Loan Classification and Provisioning	The bank must be in compliance with Current Decision 493 and any subsequent revised version of this regulation (Circular 02) of the SBV in relation to the classification and provisioning of its loan portfolio.
9	Maximum Level of Non-Performing Loans	Total nonperforming loans (defined as all loans in excess of 90 days overdue) must be less than [7%] of the total loan portfolio according to SBV regulations.
10	Minimum Level of Provisions	The PFI must have sufficient provisions in place against non-performing loans in accordance with SBV regulations.
11	Shareholders Funds	The level of shareholders' funds to total risk of weighted assets must be no less than 9%, per the requirements of SBV Circular No. 36/2014/TT-NHNN dated November 20, 2014, and any subsequent revisions.
12	Liquid Assets	The bank must have liquid assets in excess of 15% of liquid liabilities as defined in SBV Circular No. 36/2014/TT-NHNN dated November 20, 2014, and any subsequent revisions.
13	Liquidity	Total loans should not be in excess of [80%] of all mobilized funds.
14	Profitability	The bank should have a return on equity of at least 10% and a return on assets in excess of 0.5%.

If during VEEIE implementation, a PFI cannot meet the Minimum Criteria, it will no longer be eligible to draw down the line of credit under the project. Any sub-projects already funded by such a PFI will continue to be

funded by the VEEIE, but no new projects will be eligible for financing until the PFI returns to fulfillment of the minimum criteria. If the PFI would like to re-enter the project, they must develop an Institutional Development Plan (IDP) to be approved by the MOF, SBV, MOIT, and the WB, which would be monitored on a bi-annual basis by the MOF, MOIT, and the WB to ensure progress. If the PFI does not fulfill the eligibility criteria within one year of implementation of the IDP, the PFI will be suspended from the project.

Each PFI signs an SLA with the MOF. The SLA includes refinancing requirements and under these SLA, loans for EE projects approved under VEEIE can be refinanced. During project implementation and depending on project needs, MOIT/MOF may decide to select additional PFIs to participate in VEEIE.

### Section 3.3.2 Eligibility of EE/RE projects

**Table 3-3: Eligibility criteria of EE and RE projects under VEEIE**

Requirements for:	Description
<b>Applicant</b>	<p>State owned and private IEs are eligible to participate in the program as long as they do not have cross-ownership with the PFI to which they apply for a loan. The project aims to support IEs with large energy savings potential. All IEs can participate, regardless of size.</p> <p>ESCOs (including leasing companies), which are companies that provide a wide range of services to implement EE projects with performance-based agreements under which the end users pay for these services from demonstrated energy savings, are also eligible to participate in VEEIE.</p> <p>Only loans for EE projects to eligible IEs/ESCOs can be refinanced. An IE/ESCO is eligible if:</p> <ul style="list-style-type: none"> <li>▪ IE/ESCO has registered and operated in accordance with Vietnam regulations and laws; and</li> <li>▪ IE meets the requirements of the PFI under normal commercial practice for a similar type of loan.</li> </ul>
<b>Technical focus</b>	<ul style="list-style-type: none"> <li>▪ Replacement of inefficient industrial technologies with energy saving technologies such as more efficient industrial boilers, kilns, and heat exchange systems;</li> <li>▪ Recovery and utilization of by-product gas, waste heat and pressure;</li> <li>▪ Installation of highly efficient mechanical and electrical equipment, including lighting motors, pumps, heating and ventilation equipment;</li> <li>▪ Industrial system optimization to reduce energy use;</li> <li>▪ Building EE in industrial sectors, including lighting, HVAC (heating, ventilation, and air conditioning);</li> <li>▪ Building envelopes (insulation for roof, walls, windows, doors), renewable energy in buildings (roof-top solar PV, solar water heaters, and heat pump); and</li> <li>▪ Other projects agreed by the Bank.</li> </ul>
<b>Duration</b>	Less than 10 years
<b>Project size</b>	No requirement
<b>Basic criteria</b>	<p><b>Energy savings:</b> Energy savings must be a minimum of <b>20%</b>. Lower may be accepted for specific sectors with advanced energy technologies (subject to approval by WB).</p> <p><b>Project IRR:</b> Project IRR must be higher than <b>10%</b>. The cash flow from energy savings associated with the project must be able to repay the total investment cost of the project within 10 years</p> <p>Project must be economically justified and financially viable.</p>
<b>Other</b>	<p>All WB eligibility and safeguards criteria are fulfilled by the IE including:</p> <ul style="list-style-type: none"> <li>▪ Procurement</li> <li>▪ Environment impact assessment</li> <li>▪ Environmental and Social Management Framework</li> </ul>

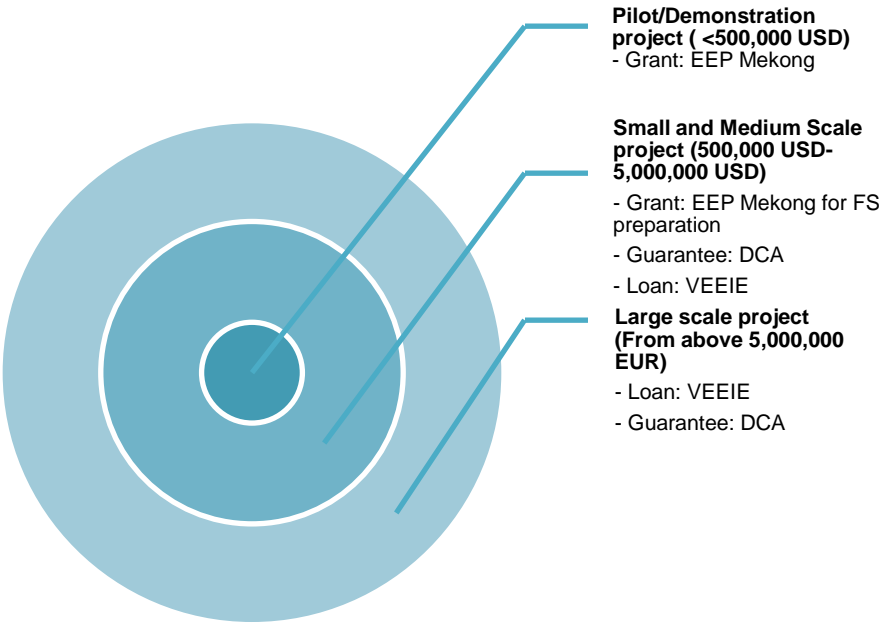
Requirements for:	Description
	<ul style="list-style-type: none"> <li>▪ Resettlement Policy Framework</li> <li>▪ Ethnic Minority Planning framework</li> <li>▪ Monitoring and Evaluation Plan</li> </ul>

The Technical Evaluation Framework will be used by PFIs in evaluating individual subprojects that are to be considered for EE lending. The framework defines the contents, procedures and responsibilities for technical evaluation of subprojects, to ensure that:

- Industrial EE projects are in compliance with Vietnamese industrial and technical policies and regulations;
- Building EE projects are in compliance with or exceed Vietnamese building codes;
- Projects fully satisfy technical eligibility criteria; and
- Projects are technically feasible, reliable and efficient contributing to improvements in energy EE and realization of energy savings.

As this is a long-term loan (up to 10 years) where energy savings must be at least 20% of the project costs, it is likely that the WB will favor medium and large-scale EE projects such as waste heat recovery projects in heavy industries (steel, cement, etc.) and upgrading systems (refrigeration, boiler systems, etc.) for more efficient and renewable energy use in buildings. In addition, considering the extensive procedures of WB and the associated costs that IE must bear to conform with all WB’s requirements, it is likely that small and medium scale projects will not be selected for participation.

**Figure 4: Recommendation of financial package based on size of project**



**Figure 5: Recommendation of financial package based on technology focus**

**DCA**

**Guarantee plus Technical Assistance**

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- Co-gen in sugar industry
- Solar pumps/Energy efficiency projects/WHR
- ESCO
- Renewable: Wind, Solar

**EEP Mekong**

**Grant and results-based financing mechanism**

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- Biogas
- Wate-to-energy

**VEEIE**

**(Soft) Loan plus Technical Assistance**

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- Waste heat recovery
- Boiler systems
- Refrigeration systems
- Renewable energy in buildings (Solar roof-top)

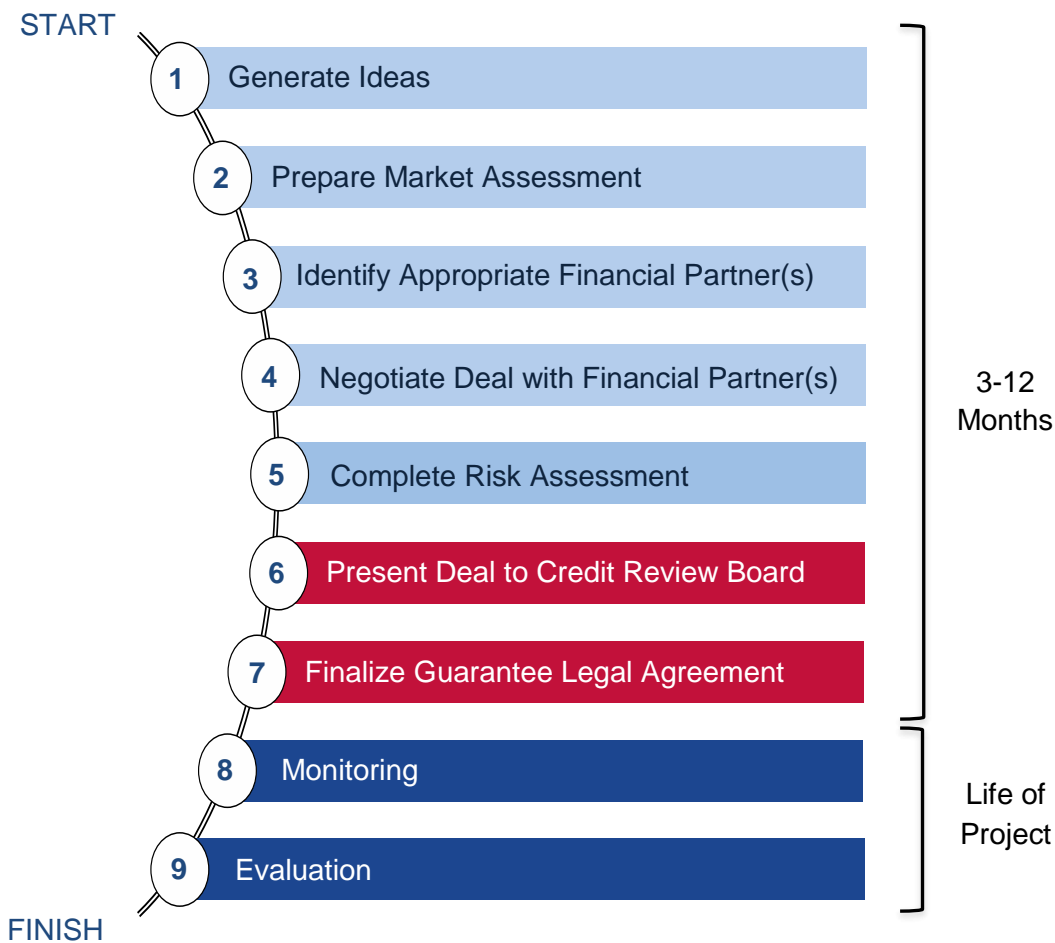
## Section 4 APPLICATION PROCEDURES

### Section 4.1 Development Credit Authority

DCA is working with commercial banks in Vietnam to co-develop the suitable financing products from SME.

The guarantee process is summarized below:

Figure 6: DCA guarantee process



The selection of sub-projects will follow commercial banks' procedure.

### Section 4.2 EEP Mekong Programme

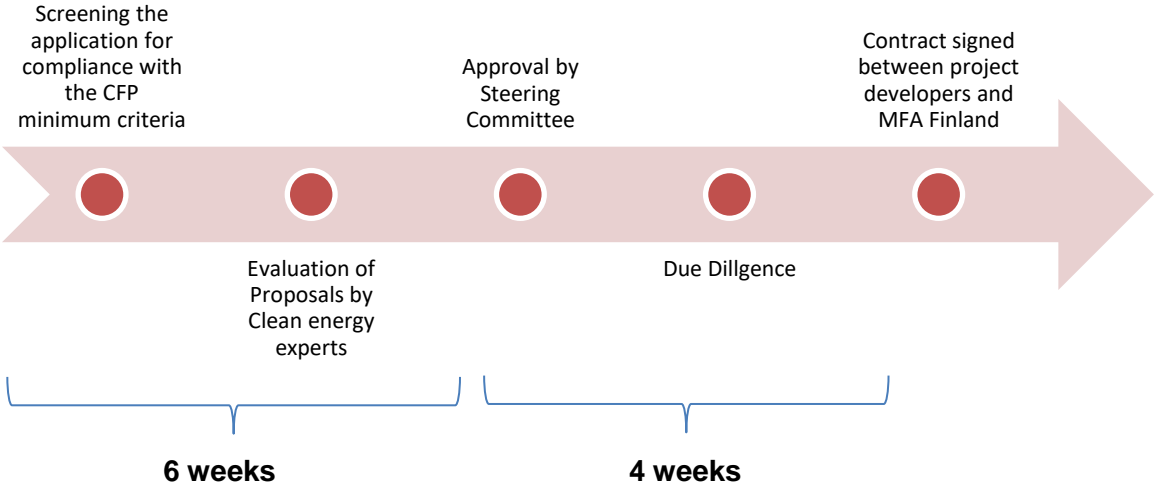
The applicant should submit their proposal online with the following attachments:

- Partnership commitment letter or Memorandum of Understanding
- Business/trade registration of private company in country of origin
- Auditor's reports from past three years
- Certificate of taxes and other legal financial obligations paid
- Description of prior experience relevant to the proposal
- Work plan (following template from EEP Mekong)
- Budget form (following template from EEP Mekong)

Each year, the program makes a call for proposals and establishes a due date for project developers to submit all required materials. Submitted applications are pre-screened by the RCU technical assistance

team for completeness and basic eligibility. The Embassy of Finland (EoF) in Hanoi will review proposals for compliance with the Finnish development policy. After that, proposals are evaluated by clean energy experts. Finally, the EEP Mekong Steering Committee makes final decisions on which projects will be approved to receive EEP funding, and signs a contract with MFA Finland. In total, the process takes about 10 weeks from submission of application to contract signature.

**Figure 7: Application timeline for EEP Mekong Program**

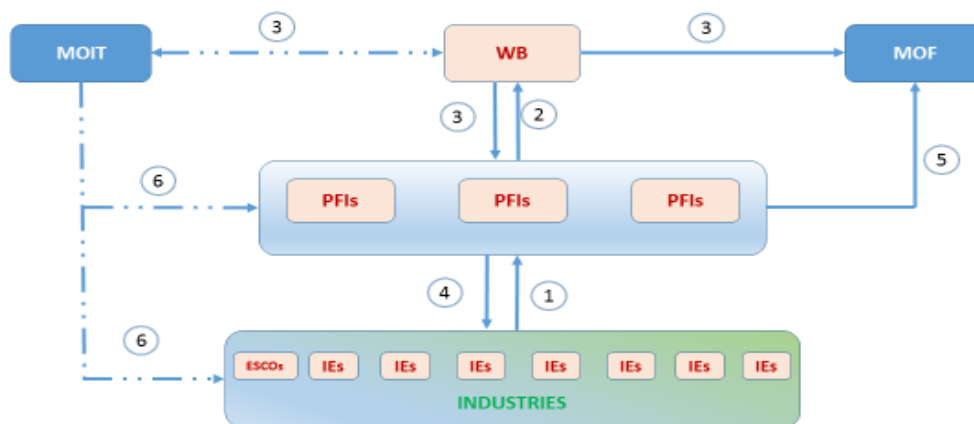


The evaluation criteria for proposals is included in the Appendix.

**Section 4.3 Vietnam Energy Efficiency Industrial Enterprises**

The PFI must prepare a financing plan for each year and submit to the WB/MOIT/MOF by January 15 including a list of EE subprojects, total investment costs, loan amounts that will be financed by IBRD, and IE self-financing amount.

**Figure 8: Review procedures for projects with total investment exceeding 500,000 USD**



Details of review procedures are illustrated in the following table:

**Table 4-1: Details step for loan application under VEEIE (investment cost higher than 500,000 USD)**

No.	Description	Conducted by	Application package	Capacity required
<b>Step 1</b>	Screen project against eligible criteria (Section 3)  Prepare and submit loan application to PFI	Industrial enterprises	Loan application includes: <ul style="list-style-type: none"> <li>▪ FS</li> <li>▪ Technical design</li> <li>▪ Energy savings calculation (and energy audit)</li> <li>▪ Procurement plan</li> <li>▪ Economic and financial analysis</li> <li>▪ Environmental and social safeguard</li> </ul>	Technical design and energy savings calculations must be carried out by qualified engineering institutions licensed by the relevant government agency. An independent engineering firm must verify the project design and energy saving calculation of the subproject.
<b>Step 2</b>	Screen project against eligible criteria and prepare refinancing application package  Submit to WB for No objection	Financial institution	RAO consists of: <ul style="list-style-type: none"> <li>▪ Refinancing request</li> <li>▪ Refinancing application summary which addresses all issues including: basic information, eligibility of sub-borrowers, eligibility of the EE sub-project, retroactive financing, lending terms loan agreement, procurement, technical requirements, environmental safeguard framework, Resettlement Policy Framework, Ethnic Minority Planning framework, economic requirements</li> <li>▪ All required documents to justify the RAS.</li> <li>▪ Request for No Objection Letter to WB</li> <li>▪ PFI refinancing requirements checklist</li> </ul>	

No.	Description	Conducted by	Application package	Capacity required
<b>Step 3</b>	WB will review the financing package submitted for No objection	The WB	n/a	n/a
<b>Step 4</b>	PFI informs IE if the sub-project is approved to be refinanced from VEEIEs	Financial institution		
<b>Step 5</b>	Disbursement	Financial institution		
<b>Step 6</b>	Monitoring	MOIT		

#### Post-review procedures for projects with investment cost less than 500,000 USD

Subprojects will be screened and appraised by PFIs and do not need to go through the WB no objection process. If the EE subproject meets all requirements, PFIs can disburse funds to the subproject and monitor subproject implementation in accordance with the OM.

The MOIT and the WB will carry out post-review procedures. Twenty percent of total subprojects that have investment costs equal or less than US \$500,000 USD will be reviewed to verify that all requirements are met and energy saving performance estimates are accurate. If any subproject that does not fully meet the requirements, the disbursed amount must be returned to the IBRD designated account.

**Table 4-2: Details step for loan application under VEEIE (investment cost less than 500,000 USD)**

No.	Description	Conducted by	Application package	Capacity required
<b>Step 1</b>	Screen project against eligible criteria (Section 3)  Prepare and submit loan application to PFI	Industrial enterprises	Loan application includes: <ul style="list-style-type: none"> <li>▪ General description of the subproject scope and sub-borrower</li> <li>▪ Objective and justification for the subproject</li> <li>▪ Summary of subproject technical assessment</li> <li>▪ Baseline energy consumption data and projected subproject energy savings</li> <li>▪ Environmental impact assessment, and status of required government approvals</li> <li>▪ Estimated subproject investment costs and financing plan.</li> <li>▪ Subproject feasibility study</li> <li>▪ Government approvals for subproject implementation (if required),</li> <li>▪ Government environmental approvals</li> <li>▪ Other relevant documents such as a baseline energy audit report</li> </ul>	Technical design and energy savings calculations must be carried out by a qualified engineering institution licensed by the relevant government agency. An independent engineering firm must verify the project design and energy saving calculation of the subproject.

No.	Description	Conducted by	Application package	Capacity required
<b>Step 2</b>	The PFI will conduct the initial sub-loan review	Financial institution		For the purposes of EE sub-loan application review, the PFI's Review Team may include, among others, an EE expert responsible for technical due diligence and energy savings measurement and verification (M&V) and an environmental specialist.
<b>Step 3</b>	PFI informs IE if the sub-project is approved to be refinanced from VEEIEs	Financial institution		
<b>Step 4</b>	Disbursement	Financial institution		
<b>Step 5</b>	Monitoring and Verification	MOIT		MOIT should have adequate capacity to monitor the energy savings

## Section 5 RECOMMENDATIONS

To assess which programs are most suitable for Vietnamese enterprises, and to inform V-LEEP consideration of which ones to support, the project conducted a SWOT analysis that is summarized below.

**Table 5-1: SWOT analysis for DCA package for clean energy**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>▪ <b>Product:</b> A well-structured financial product backed by a strong organization that will help project developers to avoid using their assets for collateral purposes.</li> <li>▪ <b>International Experience:</b> Experience in leveraging funds for clean energy projects in other countries.</li> <li>▪ <b>Support to project developers:</b> Support from TA program of USAID (V-LEEP)</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Strict requirements for commercial banks:</b> DCA requires that commercial banks (non-state owned) satisfy a strict set of conditions.</li> <li>▪ <b>Support to commercial banks:</b> Purely TA</li> <li>▪ <b>Domestic experience:</b> Little experience working in Vietnamese clean energy sector, hence limited knowledge of the DCA and the program by the stakeholders.</li> <li>▪ There is a risk that the commercial banks the DCA works with are not the banks that provide credit lines to energy projects.</li> <li>▪ Other weaknesses for renewable energy with high investment requirements include:<sup>1</sup> <ul style="list-style-type: none"> <li>– Loan tenure (5-7 years) is too short</li> <li>– Interest rates are too high</li> <li>– Required equity ratios are too high</li> <li>– Collateral requirements are too high</li> </ul> </li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>▪ <b>The market for clean energy is expanding:</b> More and more projects will need financial support in the near future when the market for clean energy and EE is booming.</li> <li>▪ <b>Clearer legal framework:</b> More strict and effective legal framework for EE projects and encouragement from the GVN for renewable energy projects.</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Few commercial banks satisfy the requirements from the DCA</b> to enter into agreement.</li> <li>▪ <b>The commercial banks don't have sufficient knowledge and resources</b> to initiate a credit line solely for EE and RE projects.</li> <li>▪ <b>V-LEEP, with its limited resources,</b> will only provide limited assistance to the program if it does not see the clear benefit of their projects.</li> </ul>

### DCA Next Steps:

1. Identify some potential commercial banks and investment funds that want to expand their product portfolio to clean energy (for example: Waste heat recovery, boiler options, etc.), especially in the industries that V-LEEP has signed Project Assistance Document (except sugar industry which is not familiar with SHB).
2. Discuss further collaboration between V-LEEP and DCA to support some identified commercial banks/funds in capacity building for potential projects (financial modelling, risk management, M&V plan, pre-check and post-check) (See Section 5.1).

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<sup>1</sup> Stakeholder consultation with banks and sugar industry by Component 2

**Table 5-2: SWOT analysis for EEP Mekong Program (Grant and Results based mechanism)**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>▪ <b>Experience in VN clean energy sector:</b> The program began operation in 2009. Since then, many Vietnamese pilot projects have received funding through the program.</li> <li>▪ <b>Product:</b> The grant and the results-based mechanism have proven successful for small-scale and pilot projects. This year, the program also offered a grant covering up to 80% of the cost of the feasibility study for a project that was of interest to Finnish institutions.</li> <li>▪ The project developers can deal directly with the program manager, which minimizes the bureaucratic burden.</li> <li>▪ The program can offer TA to project developers through its channel of international experts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Need to have a Finnish partner:</b> This program requires that the project has a Finnish partner.</li> <li>▪ <b>The scope of project is limited:</b> Not all clean energy projects should apply. This year, the program gave priority to waste-to-energy, biogas, and biomass related projects.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>▪ <b>Pilot projects in solar sector:</b> With the expansion of the solar market in Vietnam recently, there may be more pilot projects in the near future.</li> <li>▪ <b>Biomass based boilers in the textile and pulp &amp; paper sector:</b> For the textile and pulp &amp; paper sectors, the GVN will soon release circulars to regulate MEPS (Minimum Energy Performance Standards), thus, the need for biomass projects in these sectors will likely increase in the near future.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The design of this program is unique amongst funding programs for small scale and pilot clean energy projects in Vietnam. However, as the program does not partner with any governmental entity, there is a risk that few project developers have known about the support.</li> </ul>

**EEP Mekong Next Steps:**

Because V-LEEP supports the textile and sugar industries (and possibly the pulp & paper and steel industries in the future), if the EEP Mekong program is extended, V-LEEP could introduce this program to industry and ESCOs that are interested in replacing fossil fuel-based boiler systems with biomass. Some small-scale solar projects in the industry may fall under the scope of EEP's support.

**Table 5-3: SWOT Analysis for VEEIE program**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>▪ <b>Sustainable credit line:</b> The credit line is for a period of 10 years. The investor can have a long-term loan using this credit line.</li> <li>▪ <b>Technical support:</b> Besides lending, the program also offers TA, especially for the GVN to increase its capacity in EE and strengthen the legal framework.</li> <li>▪ GVN's partner – the MOIT will establish a <b>PMU dedicated</b> for this program.</li> <li>▪ <b>A variety of technology and project types</b> can request support. ESCO and industry are both welcome to participate in the program.</li> <li>▪ <b>Commercial banks identified:</b> The program has already selected commercial banks to partner with: BIDV and VCB.</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Extensive conditions:</b> In order to receive funding from this credit line, the project must not only satisfy the conditions of the commercial banks, but also the WB's requirements on environmental safeguards and others.</li> <li>▪ <b>Interest rate:</b> The interest rate for this credit line will be close to the commercial rate.</li> <li>▪ High requirements for energy savings (20%) and IRR (10% at least).</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>▪ <b>Clearer legal framework:</b> More strict and effective legal framework for EE projects and more encouragement from the GVN for EE projects.</li> <li>▪ <b>ESCO legal framework shall be developed and released</b> soon (expected 2018).</li> <li>▪ <b>Electricity tariff:</b> The tariff has been increasing recently, thus, industry will likely pay more attention to energy consumption.</li> <li>▪ <b>Decreased investment for rooftop solar power:</b> Industry will likely have more interest in installing rooftop solar panel systems to save electricity.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Both partner banks are <b>state owned banks</b>, there are still no private banks participating in this program.</li> <li>▪ Limited capacity of partner banks in terms of <b>evaluating the risks</b> associated with EE projects.</li> <li>▪ Limited capacity in terms of <b>evaluation the performance</b> of an EE projects.</li> </ul>

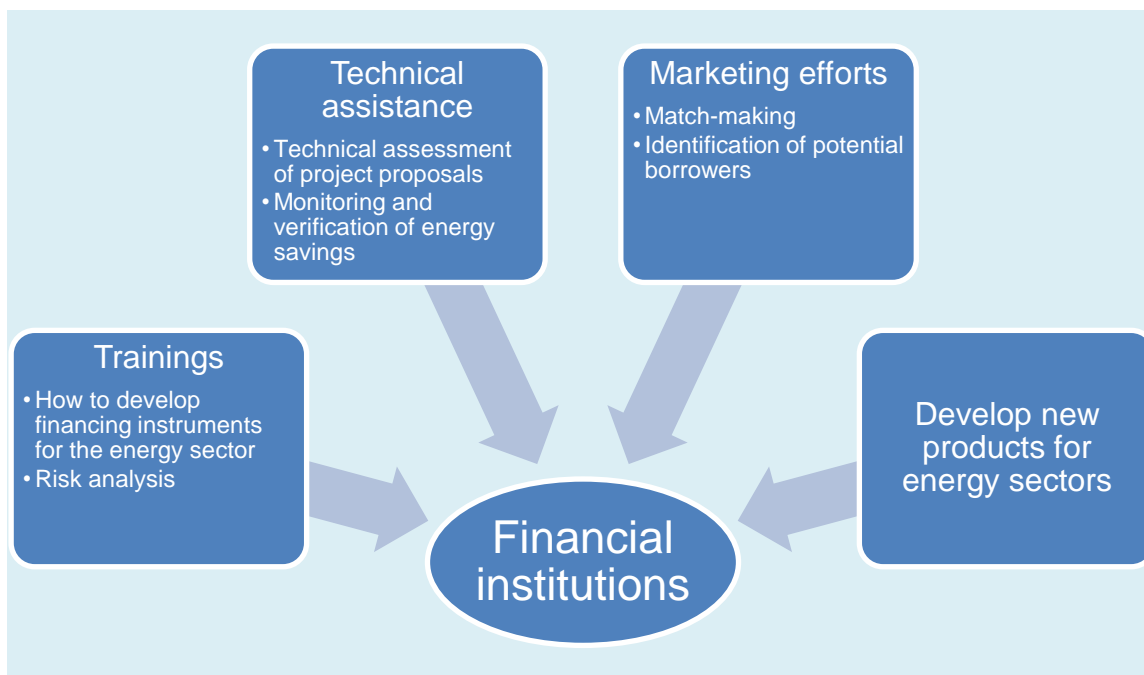
**VEEIE Next Steps:**

As V-LEEP supports industry to enhance their capacity in identifying and evaluating EE projects, V-LEEP could introduce this program to industry and ESCOs that are interested in developing EE projects such as WHR in the cement sector, cogeneration in the sugar industry, and replacement of biomass boilers in the steel and textile industries.

In addition, V-LEEP can help industry conduct energy audits and identify EE measures before they proceed to later steps (such as conducting a feasibility study) with the WB (See Section 5.2).

## Section 5.1 Financial Institution Support

Figure 9: Assistance support packages for financial institutions



In general, the barriers that most impact the development of the EE market include lack of experience by the potential customers, and a lack of experience within financial institutions in considering financing packages for EE. As indicated by the local banks, the bank is always associated with conventional evaluation of the project and EE cannot be the only reason to justify a bank loan. EE benefits are usually considered as additionality in an investment project.

To engage the local FIs with EE project investment, the FI should be capable of understanding the contents of an energy audit, EPC and MRV procedures. If the FI is not able to employ dedicated personnel (usually engineers), they must hire consultants to whom they can outsource the technical components of the assessment.

### Target institutions

- Vietcombank
- Bank for Investment and Development Vietnam
- Saigon-Hanoi Bank
- VPBank
- VietinBank
- Techcombank

### Recommendation for V-LEEP's support

- Evaluation of project proposal: Technical assessment (energy savings, baseline, M&V protocol)
- Match-making between project developers and financial institutions
- Provide training on how to conduct the financing instruments for energy sectors
- Risk analysis for clean energy projects
- Identify potential borrowers
- Assist with Monitoring Plan if needed

## Section 5.2 Project Developer Support

Figure 10: Support package for project developers/investors

Project design phase	Application phase	Project implementation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Baseline development, M&V, energy savings calculation	<input type="checkbox"/> Pre-screening project proposal	<input type="checkbox"/> M&V
<input type="checkbox"/> Financial analysis and cash flow projections	<input type="checkbox"/> Check the eligibility of project proposal	<input type="checkbox"/> Capacity building for energy savings measurement and verification
<input type="checkbox"/> Possible funding sources		

### Possible technical assistance from V-LEEP includes:

- Support for energy services during the design phase (Energy baselines, M&V protocol, energy savings calculation)
- Support for financial analysis and cash flow projections during design phase
- Advice for project capital structure and appropriate funding sources and financial mechanism
- Assist in determining the eligibility of project proposals according to program evaluation criteria
- Assist project developers in monitoring energy savings during project implementation
- Capacity building for energy savings measurement and verification
- Match-making between project developers and financial institutions

## ANNEX 1: STAKEHOLDER CONSULTATION

The Team held two meetings with WB officers and the EEP Mekong Program Manager to gain a full understanding of their financial packages, their objectives and strategy moving forward, and their priority sectors in the future. In addition, the Team reviewed notes from the meetings with the DCA and their proposal for a clean energy portfolio guarantee loan in Vietnam. The summary of meeting notes is provided below:

**Table 0-1: Summary of meeting notes**

Program	Contact Point/Meeting date/Location	Meeting summary
EEP Mekong	Asko Jussi Salomon-International Energy Expert 12 May 2017 V-LEEP Office	<p><b>Target technology:</b> bioenergy, heat pump, solar, biomass, EE.  <b>Target sector: Boiler producers, ESCOs, pulp and paper, sugar</b>  <b>Grant:</b>            Program can fund up to 80% of preparation work (FS development, bankable project). The project document will be used later to apply for soft loans for public institutions (especially Finnish funds). To apply for a soft loan, the project will need a government endorsement letter (so they primarily target public projects in renewable energy and EE). The Finnish government can offer concessional loans or guarantees depending on type of project.  <b>Funding:</b>            The program can fund up to 49% of the project investment cost, with a maximum contribution of 1 million EUR per project. However, the participation of Finnish companies and technology is required. Short-term projects of less than 12 months are favored.</p>
VEEIE - WB	Chu Ba Thi / Mr. Chu Ba Thi, Program co-task leader 30 May 2017 WB office	<p><b>Target technology: WHR, Refrigeration</b>  <b>Target sector: Cement, seafood processing, and other energy intensive industries.</b>  <b>Grant:</b>            A TA package of \$1.7M for enterprises and industrial associations will be implemented. The WB also wants to mobilize other grant sources if possible.            TA will include capacity building, training, review of projects, and how to develop bankable projects for project developers.            The WB is working with the GCF to initiate a guarantee facility for clean energy projects.  <b>Funding:</b>            \$10M USD investment credit line reserved for EE projects. The WB disburses this credit line to the MOF (the loan has the government's guarantee). The MOF and SBV have selected 2 banks (VCB and BIDV) to implement the credit line. The interest rate will be close to commercial rates. The project needs to comply with safeguards and environmental conditions, and have minimum energy savings of 20%. The final rate is determined by the commercial banks. The contribution of this credit line is 64% of the total investment cost, 16% of investment is from commercial banks and 20% from enterprise equity.  <b>Future collaboration between V-LEEP and VEEIE:</b></p> <ul style="list-style-type: none"> <li>▪ Sharing platform</li> <li>▪ Project pipeline</li> <li>▪ Operation Manuals</li> </ul>

## ANNEX 2: SCREENING CRITERIA

### EEP Mekong:

**Table 0-1: EEP Mekong Screening Criteria**

Eligibility Criteria	Yes/No	Comments
1. The application is signed by an authorized representative of the Lead Partner, including signed MOUs with other possible partners attached.		
2. A scanned copy of the company business registration is submitted.		
3. Additionality to the project from EEP grant funding is justified.		
4. The basic eligibility criteria is respected (eligible partners, type of projects activity, technical focus, maximum implementation period, geographical area, minimum self-financing ratio set for the investment).		
5. It is relevant to the particular needs and constraints of the target country or region related to clean energy policies and promotion strategies of the countries		
6. It shows adherence to the principles of the development policy of the Ministry for Foreign Affairs (MFA) of Finland, particularly regarding the Human Rights Based Approach (HRBA) and Cross-Cutting Objectives (CCO)		
7. It presents a defined business model.		
8. It applies proven and mature technologies.		
9. The proposed funding is a Results-Based Funding (RBF) scheme.		

### VEEIE World Bank

**Table 0-2: VEEIE Screening Criteria**

Eligibility Criteria	Yes/No	Comments
Sub-borrower is an industrial enterprise, or ESCO?		
Sub-borrower has cross-ownership with PFI?		
Subproject is a retrofit, renovation/rehabilitation project (not a greenfield project)?		
Subproject demonstrates minimum 20% energy saving?		
Subproject energy savings investment payback period is less than 10 years?		
Subproject has received required government environmental approvals		
Subproject has an environmental category rating of A, B or C		
If subproject is category B, subproject has completed an EMP which have been approved by the environmental authorities		
If subproject plant recently acquired any land areas for its current operation	Yes	A due diligence review needs to be prepared in accordance with Resettlement Policy Framework;
If subproject implementation involve any potential land acquisition and resettlement outside the existing premises of the plant	Yes	A Resettlement Action Plan needs to be prepared in accordance with the Resettlement Policy Framework.
If subproject implementation involve any potential ethnic and minorities communities	Yes	An Ethnic Minority Development Plan needs to be prepared.
Subproject will not directly result in involuntary workforce dismissal		

## ANNEX 3: EVALUATION CRITERIA

### EEP Mekong:

Table 0-1: EEP Mekong Evaluation Criteria

Evaluation Criteria	Weighting (Total = 100)	Score (0-5)
<b>Impact</b>	<b>20</b>	
The main beneficiaries are clearly identified, and there is a clear and direct mechanism through which the beneficiaries will benefit from the project.	5	
The project has a sustainable impact on local / national income generation, promoting entrepreneurship and synergies to the relevant national clean energy promotion policies/strategies	10	
The project proposal addresses the EEP HRBA principles and cross cutting objectives.	5	
<b>Sustainability and Scale-up / Replicability</b>	<b>20</b>	
The project has potential for scaling up providing a model for replication, improving funding mechanisms and opportunities, leveraging private sector investment, etc. Prospects of accessing private financial institutions loans, and/or development bank funding increased.	10	
The project presents a sustainable business model that ensures continued operations beyond the duration of the EEP funding	10	
<b>Innovation</b>	<b>20</b>	
The project contributes to the development of new and innovative idea	20	
<b>Budget, Cost-Effectiveness and Financing Structure</b>	<b>20</b>	
The budget is justified and realistic for the proposed activities. Outputs and results to be achieved. The financing model is in line with a RBF approach.	10	
Funds are used efficiently (e.g. cost/benefit, cost/t of CO2 emission reduction).	5	
Amount of financing contributions from the lead partner, other partners and other confirmed sources of financing, above minimum contribution.	5	
<b>Management/Resources</b>	<b>10</b>	
The applicant and partners have project management experience and technical expertise	5	
The applicant has tangible experience in professional financial project management incl. accounting practices following international standards.	5	
<b>Cooperation with Finnish Institutions/Companies</b>	<b>10</b>	
The proposed project enhances co-operation between local project developers and partners from Finland	10	

### VEEIE World Bank

Table 0-2: V-LEEP Evaluation Criteria

Type of sub-borrower	Description
Industrial enterprises	<ul style="list-style-type: none"> <li>Comprehensive introduction of the sub-borrower: years of operation, registered capital, operational scale, industry position, etc.</li> <li>Organizational structure and management of the sub-borrower: organizational structure, list of Board of Directors and senior management committee, financial and information management, etc.</li> <li>Relationship between the sub-borrower and PFI: past loan issuance, repayments, existing credit line; relationship with other financial institutions.</li> </ul>
ESCO	<ul style="list-style-type: none"> <li>Introduction to the sub-borrower: years in operation, registered capital, operational scale, position among the ESCO industry, etc.</li> <li>Organizational structure and management of the sub-borrower: organizational structure, list of Board of Directors and senior management committee, financial and information management, etc.</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Relationship between the sub-borrower and PFI: past loan issuance, repayments, existing credit line; relationship with other financial institutions.</li> <li>▪ Description of host enterprises: type of business, years of operation, registered capital, and organizational structure and management.</li> </ul>
Buildings owners/end users/heating & cooling system operators	<ul style="list-style-type: none"> <li>▪ Type of sub-borrower (building owner, municipal end user, school/hospital. district heating or cooling operator)</li> <li>▪ Description of project facility (or facilities)</li> <li>▪ Date constructed</li> <li>▪ Location: address and description of surrounding area (e.g. type of buildings -- residential, commercial, or government buildings)</li> <li>▪ Organization and management structure of the sub-borrower, including Board of Directors and/or management structure,</li> <li>▪ Relationship between the sub-borrower and PFI: past loan issuance, repayments, existing credit line; relationship with other financial institutions.</li> </ul>
<b>Sub-Borrower Business and Financial Evaluation</b>	
Industrial enterprises	<ul style="list-style-type: none"> <li>▪ Evaluation of sub-borrower's major industry indicators, trends, prospects and market position; evaluation of sub-borrower management strength and corporate governance structure; analysis of key business risks</li> <li>▪ Analysis of state guidance and policy for the industry; the guidance and policy of PFI for the industry</li> <li>▪ Financial status of the sub-borrower: review based on comprehensive analysis of sub-borrower financial statements – capital structure, operating margins, sales growth, debt service coverage, liquidity analysis, etc.</li> </ul>
ESCO	<ul style="list-style-type: none"> <li>▪ Evaluation of the sub-borrower's market position, customer base, prior experience, prior performance in executing ESCO projects, management strength and corporate governance structure; analysis of key business risks</li> <li>▪ Review of state guidance and policy for the ESCO industry; the guidance and policy of PFI for the industry</li> <li>▪ Financial review of the sub-borrower: based on comprehensive analysis of sub-borrower financial statements – capital structure, operating margins, sales growth, debt service coverage, liquidity analysis, etc.</li> <li>▪ Audited financial statements for the past 3 years</li> <li>▪ Prior Project Experience of ESCO</li> <li>▪ Experience doing similar projects</li> <li>▪ Performance of those projects</li> <li>▪ References for those projects</li> </ul>
Buildings owners/end users/heating & cooling system operators	<ul style="list-style-type: none"> <li>▪ Evaluation of sub-borrower's major market sector indicators, trends, prospects and market position; evaluation of sub-borrower management strength and corporate governance structure; analysis of key business risks</li> <li>▪ Analysis of state guidance and policy for the market sector; the guidance and policy of PFI for the industry</li> <li>▪ Financial status of the sub-borrower: review based on comprehensive analysis of sub-borrower financial statements – capital structure, operating margins, sales growth, debt service coverage, liquidity analysis, etc.</li> <li>▪ Experience of sub-borrower in similar projects</li> <li>▪ Type of facility</li> <li>▪ Brief description</li> <li>▪ Technologies installed</li> <li>▪ Implementation cost</li> <li>▪ Savings achieved</li> </ul>
<b>Subproject Description</b>	
Industrial enterprises	<ul style="list-style-type: none"> <li>▪ Description of proposed subproject,</li> <li>▪ Summary of subproject investment cost, financing plan and proposed sub-loan amount</li> <li>▪ Listing of subproject EE measures (EEMs) – using the format</li> <li>▪ Copy of Feasibility Study report, and Statement of qualifications of the organization who did Feasibility Study; and</li> <li>▪ If necessary, Baseline Energy Audit, Statement of qualifications and credential of the energy auditor, and Statement of the auditing standards used by the energy auditor in conducting the Baseline Energy Audit</li> </ul>
ESCO	<ul style="list-style-type: none"> <li>▪ Description of proposed subproject,</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Summary of subproject investment cost, financing plan and proposed sub-loan amount</li> <li>▪ Listing of subproject energy efficiency measures (EEMs) – using the format</li> <li>▪ Copy of Feasibility Study report, and Statement of qualifications of the organization who did Feasibility Study; and</li> <li>▪ If necessary, Baseline Energy Audit, Statement of qualifications and credential of the energy auditor, and Statement of the auditing standards used by the energy auditor in conducting the Baseline Energy Audit</li> </ul> <p><b>Additional information for ESCO:</b></p> <ul style="list-style-type: none"> <li>▪ Copy of signed Energy Performance Contract between ESCO and end user</li> <li>▪ Descriptions of key provisions of contract</li> <li>▪ Description of any performance/savings guarantees provided</li> <li>▪ Description of any share of savings provisions</li> <li>▪ Description of method for measuring and verifying performance and savings</li> <li>▪ Identification of Subcontractors, including Engineering-Procurement-Construction partner and brief write up of their capabilities and experience on similar projects</li> <li>▪ Description of method used to select subcontractors</li> <li>▪ Information on end user</li> <li>▪ Type of business</li> <li>▪ Years in business</li> <li>▪ 3 years of audited financials</li> <li>▪ Description of due diligence performed by ESCO</li> <li>▪ Statement of why the ESCO believes the end user will continue in business during the term of the loan.</li> </ul>
Buildings owners/end users/heating & cooling system operators	<ul style="list-style-type: none"> <li>▪ Description of proposed subproject,</li> <li>▪ Summary of subproject investment cost, financing plan and proposed sub-loan amount</li> <li>▪ Listing of subproject energy efficiency measures (EEMs) – using the format</li> <li>▪ Copy of Feasibility Study report, and Statement of qualifications of the organization who did Feasibility Study; and</li> <li>▪ If necessary, Baseline Energy Audit, Statement of qualifications and credential of the energy auditor, and Statement of the auditing standards used by the energy auditor in conducting the Baseline Energy Audit</li> </ul>
<b>Sub project Technical Assessment</b>	
Industrial enterprises	<ul style="list-style-type: none"> <li>▪ Based on the subproject feasibility report prepared by the sub-borrower</li> <li>▪ Review of the subproject, including details on the renovation and rehabilitation being undertaken, technologies to be used, capacity for implementation, subproject location, description of subproject facility, projected outputs and subproject timeline</li> <li>▪ Evaluation of the rationale for the selected technical design/approach; confirmation of the reliability and efficiency of the technology, and its performance in other projects;</li> <li>▪ Evaluation on the projected technical and energy efficiency performances, and analysis of energy savings expected from the subproject</li> <li>▪ Confirmation of compliance with technical eligibility criteria</li> </ul>
ESCO	
Buildings owners/end users/heating & cooling system operators	
<b>Subproject financial evaluation</b>	
Industrial enterprises	<ul style="list-style-type: none"> <li>▪ Analysis of financial viability of the subproject - calculation of financial internal rate of return (FIRR) on the investment</li> <li>▪ Analysis of impact on the sub-borrower's profitability, cash flows and balance sheet</li> </ul>
ESCO	<ul style="list-style-type: none"> <li>▪ Analysis of financial viability of the subproject - calculation of financial internal rate of return (FIRR) on the investment</li> <li>▪ Analysis of impact on the sub-borrower's profitability, cash flows and balance sheet</li> </ul> <p><b>Additional criteria for ESCO:</b></p> <ul style="list-style-type: none"> <li>▪ Analysis of the impact on the net cash flows and profitability of the end-user over the life of the sub-loan</li> <li>▪ Total Cost including interest during construction</li> <li>▪ Performance contract terms: debt service payment, energy saving split between ESCO and end user; ESCO cash flow</li> <li>▪ Level of any energy savings guarantees and how the security backing such guarantees</li> <li>▪ Estimated Energy Savings and Energy Cost Savings – year-by-year</li> <li>▪ Estimated Other Cost Savings – year-by-year</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Estimated Total Cost Savings – year-by-year</li> <li>▪ Share of Savings to ESCO - year-by-year</li> <li>▪ Share of Savings to End User - year-by-year</li> <li>▪ Amount of Debt</li> <li>▪ Debt Service Cost - year-by-year</li> <li>▪ M &amp; V cost - year-by-year</li> <li>▪ Ratio of Total Cost Saving to Debt Service - year-by-year</li> <li>▪ Ratio of ESCO Total Cost Savings to Debt Service - year-by-year</li> <li>▪ Proposed Measurement and Verification (M&amp;V) Methodology</li> </ul>
Buildings owners/end users/heating & cooling system operators	<ul style="list-style-type: none"> <li>▪ Analysis of financial viability of the subproject - calculation of financial internal rate of return (FIRR) on the investment</li> <li>▪ Analysis of impact on the sub-borrower's profitability, cash flows and balance sheet</li> </ul>
<b>Subproject Costs, Financing Plan and Repayment</b>	
Industrial enterprises ESCO	<ul style="list-style-type: none"> <li>▪ Details of subproject costs by component, with breakdown of foreign and VND costs with appropriate price and physical contingencies, incremental working capital requirements, and interest cost during construction</li> <li>▪ Inclusion of the bases and assumptions for cost estimates (feasibility studies, budget/supplier quotations, date of base estimates, etc.)</li> <li>▪ Analysis of financing sources for the subproject, including amount of funding and reliability of funding from each source</li> <li>▪ PFI contribution to the total sub-loan amount requested for the subproject</li> <li>▪ Analysis of the authenticity of the borrowing purposes and its background, including the authenticity of loan category, purpose and compliance situation and its background; and</li> <li>▪ Analysis of repayment plan, sources and risks.</li> <li>▪ Monthly expected savings</li> <li>▪ Monthly expected debt service payment and term of loan</li> <li>▪ Percent of debt service by month compared to savings by month</li> <li>▪ Host enterprises sustainability: whether stay in business.</li> </ul>
Buildings owners/end users/heating & cooling system operators	
<b>Analysis of collateral and guarantee</b>	
Industrial enterprises ESCO	<ul style="list-style-type: none"> <li>▪ Analysis of the guarantor, including its operation and financial and credit situation;</li> <li>▪ Analysis of the collateral/pledge, including the basic profile, legality, validity, assessed value, and calculation of the collateral/pledge</li> <li>▪ For ESCO projects, analysis of the energy performance contract between the ESCO and the end-user, the savings being projected, and the related measurement and verification (M&amp;V) to be used to confirm the performance and assure sustainability</li> </ul>
Buildings owners/end users/heating & cooling system operators	
<b>Environmental Impact Assessment and Resettlement Policy Assessment</b>	
Industrial enterprises ESCO	<ul style="list-style-type: none"> <li>▪ Description of any environmental and social impacts of the subproject and remedial measures required or envisaged.</li> <li>▪ Confirmation of required government approvals, environment category ratings, EIA Table (if required)</li> <li>▪ Confirmation of compliance with environmental eligibility criteria.</li> <li>▪ Confirmation whether the Resettlement Policy Framework will be triggered for the proposed sub-project;</li> <li>▪ Confirmation the types of resettlement instruments will be required to prepare following the RPF for the proposed sub-project;</li> <li>▪ Confirmation the compliance of required government approvals for recent land acquisition and satisfactory RAP by following RPF for the proposed land acquisition activities under the sub-project.</li> </ul>
Buildings owners/end users/heating & cooling system operators	
<b>Procurement</b>	
Industrial enterprises ESCO	<ul style="list-style-type: none"> <li>▪ Description of the main packages of goods to be procured, with assessment of contracting arrangements, methods of, and likely sources of supply</li> <li>▪ Description of imported equipment: rationale of imported equipment, performance characteristics of imported equipment</li> <li>▪ Commercial contracts: suppliers, commercial value, terms of the contract, payment means and conditions</li> <li>▪ Confirmation that sub-borrower will comply with the procurement framework.</li> </ul>
Buildings owners/end users/heating & cooling system operators	