



Virtual Acceleration Workshops on E-Mobility & Green Industrial Parks

(Organized as part of Korea 7th Green Roundtable events)

<i>BUSINESS MODEL DESCRIPTION</i>
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Pre-events Online Forum: 15-26 June 2020

Main events: 29-30 June 2020

Post-events Online Forum: 1-7 July 2020



Business Model Name: Thailand Industrial Energy Efficiency Investment Model

Link (if available):

Lead (Organization/Company): Global Green Growth Institute - GGGI

Main contact points:

- Lasse Ringius, Head, Green Investment Services, Investment and Policy Solutions Division
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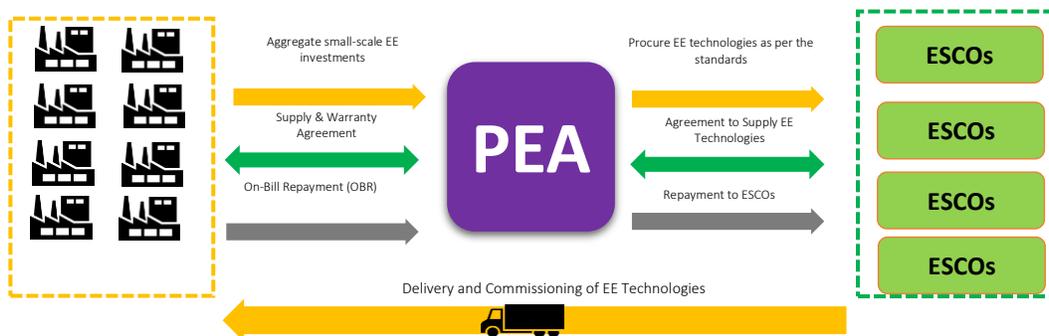
Status: **Scale-up**

Description of the Solution:

As one project within the larger GHG Reduction Roadmap development work, the industrial EE Program started with an initiative on auto part EE Program only, commenced in April 2016. Currently, the project encompasses all SMEs (industry independent) and GGGI has conducted 220 audits in several industrial facilities. Targeted at Industrial business owners and ESCOs (large scale – funding for the program is secured as equity) and ESCOs (supported by local FIs), the program has financial tools to overcome key barriers to greater EE investment in the sector, such as:

- Creditworthiness of industry end users;
- High upfront cost;
- A lack of access to financing; and
- Uncertainty around the realization of energy savings.

The Program focuses on addressing barriers to EE investment in the SME sector, with the possibility of scaling to other priority industries. The Program is based on a general approach shown in the figure below. PEA utilizes its OBR experience to support EE investment by ESCOs. PEA is the broker to facilitate transactions between SMEs and ESCOs.



PEA has been implementing this model together with government buildings and few large industrial facilities. The same approach will be used for the SME sector with 3 detailed business models presented



to the board of PEA and launched along with Thai ESCO association. GGGI has supported PEA in engaging the ESCOs and SMEs to aggregate demand for EE measures.

The strength of the business models is that walkthrough energy audits are required, detailed energy audit and M&V will be optional, PEA will enter into agreement with both ESCOs and SMEs for supply, delivery, and commissioning of EE technologies. Hence, PEA will be central to the transaction between the ESCO and SME facility.

Some of the prime features of the program are as follows:

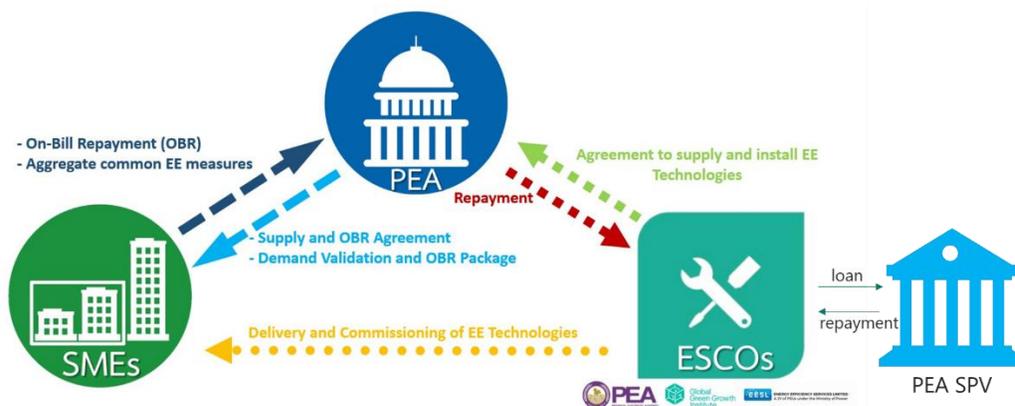
- EE technologies prices will be market average price with extended warranty by PEA.
- SMEs do not make upfront investments. Repayments are made through PEA's bills within 5 years.
- OBR mechanism will help recover the payment.

OBR (On-Bill Repayment) mechanism

Baseline Utility Bill	>	Savings	>	Savings
		OBR charge		Lower utility bill
		Lower utility bill		

GGGI has designed an OBR (On-Bill Repayment) mechanism that allows SME sector to pay for EE upgrades directly with cost savings through their utility bills, which eliminates the high upfront capital requirements that many SMEs find prohibitive.

Way forward: GGGI plans to expand the current business structure by exploring the possibilities of engaging PEA to engage in a special purpose fund specifically for the SME EE financing. The probable structure for the fund operations is shown in the figure below.





The PEA leadership has shown interest and in principle agrees that this approach could be possible but advised to start with a pilot. GGGI has completed the first closure of the fund US\$20 million and the second closure could be US\$100 million. One key advantage of such a fund is that PEA could be in full control of the program and could champion an SME based EE program with no dependency on the ESCOs. At the same time ESCOs will have access to finance from a dedicated EE financing facility. PEA might be interested to work with DFIs, MDBs or bilateral rather than raising finance from the local capital market to get access to TA support as they are new in this business, GGGI believes this is the key to success for PEA and the program. GGGI is looking for a key partner to engage with PEA and continue the program further.

Total Investment: First phase implementation: US\$20 million mobilized. Second Phase: US\$100 million plus with a special purpose EE fund (potential)

Current investors: Energy Efficiency Services Limited (EESL) (Indian state-owned ESCO company); committed first tranche of US\$20 million.

Goals:

The program will enhance national competitiveness, support sustainable development, and contribute to the national GHG emissions reduction targets under the Paris Agreement:

- Develop inclusive business models to provide access to finance to SMEs in industrial sectors supported by an On-Bill Repayment (OBR) mechanism.
- Early estimation of GHG reduction: 140,000 tCO₂/yr.
- Create new jobs throughout the industrial sectors through reduced operating costs and larger deployment of energy efficiency projects.

Geographical areas of Impact:

Thailand

Partners:

- Office of Natural Resources and Environmental Policy and Planning (ONEP)
- Provincial Electricity Authority (PEA)