
United Nations Development Programme
Ministry of Science and Technology
Government of the Socialist Republic of Vietnam

**Evaluation of UNDP/GEF Project: Vietnam – Promoting Energy
Conservation in Small and Medium Scale Enterprises**
(PIMS 2057)

Mid-Term Evaluation Report

Mission Member:

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November 2008

2. KEY FINDINGS

2.1 Project Progress and Achievements to Date

PECSME is a project designed to reduce GHG emissions through energy conservation measures by SMEs in Vietnam. The Project has undertaken an integrated series of measures designed to remove awareness, technical, financial and regulatory barriers that hinder widespread adoption of EE&EC by SMEs. Actual PECSME achievements are listed in Table 1 against the original April 2004 Project log-frame with suggested revisions to better reflect the intended outcomes of PECSME and GEF reporting requirements. Proposed revisions include:

- Changing of “strategies” to intended “outcomes”;
- Changing “indicators” to “targets”; and
- Removal of various “strategies” that only reflects PECSME activities.

Changes to the Project log-frame are further detailed on Table 1 and discussed in Section 2.3.2. The original Project log-frame from April 2004 is shown in Appendix D.

2.1.1 Project Outcomes

The implementation of technical assistance has been in accordance with the work plan towards the achievement of project objectives including:

- Drafting of an energy conservation law (EC Law) that is to be presented to the Vietnamese government for promulgation in 2009;
- Completion of the setup of information support networks specific to increasing the awareness of EC&EE for the public, policy makers, SMEs, EESPs and other technical support professionals;
- Training programs for SMEs to increase their awareness of energy efficiency measures, the impacts of these measures on their businesses and the means to implement such measures;
- Training programs for energy efficient service providers (EESPs) to improve the quality of their technical assistance to SMEs and financial institutions to implement EE measures;
- Setup of a loan guarantee fund that provides collateral for SMEs seeking finance for implementation of specific EE and EC measures; and
- Completion of demonstration projects to raise confidence in various EC&EE measures.

With the project design and competent management of the PMU, PECSME is likely to achieve its intended targets. There are, however, a number of risk factors and issues that potentially impede PECSME from achieving these targets by the conclusion of the project:

⇒ *The limited capacity of Vietnam’s EESPs restricts the number of SME EC projects that can be implemented (related to Outcome 4).*

A majority of the project stakeholders agree that the growth of SME implementation of EC activities can more rapidly expand during the remainder of the project on condition that there is growth in the numbers of trained EESPs who can train other EESPs.

Table 1: Project Progress Observed in September 2008

Intended Project Outcomes (taken from 2004 Prodoc Log-Frame "Strategy" and the 2008 APR-PIR and converted to "Intended Outcomes")	Targets (formerly "Indicators") (taken from April 2004 Prodoc and 2008 APR-PIR with recommended changes in <i>bold italics font</i> and strikethrough font)	Outcomes as of September 2008
Project Goal: Reduce the annual growth rate of GHG emissions from SMEs through the removal of major barriers to adoption of more energy efficient technologies and energy management practices.	Cumulative GHG emission reduction from SME activities of about 962.0 ktonnes CO _{2eq} by the end of the PECSME in Year 2010. <i>Target change recommended: Revise this cumulative target to 536.8 ktonnes CO₂ as it is based on more realistic CO₂ reductions of the technologies being adopted by SMEs</i>	<ul style="list-style-type: none"> Partially achieved. Cumulative GHG emission reductions at the mid-point of 2008 from implemented EC projects is 84.0 ktonne or 8.7% of the 962.0 ktonne CO_{2eq} target
Project Purpose: To significantly improve energy utilization efficiency in the SME sector	<ul style="list-style-type: none"> Cumulative energy savings of 136.1 kTOE in the SME sector achieved by end of Year 2009. Average energy cost per unit production in the SME sector is reduced by 10-15% by Year 5. 	<ul style="list-style-type: none"> Cumulative 22.6 kTOE achieved from implemented EC projects at mid-point of 2008 12% savings achieved in unit production in SME demonstration projects.
Outcome 1: Improved EC&EE Policy and Institutional capacity		
Outcome 1.1: Improved EC&EE awareness and capacity on EC&EE policy development within the GoV	<ul style="list-style-type: none"> 3 national seminars with total of 450 participants held in the first and second years 4 training courses held with 100 central and local government officers trained 3 study tours conducted At least 6 policy papers and policy recommendations on EC&EE proposed by capable policy makers at central and local levels starting Year 2. 	<ul style="list-style-type: none"> Partially achieved. The first National Seminar was conducted in 2006 with 150 participants from government agencies, local authorities, organizations and enterprises Achieved. 10 training courses held with over 306 local DoST trained on economic and environment benefits of EC&EE measures and technologies in five selected sectors (in combination with Activity 3.2); Achieved. Three study tours completed (China, Thailand and Korea) with participation of 28 representatives from key project partners and stakeholders Partially achieved. Law on EC&EE in the drafting process with 7 initiatives on EC&EE issued by local governments (Hai Phong, Binh Duong, Da Nang, HCMC, Giang An, Vinh Phuc, Hai Duong and Ha Noi) in 2007. Also assisted drafting of Law on Technology Transfer (promulgated in 2006 by National

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	<ul style="list-style-type: none"> • Circular on Labeling formulated and approved by MOI • Circular on Tax Incentives & Financial Incentives formulated and submitted to MOF for approval • 3 formulated and MoST-approved regulations related to promotion of EC&EE technology transfer in SMEs²² • 3 workshops on the introduction and promotion of new circulars completed • 3 EE equipment producers that participate in labeling program • 3 EE products labeled • 500 SMEs utilize incentives • Recommendations on future enhancements of SME EC&EE policies completed by Year 5. • 	<p>Assembly and in effect July 2007), guiding regulations, and MoIT Law on Energy Conservation and Efficient Use</p> <ul style="list-style-type: none"> • <i>Achieved</i>. One circular on EC&EE Labeling approved by MOI and implemented in 2007. Two groups of EE products labeled. • <i>Achieved</i>. Drafted circular completed with proposed incentives to be incorporated in the draft EC&EE law to be issued in 2009. • <i>Achieved</i>. Completed and submitted 3 draft Decrees to guide the Implementation of the Law on Technology Transfer. Approval by Prime Minister is pending²³ • <i>Partially achieved</i>. One workshop on promotion of EC&EE Labeling conducted; EC&EE labels granted to three energy saving lighting products: T8-36W, T5-32W, and Electromagnetic Ballast • <i>Achieved</i> • <i>Achieved</i> • <i>Partially achieved</i>. 104 SMEs utilized incentives provided by People Committees of 04 provinces • <i>Not yet achieved</i>
Outcome 1.3: Technical assistance provided to SMEPC and SMEDD to incorporate EC&EE programs into the National SME Development Support Program	<ul style="list-style-type: none"> • EC&EE policies incorporated into the National SME Dev't Program 	<ul style="list-style-type: none"> • <i>Not yet achieved</i>.
Outcome 1.4: EC&EE coordinating agencies in the SME sector and provincial technical support networks	<ul style="list-style-type: none"> • Network between PMU and ECCs/DOSTs and key project partners established, maintained regular communication 	<ul style="list-style-type: none"> • <i>Achieved</i>

²³ 3 Government Decrees namely: The List of Encouragement and Prohibition of Technologies Transfer; The Fund for Technology Transfer Promotion (including EC&EE Technology Transfer in SME Sector) and Guideline on Implementation of Technology Transfer.

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are established and operational	<ul style="list-style-type: none"> EC&EE Expert Association established by end-Year 3. 150 EC&EE projects that are annually supported by the Expert Association starting from Year 4. <p>Recommended change: Remove above target as this is set by the EC&EE Association</p>	<ul style="list-style-type: none"> <i>In progress.</i> Promotion activities on-going
Outcome 1.5: MoNRE capacity is improved in modifying environmental standards related to GHG emissions	<ul style="list-style-type: none"> 3 national environmental standards related to GHG emission updated 3 revised environmental standards enforced 	<ul style="list-style-type: none"> <i>Not yet achieved</i> <i>Not yet achieved.</i> This is due to ongoing MoNRE restructuring. MoNRE staff will need to be familiar with regional environmental standards for targeted sectors (cement, thermal power plants and steel). As such, work on this activity is deferred to Year 4.
Outcome 2: Enhanced SME and public awareness of EC&EE		
Outcome 2.1: Communications strategy developed	<ul style="list-style-type: none"> Strategy developed and agreed to by key stakeholders by end Year 1. 	<ul style="list-style-type: none"> <i>Achieved.</i> Project communication strategy finalized in October 2006 and implemented in 2007. In 2008, adjustment was made to focus the communication activities on the priority sectors/geographic areas to improve contribution to the 2008 targets
Outcome 2.2: Information dissemination network established and the capacity of organizations involved in information network strengthened	<ul style="list-style-type: none"> Information network established and relevant participating organizations identified Two training courses for EC&EE communicators of participating organizations conducted 20 trained participants actively participate in information dissemination At least 80% trainees actively participate in EC&EE information dissemination activities 2 successful locally study tours for information network participants conducted 50% of study tour participants contributing their learning experiences to PECSME information dissemination activities 	<ul style="list-style-type: none"> <i>Achieved.</i> An informal network of 20 EC&EE communicators in SME sector established <i>Partially achieved.</i> Communication training course completed with 35 participants from ECCs, DOSTs and media <i>Achieved.</i> <i>Partially achieved.</i> 67% (20/35) trained participants actively participate in EC&EE information dissemination activities <i>Partially achieved.</i> One domestic study tour to the Energy Information Center in HCMC conducted <i>Achieved.</i> 67% participants of the study tour contributing their learning experiences to PECSME information dissemination activities

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<p>Outcome 2.3: Awareness of SME and general public on EC&EE assessed</p> <p>Recommended Change: Remove as this is not a project “outcome” but more reflective of an evaluation activity</p>	<ul style="list-style-type: none"> ● Initial survey on knowledge, attitudes and practices regarding utilization of energy among SMEs completed in Year 1. ● Feedback surveys completed by mid Year 4. ● A EC&EE communication program incorporating recommendations based on SME feedbacks 	<ul style="list-style-type: none"> ● Achieved. ● Not yet achieved ● Not yet achieved
<p>Outcome 2.4: SME energy-use database developed</p>	<ul style="list-style-type: none"> ● SME energy-use database developed by Year 2. ● Over 1,000 users of the database 	<ul style="list-style-type: none"> ● <i>Achieved</i> ● <i>Achieved</i>
<p>Outcome 2.5: EC&EE information disseminated to SMEs through the network</p>	<ul style="list-style-type: none"> ● Website on EC&EE information of SME sector operational by Year 1. ● 50,000 hits on the website ● 25,000 users of website ● 20 leaflets on EC&EE published and disseminated. ● 5 booklets on EC&EE published and disseminated ● 100,000 leaflets and booklets disseminated ● 20 articles on EC&EE topics published in leading local newspapers and magazines annually ● 6 TV programs in central and local channel annually ● 6 Voice of Viet Nam programs broadcasted annually 	<ul style="list-style-type: none"> ● <i>Achieved</i> ● <i>Achieved.</i> Over 214,000 hits ● <i>Partially achieved.</i> 16,800 users ● <i>Partially achieved.</i> 13 leaflets disseminated ● <i>Partially achieved.</i> 1 booklet published ● <i>Partially achieved.</i> 90,000 disseminated ● <i>Achieved.</i> Over 40 published ● <i>Achieved.</i> 12 programs completed ● <i>Achieved:</i> 10 Voice of Vietnam programs completed
<p>Outcome 2.6: EC&EE advocacy and awareness campaign completed</p> <p>Recommended Change: Re-word outcome to: “Public awareness enhanced through completion of EC&EE advocacy campaigns”</p>	<ul style="list-style-type: none"> ● 11 workshops, forums and information exchange meetings conducted by ECCs ● 2 exhibitions of energy efficient equipment held by MoST annually from Year 2 ● Contest writing on EC&EE issue for Media agencies’ reporters ● 12 EE equipment suppliers and EESPs using PECSME marked materials on their products ● 	<ul style="list-style-type: none"> ● <i>Achieved (more than 30 organized)</i> ● <i>Achieved</i> ● <i>Achieved</i> ● <i>Partially achieved (only 3 equipment suppliers)</i>
<p>Outcome 2.7: SMEs registered for receiving technical assistance for</p>	<ul style="list-style-type: none"> ● 420 SMEs registered to implement EC&EE projects through ECCs/DoSTs 	<ul style="list-style-type: none"> ● <i>Partially achieved (207 SMEs)</i>

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implementing EE&EC projects		
Outcome 3: SME and EESP capacity has been enhanced to implement EE&EC projects.		
Outcome 3.1: Training for trainers provided	<ul style="list-style-type: none"> • 12 training material modules completed and approved • 30 trainers certified by MOST • 21 trained trainers providing EC&EE training under the project 	<ul style="list-style-type: none"> • <i>Partially achieved (only 11 prepared)</i> • <i>Partially achieved (only 28 certified)</i> • <i>Partially achieved (only 18 trained trainers)</i>
Outcome 3.2: SME training courses conducted Recommended change: Re-word to “SME knowledge improved on the benefits of EC&EE”	<ul style="list-style-type: none"> • 500 SME managers from selected provinces trained through 1-day training seminars on benefits of EC&EE by Year 2 • 100 DoST officers from selected provinces trained through 1-day training seminars on benefits of EC&EE • 500 technicians from SMEs in selected provinces in Northern, Central and Southern areas trained on EC&EE techniques and practices. • At least 500 SMEs are implementing EC&EE techniques and practices from Years 3 to 5. 	<ul style="list-style-type: none"> • <i>Achieved (662 trained)</i> • <i>Achieved (306 trained)</i> • <i>Partially achieved (209 trained)</i> • <i>Partially achieved (132 SMEs)</i>
Outcome 3.3: Sustainable EC&EE training programs developed for relevant universities and colleges Recommended Change: Remove as this is no longer being implemented by PECSME	<ul style="list-style-type: none"> • EC&EE training program design completed • 3 universities/colleges committed to include EC&EE in their engineering curricula 	
Outcome 3.4: Training program has been evaluated Recommended Change: Remove as this is not a project “outcome” but more reflective of an evaluation	<ul style="list-style-type: none"> • Redesign of the training program incorporating recommendations from evaluation findings completed by mid-Year 5. 	<ul style="list-style-type: none"> • <i>Achieved</i>

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activity		
<p>Outcome 3.5: Energy audits of selected SMEs completed</p> <p>Recommended change: Re-word to “Capacity to conduct energy audits is strengthened”</p>	<ul style="list-style-type: none"> • 60 energy consultants trained in energy auditing and undertook audits at selected sites • 50% of trained energy consultants undertake energy audits at selected sites by Year 3. • 500 energy audits and/or feasibility studies conducted <p>Recommended change: Reduce the number of energy audits and/or feasibility studies to 250.</p>	<ul style="list-style-type: none"> • <i>Achieved</i> • <i>Achieved</i> • <i>Partially achieved (only 87 conducted)</i>
<p>Outcome 4: Growth of competitive and sustainable EE services provision industry through enhanced business, engineering and financial skills of EESPs</p>		
<p>Outcome 4.1: EESP training program completed</p>	<ul style="list-style-type: none"> • 60 energy consultants from EESPs trained on EC engineering and financial arrangement for investment projects • 15 managers of potential EESPs trained on developing business plans and designing energy efficiency service packages • 10 EESPs that have prepared business plans following the model presented in the training course by Year 3 • 3 new EESP businesses that are legally established • 3 consulting firms incorporates energy efficiency services provision into their business operations <p>Recommended change: eliminate indicator of 3 consulting firms incorporating EE into their business services</p>	<ul style="list-style-type: none"> • <i>Achieved (72 on energy audits and 65 on financial analysis and loan document preparations)</i> • <i>Achieved</i> • <i>Surveys being conducted</i> • <i>Achieved</i>
<p>Outcome 4.2: Suitable institutional and legal framework developed for EESP activities</p>	<ul style="list-style-type: none"> • Recommended suitable institutional and legal framework for EESPs submitted to MoIT 	<ul style="list-style-type: none"> • <i>Not yet achieved. A legal specialist is required to prepare concept paper that recommends for risk exposure reduction measures for future EESPs. A review of the experience of existing EESPs is also required.</i>
<p>Outcome 4.3: Project assistance has</p>	<ul style="list-style-type: none"> • 5 technical assistance services provided to local EESPs in making bankable project proposals, business plans 	<ul style="list-style-type: none"> • <i>Partially achieved (only one consultation provided)</i>

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been provided for EESP operations	and in securing financing for SME clients. <ul style="list-style-type: none"> • On-job training provided to local EESPs in EC&EE project development and implementation • EESP energy efficiency engineering design tools and model marketing strategies developed • 4 EESPs utilizing the EE design tools and marketing strategies 	<ul style="list-style-type: none"> • <i>Achieved</i> • <i>Achieved</i> • <i>In progress. Survey being conducted</i>
Outcome 4.4: Model contracts to deliver EESP services to SMEs completed and executed	<ul style="list-style-type: none"> • 50 EESP contracts for providing energy efficiency services marketed and implemented with SMEs during Year 3 and 5. 	<ul style="list-style-type: none"> • <i>Achieved.</i>
Outcome 4.5: Assessment of local capabilities for EE equipment supply completed	<ul style="list-style-type: none"> • Evaluation of capabilities of local EE equipment provision prepared by mid-Year 2. • Recommendation on EE equipment provision development program prepared and submitted to MoST. 	<ul style="list-style-type: none"> • <i>Achieved</i> • <i>Not yet achieved</i>
Outcome 4.6: Energy performance of industrial equipment evaluated	<ul style="list-style-type: none"> • Evaluation of energy performance of locally produced industrial equipment prepared by end-Year 2. • Identification of energy performance improvement potential for locally produced industrial equipment completed and submitted to MoST by end-Year 2. 	<ul style="list-style-type: none"> • <i>In progress</i> • <i>In progress</i>
Outcome 4.7: Technical capacity of local equipment manufacturers and fabricators enhanced	<ul style="list-style-type: none"> • Training courses on high efficiency equipment design and production technologies for local manufacturers/fabricators conducted by Year 3. • 6 manufacturers are either implementing or planning to invest in production of high-energy efficient equipment in the ceramic and brick sectors. 	<ul style="list-style-type: none"> • <i>In progress</i> • <i>Not yet achieved</i>
Outcome 4.8: Sustainable EC&EE Research and Development Program has been designed	<ul style="list-style-type: none"> • An R & D program supported by local equipment manufacturers/fabricators and MoST completed by mid-Year 4. 	<ul style="list-style-type: none"> • <i>Not yet achieved</i>
Outcome 5: <i>Increase financial system willingness to lend to SME for EC&EE Projects through enhanced knowledge of EC and skills in evaluating loan application</i>		

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Outcome 5.1: Increased banking and finance sector awareness of the benefits of EC&EE projects	<ul style="list-style-type: none"> 4 training courses on risk & benefits and evaluation of EC&EE projects for banking and financial institutions 9 banks/FIs are providing loans for EC&EE projects to SMEs by Year 3 Established and operational technical service network for helping banks and financial institutions evaluate EC&EE projects by Year 2 	<ul style="list-style-type: none"> <i>Partially achieved.</i> 1 Training course on risk, benefits & evaluation of EC projects for 33 credit officers from banking and financial sector conducted at end of 2007 <i>Partially achieved.</i> 5 financial institutions (VEPF and 4 VietinBank branches) have been providing loans for EC&EE projects <i>In progress.</i>
Outcome 5.2: Improved SME access financing for EC&EE Projects	<ul style="list-style-type: none"> 2 brochures/guides on sources of financing, loan guarantees and bank requirements for EC&EE investments published and circulated to SMEs and each target group by Year 2. 3 annual roundtable discussions between banks and SMEs are conducted from Year 2 10 loan contracts discussed in each round table meeting starting Year 2 	<ul style="list-style-type: none"> <i>Achieved.</i> 3 brochures on Loan Guarantee Fund and Loan Program provided by VietinBank published and disseminated to SMEs, EESPs and DoSTs <i>Achieved.</i> 3 meetings completed <i>Achieved.</i> 13 completed to date
Outcome 5.3: Mobilization of a loan guarantee funding mechanism	<ul style="list-style-type: none"> Expanded VietinBank guarantee fund to support EC&EE investments operational by Year 2 Approved guarantee operation regulation by Year 2. A set of criteria for guarantee fund completed and enforced by Year 2 80 SMEs that received loan guarantee assistance US\$3.9 million issued from LGF in loan guarantee commitments. 	<ul style="list-style-type: none"> <i>Achieved.</i> Agreement on LGF Management signed by MoST, VietinBank and UNDP in December 2006 <i>Achieved.</i> Guideline on LGF operation within VietinBank branches approved in May 2007 and disseminated to VietinBank branches in June 07 <i>Achieved.</i> <i>Partially achieved.</i> 13 SMEs received LGF assistance <i>Partially achieved.</i> US\$400,000 issued from LGF
Outcome 5.4: Mobilization of VietinBank’s Loan Program Recommended Change: Change outcome to “Replication projects funded from various financial sources”	<ul style="list-style-type: none"> 60 80 SMEs that received financing from the VietinBank Loan Program and other various financial sources US\$14.1 million in loans provided to SMEs from the Loan Program US\$14.1 million in loan repayments received from SMEs <p>Recommend removal of this indicator as it</p>	<ul style="list-style-type: none"> <i>Partially achieved.</i> 8 SMEs have received finance from the Loan Program, 6 received LGF support <i>Partially achieved.</i> US\$ 730,177 loaned to date <i>Partially achieved.</i> US\$71,000 received up to date

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	would be difficult to attain this goal since all loans are not expected to be paid back until 2015. In addition, it would be difficult to estimate cumulative actual loan payments at the end of PECSME as it is dependent on when these projects are implemented).	
<p>Outcome 5.5: Provision of additional TA and funding for EC&EE investments</p> <p>Recommended Change: Remove this outcome as it would be combined with Outcome 5.4</p>	<ul style="list-style-type: none"> ● 2 other financial institutions are willing to provide financing for EC&EE projects ● 80 EC&EE projects funded by other financial institutions starting from end-Year 2. <p>Combine these indicators with those of Outcome 5.4</p>	<ul style="list-style-type: none"> ● Achieved. National Environment Protection Fund of Vietnam has made their funds available for EC&EE projects and Techcombank are interesting to participate in PECSME LGF Program. ● Partially achieved. 7 projects received US\$228,606 in loan provisions from VEPF, all of which received LGF guarantees <p>Combine these achievements with those of Outcome 5.4</p>
<p>Outcome 5.6: Established financing mechanisms evaluated</p> <p>Recommended Change: Remove as this is not a project “outcome” but more reflective of an evaluation activity</p>	<ul style="list-style-type: none"> ● Completed Evaluation Reports on effectiveness and viability of financing mechanisms by mid-Year 3 and mid-Year 5 ● Completed sustainable financing program proposal by end-Year 5 	<ul style="list-style-type: none"> ● Achieved. LGF Evaluation Report completed in September 2008.
<p>Outcome 6: Increased credibility of EC&EE through successfully implemented and evaluated demonstration projects</p>		
<p>Outcome 6.1: Completed thorough techno-economic feasibility analyses of potential EC&EE demonstration projects</p>	<ul style="list-style-type: none"> ● 10 demonstration projects selected by mid-Year 1. 	<ul style="list-style-type: none"> ● Achieved. 10 projects selected
<p>Outcome 6.2: Demonstration requirements identified and evaluated</p>	<ul style="list-style-type: none"> ● Completed set of criteria for selection of demonstration projects developed by the mid-Year 1. 	<ul style="list-style-type: none"> ● Achieved. Set of criteria completed
<p>Outcome 6.3: Demonstration project</p>	<ul style="list-style-type: none"> ● 2 companies that have agreed to receive financial 	<ul style="list-style-type: none"> ● Achieved. 2 companies have made agreements to receive

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financial barrier removed	assistance for demonstration investment proposals by mid-Year 2	financial assistance for demonstration projects with LGF
Outcome 6.4: Baseline data for demonstration sites collected	<ul style="list-style-type: none"> 10 approved/agreed sets of baseline data for demonstration sites 	<ul style="list-style-type: none"> <i>Achieved.</i> 10 sets of baseline data completed for 10 demonstration sites
Outcome 6.5: Demonstration projects implemented	<ul style="list-style-type: none"> 10 demonstration site owners that are satisfied with the technical assistance provided during facility start-up 10 training sessions for demonstration project operating personnel completed 10 evaluation reports completed for 10 demonstration projects highlighting operating and economic performance 8,000 TOE saved by the demonstration sites 53,000 tonnes CO₂ eq reduced at demonstration sites 	<ul style="list-style-type: none"> <i>Achieved.</i> 10 demo projects completed at end of 2007 <i>Achieved.</i> 10 training sessions for demo project personnel <i>Achieved.</i> 10 completion reports completed for 10 demo projects <i>Achieved.</i> 8,725 TOE cumulative saved <i>Partially achieved.</i> 35,520 tonnes CO₂ eq cumulative reduced by demo projects
Outcome 6.6: Demonstration projects experiences shared with other stakeholders	<ul style="list-style-type: none"> 12 national workshops presenting demonstration program results conducted Documented evaluation of the operation of the demonstration program completed by end of project. 	<ul style="list-style-type: none"> <i>Achieved.</i> 14 workshops conducted in combination with Outcome 2 <i>Achieved.</i> Evaluation of Demo Program completed in September 2008
Outcome 6.7: Technical assistance for implementation of 500 EC&EE investments provided	<ul style="list-style-type: none"> 80 EC&EE investments implemented through guarantee and energy service delivery mechanism. 500 EC&EE replication and impact projects implemented with support from PECSME Cumulative 136.1 kTOE saved by EC&EE projects by SMEs in the country Total cumulative GHG emission reductions from EC&EE projects of SMEs in the country, 962.0 536.8 kton CO₂ <p>Target revised as per targets under “Project Goal”</p>	<ul style="list-style-type: none"> <i>Partially achieved.</i> 13 EC&EE investment projects got LGF support with another 14 feasibility studies applying to get LGF support <i>Partially achieved.</i> Total 124 projects implemented (67 Replication Projects and 57 Impact Projects) with 132 other projects recently selected for conducting energy audits/feasibilities studies <i>Partially achieved:</i> Cumulative 22.0 kTOE saved from EC projects implemented <i>Partially achieved.</i> Cumulative 84.0 ktonnes CO₂ emission reduction achieved from EC projects implemented to date

- ⇒ Cumbersome approval procedures for obtaining a loan guarantee (Outcome 5.3). A primary complaint of SMEs is the need for SMEs to place collateral (in the order of 25% of the requested loan amount) when applying for a loan guarantee. As an alternative, a number of SMEs either delay their EC investments or obtain loans from the VEPF.
- ⇒ Lack of replication of certain demonstrations. Replication of projects for food processing, textiles and pulp & paper is significantly less than projects from the brick and ceramic sectors. This shown on Table 2. Reasons for this lack of replication includes:
- the lack of visibility of the EC&EE measures taken in the demonstration;
 - the time required to demonstrate significant energy savings to textile mills; and
 - the textile and pulp and paper sectors generally being marginally profitable, and hence, not as open to EC&EE investments as other industrial sectors.

Table 2: Summary of Demonstration and Replication Projects

Sector	No. of DEMO	No. of REPL	No. of IMPA ¹²	Total	TOE Saving to 30 Sept/08 (tonne)*	CO2 Reduction (to 30 Sept/08 (tonne)*	Actual Investment (USD)****
Brick	2	25	34	61	16,830	63,763	4,585,785
Ceramics	2	20	13	35	3,618	13,832	477,358
Food-processing	2	13	1	16	353	1,565	90,386
Textile	2	3	9	14	629	2,411	101,828
Paper	2	6	0	8	609	2,463	327,400
Total	10	67	57	134	22,039**	84,035***	5,582,758

* Cumulative savings and emission reduction from EC projects implemented up to September 2008. The cumulative figures reflect energy savings or CO₂ reductions starting from the commencement of PECSME to the date indicated

** Equivalent to 16% of current approved target of 136.1 kTOE

*** Equivalent to 8.7% of current approved target of 84.0 ktonne CO_{2eq}

**** Only investments of DEMO and Replication projects included.

- ⇒ Certain project targets appear unattainable. There are project targets that should be adjusted to reflect more realistic targets including:
- Cumulative GHG reductions by the end of PECSME in 2010 should be reduced from 962 ktonnes to 537 ktonnes of CO_{2eq}. This would be more realistic since the GHG reductions for the ceramics sector and the food processing, pulp & paper and textile sectors (due to poor replication) are less than anticipated; and
 - Number of energy audits and/or feasibility studies to be completed by the end of PECSME should be reduced to 250 (from 500). With only 87 completed to date, another 413 studies and audits would need to be reviewed by PECSME over the next 2 years. A reduction to 250 is recommended to fit with available PECSME time and resources.

¹² IMPA means impact projects or projects that were aware of the demonstration but did not use PECSME assistance for development

2.1.2 Project Impacts

The Project to date has made significant impacts on SMEs and EC&EE projects in Vietnam:

- Assistance in the drafting of the EC law that will be promulgated in 2009 by the GoV;
- Raising awareness for and training SMEs and EESPs on the benefits and technical details of EC&EE projects;
- Supporting EESPs in providing services to SMEs for implementing EC&EE projects;
- Successful setup of a loan guarantee fund for SMEs. Other attempts to setup similar funds in Vietnam have failed;
- Successful demonstration and dissemination of an LPG kiln for the ceramics industry and the VSBK for the brick industry.

Details of the impact of the PECSME on the ceramics industry in the Bat Trang Ceramics village is provided in Box 1.

Box 1 Demonstration and Replication of LPG Kilns for Ceramics Industry, Bat Trang Ceramics Village

Bat Trang Ceramics village is located 13 km southeast of Hanoi along the left banks of the Red River. For over 1,000 years, the area has been a major producer of ceramics with a reputation for producing excellent quality ceramic products. During the 16th century, the community gradually shifted to the manufacture of decorative ceramics. Wood biomass was the preferred source of fuel for the industry until the 1970s when there was a realization that this practice was causing deforestation. During the 1975-1985 period, coal was used for ceramics in Bat Trang in open pits where energy efficiencies were in the order of 7%. There are anecdotes of a different environmental condition during this period including warmer temperatures and poor air quality.

In 1995, there were an estimated 1000 ceramics kilns fired by coal. The first LPG kiln for ceramics in Bat Trang was in 1995 by Huynh Huong Ceramics. The LPG kiln was imported from Japan for US\$35,000 for a 1.0 m³ kiln, a hefty sum for most ceramics businesses. The impact of this kiln was a demonstration of the effectiveness of a closed kiln. From 1996 to 2006, an estimated 200 ceramic businesses built their own LPG kilns, none of them with the same efficiency of the Japanese kiln. Likely for proprietary reasons, none of the information amongst the different kiln owners was shared; it is noteworthy that many of these 200 kiln owners are not classified as SMEs. Today, there are still 600 open coal kilns operating in Bat Trang.

In 2004, Mr. Le Duc Trong successfully developed an LPG kiln for the ceramics industry as well as design a system for reusing excess heat from the LPG kiln for drying purposes. Mr. Trong's design allowed GoV with the assistance of PECSME, to set technical standards for the purposes of transforming the ceramics kilns of Bat Trang. Once again, Huynh Huong Ceramics provided the efficient LPG kiln demonstration.

Today, there is a very high demand for LPG kilns in the cost range of US\$20,000 to \$50,000. Since the Huynh Huong demonstration in early 2007, over 30 LPG kilns have been installed. There are also over 40 SMEs applying for financing and supply of an LPG kiln in Bat Trang. PECSME was able to train and promote Mr. Trong and his colleagues as energy service providers (ESPs) to the various ceramics SMEs. Mr. Trong is currently servicing more than 70 ceramics SMEs throughout Vietnam to convert to LPG.

The success of the Huynh Huong Ceramics LPG kiln demonstration was due to the PECSMEs ability to demonstrate reduced energy consumption and operating costs, significant improvements on product quality and production efficiency and the location of the demonstration within a ceramics community, where the comprehension of the benefits of LPG kilns are better understood.

Source: Personal communication with Office of the People's Committee of Bat Trang, September 17, 2008.

GHG emission reduction impacts have been calculated for the PECSME using the methodologies suggested by the “Manual for Calculating GHG Benefits of GEF Projects: Energy Efficiency and Renewable Energy Projects, April 16, 2008 (GEF/C.33/Inf.18)”, CDM Executive Board methodologies (AMS II.D., Version: 11 for brick and ceramic sectors, AM0036 for boilers in the pulp & paper, textile, and food processing sectors), and grid emissions factor used to estimate the Vietnamese electricity grid of 0.43 tCO₂/MWh. An adjusted grid emissions factor of 0.6 kg CO₂/kWh is recommended to reflect the actual grid emissions depending on the time of day and the prevailing generation source for electricity; this is further discussed in Section 6 under Recommendation 6.

Table 3 summarizes these GHG reductions. The GHG reductions are calculated from GHG reductions during PECSME and for a 10-year period after the completion of PECSME. This follows the guidelines as set in “Manual for Calculating GHG Benefits of GEF Projects: Energy Efficiency and Renewable Energy Projects, April 16, 2008 (GEF/C.33/Inf.18)”.

Table 3: Summary of CO₂ Reductions from the Project

Direct emission reduction ¹³ due to sectoral demonstration projects, t CO ₂	
Bricks	93,446
Ceramics	2,073
Food Processing	775
Textiles	516
Pulp and Paper	3,590
Total direct emission reduction, t CO₂	98,248
Direct post-project emission reduction ¹⁴ due to replication projects, t CO ₂	
Bricks	506,465
Ceramics	143,602
Food Processing	12,653
Textiles	8,053
Pulp and Paper	23,275
Total direct post-project emission reduction, t CO₂	694,049
Indirect emission reduction ¹⁵ due to impact projects, t CO ₂	
Bricks	247,362
Ceramics	4,857
Food Processing	1,120
Textiles	2,221
Pulp and Paper	0
Indirect emission reduction, t CO₂	255,561
TOTAL EMISSION REDUCTIONS DUE TO UNDP-GEF PROJECT, t CO₂ (10-yr cumulative after completion of PECSME, up to 2020)	1,047,858

¹³ Direct impacts can be considered for all 6 demonstration projects in brick, ceramic and pulp and paper sectors over a period of 10 years (due to kiln, LPG oven and boiler service life being greater than 10 years); 5 years for food processing and textiles (due to 5-year service life of various lighting fixtures). The period of 10 years is recommended by GEF manual or less depending on service life of EC intervention.

¹⁴ Due to the investments supported by mechanisms (e.g., loan guarantee fund) that will continue to operate a minimum of 5 years after the end of PECSME.

¹⁵ Indirect emissions are from “Impact” projects developed with knowledge of PECSME demonstrations but without PECSME assistance

While the impact to the Project can be potentially significant, the evaluator has noted:

- Stakeholder frustration over the complexities of obtaining a loan guarantee;
- Minimal replication impact over EC initiatives in the textile and pulp & paper sectors; and
- A need for the PMU to re-focus its efforts on ensuring sustainability of the project.

2.2 Project Design and Relevance

2.2.1 Project Relevance and Country Drivenness

The Project targets its assistance to the SME sector that accounts for over 25% of the GDP of Vietnam. Moreover, the SME sector accounts for 25% of the country's GDP and an estimated 26% of its employment. In general, the SME inability to reduce its energy consumption is due mainly to its lack of awareness of EC opportunities and its general inability to access finance (due to the sector's general lack of collateral). As such, the SME sector is unable to make the necessary investments to improve their products as well as reduce their energy consumption.

The GoV has been trying to assist SMEs since the early 1990s due to their economic potential. With the recent hikes of imported fuel into Vietnam, the country has targeted all sectors of the economy to adopt EC practices. The GoV has promulgated a number of policies targeting EC as well as being supportive of removing financial barriers to SMEs as detailed in Section

This Project is relevant to Vietnam's developmental priorities of energy conservation, raising the standards of SME operations and minimizing the need to import energy from neighboring countries. As such, country ownership and drivenness for this Project is strong.

2.2.2 Project Design and Implementation Approach

Project design is strong as it provides a number of support mechanisms for SMEs to implement various EC measures. This is significant in that the design fully recognized the technical challenges to SMEs in the baseline scenario, and the design providing training and awareness raising as the first activities required for implementation. Though this is not an evaluation of the PDF B Phase of the Project, the project appears to be well prepared.

The Project has implemented and achieved a number of objectives to its mid-point. This is remarkable in that most of the targets that were set were attained. In this regard, the implementation approaches of the Project were strong and included:

- Project startup concurrent with:
 - dialogue with government on the legal and regulatory framework;
 - raising awareness and building capacity of SMEs on EC opportunities for their businesses;
 - assessing training needs and designing training delivery mechanisms;
 - preparing feasibility studies for demonstration projects; and
 - operationalizing the LGF.

- Study tours in both Years 1 and 2 for policy makers;
- Completion of 10 demonstration projects in Year 2 covering all targeted sectors;
- Supporting awareness activities for new government policies on labeling, technology transfer, and EC&EE incentives;
- Training for SMEs, EESPs, ESCOs and government coordinators on technical aspects of EC measures, energy audits and implementation of EC measures;
- Startup of the LGF early in Year 2.

While there have been numerous achievements on the Project in line with the log-frame, there are a number of operational and design issues that require adjustment to improve the efficiency and impact of project delivery:

- ⇒ Notwithstanding the considerable effort that has been placed into training of a wide range of stakeholders, there appears to be limited capacity to develop EC projects for SMEs that would meet PECSME targets of 500 projects. The evaluator notes that there are sound fundamentals in place for sustaining this program the development of EC projects including trained ESP personnel, available financing and the drafting of an EC law to be passed in 2009. However, with the time remaining on the project, an adjustment of PECSME targets based on the current scenarios may be required. This may involve either reducing the target number of EC projects or increasing training capacity to increase the pool of EESPs and ESCOs that can assist SMEs in EC project development;
- ⇒ SME applications for loan guarantees are below target levels due to cumbersome procedures of obtaining loan guarantees and high interest rate of borrowing. Adjustments in the use of the LGF mechanism is required to stimulate SME interest in borrowing for implementing EC measures. This would include simplified procedures for obtaining loan guarantees and reducing monthly payments for SMEs;
- ⇒ Replication of ceramic and brick sectors projects have been more successful than demonstrations for pulp and paper, food processing and textiles. As such, more promotional efforts will be required to maximize the replication potential for the pulp and paper, textile and food processing sectors. This would include strengthening regional ECCs and EESPs in the identification and development of replication projects in these sectors.

2.3 Project Implementation Arrangements

2.3.1 Stakeholder Involvement, Linkages to Project and Other Interventions in Sector

The evaluator concludes that the UNDP/GEF PMU is well-connected with relevant stakeholders and tries to find synergy with other EC&EE projects. This includes:

- Vietnam National Energy Efficiency Program (VNEEP) – PECSME contributes to the MoIT-administered VNEEP efforts on promoting EC&EE standards, and guiding documents for laws and decrees related to EC&EE (Outcome 1.2);
- Vietnam Energy Efficiency Public Lighting Project (VEEPLP) has similar project components. Due to its narrow scope in public lighting, GHG reductions are expected

to be less than 200 ktonnes CO₂ cumulative on the project timeframe. Similar to PECSME, the VEEPLP is also funded by the GEF and managed by UNDP;

- The WB-GEF funded Project: Commercial Energy Efficiency Programme (CEEP) administered by the MoIT. The synergy between this project and PECSME is the complementarity of their respective training programs; CEEPs training focuses on business skills while PECSME training focuses on technical issues and is tailored to the specific industrial sectors;
- Vietnam Environment Protection Fund (VEPF) – VEPF (administered by MoNRE) is promoting the use of the PECSME LFG to catalyse borrowing for EC&EE projects.
- MoNRE – PECSME contributes to MoNRE efforts on GHG emission standards...
- MoST – PECSME contributes to MoST efforts on promoting EC&EE technology transfer and application through providing technical assistance. This includes a list of EC&EE technologies on a list of technologies to be used on the MoST Fund for Technology Transfer Promotion;
- MoPI – PECSME contributes to MoPI efforts on inclusion of EC&EE activities as a part of the National SME Development Promotion Program.

2.3.2 Management, Monitoring and Evaluation, Identification and Management of Risk

PIRs have provided documentation to identify and manage Project risks. Project personnel appear diligent in identification of risks in all PIRs. It is noted, however, that the original 2004 log-frame of PECSME is lengthy and requires some re-wording to increase its effectiveness as a monitoring tool. The evaluator notes that some adjustments have already been made in the various versions of the APRs and PIRs with the latest version being the August 2008 PIR. On Table 1, the Evaluator has made some suggested edits; for example, “project strategy” has been adjusted to reflect “project outcomes”. These edits were intended to assist the PMU in tracking progress, and to conform to log-frames on other GEF projects.

Management and coordination of PECSME has been satisfactory notwithstanding the ambitious targets set in the Prodoc. Examples include the numerous reports supplied to the evaluator that cover project plans, gap analyses for policy, training needs assessments, design of the LGF, baseline scenarios for the demonstration projects, component mid-term evaluations, study tour outcomes, training effectiveness, and implementation reports for demonstration projects.

Due to the increasing complexity of tracking progress notably with respect to over 100 replication projects, a review of the monitoring system is required that should result in a new information management system for the Project. The current management information system (MIS) is based on an Excel spreadsheet platform that is not user-friendly for timely data entry and production of reports.

Hence, the purposes of a management review are to:

- find the means to optimize the outputs of the PMU;

- provide relief to their heavy workloads that are likely to increase towards the conclusion of PECSME; and
- provide the PMU the opportunity to adaptively manage the Project based on recent project results and stakeholder demands.

2.4 Project Budget and Cost Effectiveness

Table 4 presents an overview of expenditures of the GEF contribution to the budget. Expenditures until September 15, 2008 were an estimated US\$2.78 million. PECSME disbursements were 72% in 2006 and 92% in 2007 of AWP targets. Considering the achievements of the Project, the disbursements have been effective to the extent that they have been there are some extra funds which can be used for additional training, an anticipated future need of the project funds.

Table 5 presents a summary of PECSME co-financing. PECSME co-financing is equivalent to US\$8.13 million, 35% of the proposed committed co-finance for PECSME. The distribution of co-financing contributors between the GoV, VietinBank, the private sector and the Vietnam Environment Protection Fund provides a good indicator of the wide level of support being received for the Project.

Table 4: Project Budget and Expenditures for 2006-2008

Activity	2006	2007	2008 (up to Sept 15/08)	Total Disbursed	Total Planned for Project	Total Remaining
Activity 1- EC&EE Policy and Institutional Support Development Program	48,470.64	69,703.18	84,347.60	202,521.42	330,913.18	128,391.76
Activity 2- EC&EE Communication and Awareness Program	84,717.43	97,225.01	141,732.29	323,674.73	501,283.10	177,608.37
Activity 3- EC&EE Technical Capacity Development Program	44,209.82	111,705.61	48,177.50	204,092.93	447,361.50	243,268.57
Activity 4- Energy Efficiency Services Provision Support	0.00	43,625.58	185,934.99	229,560.57	399,362.50	169,801.93
Activity 5- EC&EE Financing Support Program	335,134.74	713,665.53	37,393.33	1,086,193.60	2,214,683.99	1,128,490.39
Activity 6- EC&EE Technology Demonstration	53,017.91	54,153.83	128,207.88	235,379.62	637,430.16	402,050.54
Activity 7- Management	192,265.73	166,734.72	116,967.39	475,967.84	848,601.07	372,633.23
Activity 8- Monitoring and Evaluation	16,426.58	5,665.08	2,120.00	24,211.66	89,364.50	65,152.84
Totals:	774,242.85	1,262,478.54	744,880.98	2,781,602.37	5,469,000.00	2,687,397.63

Table 5: Co-Financing and Leveraged Resources

Co financing (Type/ Source)	IA own Financing (mill US\$)		Multi-lateral Agencies (Non-GEF) (mill US\$)		Bilateral Donors (mill US\$)		Central Government (mill US\$)		Local Government (mill US\$)		Private Sector (mill US\$)		NGOs (mill US\$)		Total Financing (mill US\$)		Total Disbursement (mill US\$)	
	Pro- posed	Actual	Pro- posed	Actual	Pro- posed	Actual	Pro- posed	Actual	Pro- posed	Actual	Pro- posed	Actual	Pro- posed	Actual	Pro- posed	Actual	Pro- posed	Actual
Grant															0	0	0	0
Credits															0	0	0	0
Loans							1.00	0.17 ²⁸			18.10	0.50			19.10	0.67	0	0
Equity							0.60	0.38	1.00	0.47	1.00	5.88	0.50	0.43 ²⁹	0	0	3.10	7.16
In-kind							0.50	0.20	0.60	0.11					0	0	1.10	0.31
Non-grant Instruments															0	0	0	0
Other Types															0	0	0	0
TOTAL							2.10	0.75	1.60	0.58	19.10	6.38	0.50	0.43	19.10	0.67	4.20	7.47

²⁸ These are loans from VEPF and VietinBank

²⁹ Includes cash contribution from HUT

2.4.1 Evaluation of Project

Table 6 provides an evaluation of the current outcomes of each Project output. Each output was evaluated against individual criterion of:

- *Relevance* – the extent to which the activity is suited to local and national development priorities and organizational policies, including changes over time.
- *Effectiveness* – the extent to which an objective has been achieved or how likely it is to be achieved.
- *Efficiency* – the extent to which results have been delivered with the least costly resources possible.
- *Results/impacts* – the positive and negative, and foreseen and unforeseen, changes to and effects produced by a development intervention. In GEF terms, results include direct project outputs, short-to medium term outcomes, and longer-term impact including global environmental benefits, replication effects and other, local effects.
- *Sustainability* – the likely ability of an intervention to continue to deliver benefits for an extended period of time after completion. Projects need to be environmentally as well as financially and socially sustainable.

The Project outputs were rated based on the following scale:

- *Highly Satisfactory (HS)*: The project has no shortcomings in the achievement of its objectives;
- *Satisfactory (S)*: The project has minor shortcomings in the achievement of its objectives;
- *Moderately Satisfactory (MS)*: The project has moderate shortcomings in the achievement of its objectives;
- *Moderately Unsatisfactory (MU)*: The project has significant shortcomings in the achievement of its objectives;
- *Unsatisfactory (U)*: The project has major shortcomings in the achievement of its objectives;
- *Highly Unsatisfactory (HU)*: The project has severe shortcomings in the achievement of its objectives.

The overall rating of the project in terms of project progress is S, mainly due to the attainment of a number of targets set in the Prodoc with a need for adjustments to various design and implementation issues.

Table 6: Evaluation of Project Activities and Outputs (as of September 2008)

Project Outcome	Relevance	Efficiency	Effectiveness	Results / Impacts	Overall Rating
Outcome 1: Improved EC&EE policy and Institutional capacity	HS	HS	HS	HS	HS
Outcome 1.1: Improved EC&EE awareness and capacity on EC&EE policy development within the GoV	HS	HS	HS	HS	HS
Outcome 1.2: Incentive policies for supporting EC&EE Investment in SMEs developed	HS	HS	HS	S	HS
Outcome 1.3: Technical assistance provided to SMEPC and SMEDD to incorporate EC&EE programs into the National SME Development Support Program	HS	HS	HS	HS	HS
Outcome 1.4: EC&EE coordinating agencies in the SME sector and provincial technical support networks are established and operational	HS	HS	HS	HS	HS
Outcome 1.5: MoNRE capacity is improved in modifying environmental standards related to GHG emissions	S	Unable to rate	Unable to rate	Unable to rate	Unable to rate
Outcome 2: Enhanced SME and public awareness of EC&EE	HS	HS	HS	HS	HS
Outcome 2.1: Communications strategy developed	HS	HS	HS	HS	HS
Outcome 2.2: Information dissemination network established and the capacity of organizations involved in information network strengthened	HS	HS	HS	HS	HS
Outcome 2.3: Awareness of SME and general public on EC&EE assessed Recommendation made to eliminate this outcome	Unable to rate	Unable to rate	Unable to rate	Unable to rate	Unable to rate
Outcome 2.4: SME Energy-Use database developed	HS	HS	HS	HS	HS
Outcome 2.5: EC&EE information disseminated to SMEs through the network	HS	HS	HS	HS	HS
Outcome 2.6: EC&EE advocacy and awareness campaign completed Recommended change: Re-word outcome to: "Public awareness enhanced through completion of EC&EE advocacy campaigns"	HS	HS	HS	HS	HS

Table 6: Evaluation of Project Activities and Outputs (as of September 2008)

Project Outcome	Relevance	Efficiency	Effectiveness	Results / Impacts	Overall Rating
Outcome 2.7: SMEs registered for receiving technical assistance for implementing EE&EC projects	HS	HS	HS	HS	HS
Outcome 3: SME and EESP capacity has been enhanced to implement EE&EC projects.	HS	HS	S	S	S
Outcome 3.1: Training for trainers provided	HS	S	S	S	S
Outcome 3.2: SME training courses conducted Recommended change: Re-word to “SME knowledge improved on the benefits of EC&EE”	HS	HS	HS	HS	HS
Outcome 3.3: Sustainable EC&EE training programs developed for relevant universities and colleges Recommendation made to eliminate this outcome	Unable to rate	Unable to rate	Unable to rate	Unable to rate	Unable to rate
Outcome 3.4: Training program has been monitored and evaluated Recommendation made to eliminate this outcome	Unable to rate	Unable to rate	Unable to rate	Unable to rate	Unable to rate
Outcome 3.5: Energy audits of selected SMEs completed Recommended change: Re-word to “Capacity to conduct energy audits is strengthened”	HS	HS	HS	HS	HS
Outcome 4: Growth of competitive and sustainable EE services provision industry through enhanced business, engineering and financial skills of EESPs	HS	S	S	S	S
Outcome 4.1: EESP training program completed	HS	HS	S	S	HS
Outcome 4.2: Suitable institutional and legal framework developed for EESP activities	HS	MS	Unable to rate	Unable to rate	Unable to rate
Outcome 4.3: Project assistance has been provided for EESP operations	HS	S	HS	S	S
Outcome 4.4: Standardized contracts to deliver EESP services to SMEs completed and executed	HS	S	S	S	S
Outcome 4.5: Assessment of local capabilities for EE equipment supply completed	HS	S	S	HS	S
Outcome 4.6: Energy performance of industrial equipment evaluated	HS	S	Unable to rate	Unable to rate	Unable to rate

Table 6: Evaluation of Project Activities and Outputs (as of September 2008)

Project Outcome	Relevance	Efficiency	Effectiveness	Results / Impacts	Overall Rating
Outcome 4.7: Technical capacity of local equipment manufacturers and fabricators enhanced	HS	S	Unable to rate	Unable to rate	Unable to rate
Outcome 4.8: Design of a Sustainable EC&EE Research and Development Program	S	Unable to rate	Unable to rate	Unable to rate	Unable to rate
Outcome 5: Increase financial system willingness to lend to SME for EC&EE Projects through enhanced knowledge of EC and skills in evaluating loan application	HS	S	S	S	S
Outcome 5.1: Increased banking and finance sector awareness of the benefits of EC&EE projects	HS	S	HS	S	S
Outcome 5.2: Improved SME access financing for EC&EE Projects	HS	HS	HS	HS	HS
Outcome 5.3: Mobilisation of a loan guarantee funding mechanism	HS	HS	S	S	S
Outcome 5.4: Mobilization of Vietinbank's Loan Program <i>Recommended Change: Change outcome to "Replication projects funded by financial institutions"</i>	HS	HS	S	S	S
Outcome 5.5: Provision of additional TA and funding for EC&EE investments <i>Recommended change: Remove this outcome as it would be combined with Outcome 5.4</i>	Unable to rate	Unable to rate	Unable to rate	Unable to rate	Unable to rate
Outcome 5.6: Established financing mechanisms evaluated <i>Recommended Change: Remove this project outcome.</i>	Unable to rate	Unable to rate	Unable to rate	Unable to rate	Unable to rate
Outcome 6: Increased credibility of EC&EE through successfully implemented and evaluated demonstration projects	HS	HS	S	S	S
Outcome 6.1: Completed thorough techno-economic feasibility analyses of potential EC&EE investment projects	HS	HS	HS	HS	HS
Outcome 6.2: Demonstration requirements identified and evaluated	HS	HS	HS	HS	HS
Outcome 6.3: Demonstration project barriers identified and removed	HS	HS	HS	HS	HS
Outcome 6.4: Baseline data for demonstration sites collected	HS	HS	HS	HS	HS

Table 6: Evaluation of Project Activities and Outputs (as of September 2008)

Project Outcome	Relevance	Efficiency	Effectiveness	Results / Impacts	Overall Rating
Outcome 6.5: Demonstration projects implemented	HS	HS	S	S	HS
Outcome 6.6: Demonstration projects experiences shared with other stakeholders	HS	HS	S	S	HS
Outcome 6.7: Technical assistance for implementation of 500 EC&EE investments provided	S	S	S	S	S
Monitoring and Evaluation	HS	S	S	HS	S
Overall Rating					S

2.5 Sustainability and Replicability

2.5.1 Sustainability

In assessing the sustainability of the project, we asked “how likely will ‘immediate Project objectives’ (from the 2004 Prodoc) be sustained after termination of the Project”. Sustainability of these objectives was evaluated in the context of financial resources, socio-political risks, institutional framework and governance and environmental factors, using a simple ranking scheme:

- *Likely (L)*: very likely to continue and resources in place;
- *Moderately Likely (ML)*: model is viable, but funding or resources may not be in place;
- *Moderately Unlikely (MU)*: model is not viable or needs changing; and/or resources not in place; and
- *Unlikely (U)*: model is not viable and resources are not in place

The sustainability of PECSME is rated as ML (moderately sustainable) due mainly to a lack of confirmed financial resources to continue activities in a post-project environment. The evaluation of each component is shown on Table 7. It is important to note that the index is simply to facilitate an assessment of future sustainability and is not a rating of the PMU and their consultants. Instead, it is a rating of the project design and viability going forward, including availability of budget and resources for continuation.

Table 7: Assessment of Sustainability for Objectives

Intended Outcome	Assessment of Sustainability	Dimensions of Sustainability
<p>Outcome 1: Improved EC&EE policy and Institutional capacity through:</p> <ul style="list-style-type: none"> • improved GoV awareness and capacity on EE& EC issues • development of supporting EE&EC incentive policies • provision of TA to support national SME development programs • establishing operational network of coordinating SME agencies • improved MoNRE capacity to modify standards related to GHG emissions 	<ul style="list-style-type: none"> • <i>Financial Resources:</i> Energy conservation has been a GoV priority since the 1990s. As such, the GoV is likely very willing to sustain its allocation of funding resources to their own EC projects to the extent possible with their resources. The VEPF is an example of this willingness. However, this may not be sufficient unless additional resources from other donors are made available; • <i>Socio-Political Risks:</i> The GoV is likely to remain driven to continue with EC and EE initiatives as they envisage growing demand for electricity in Vietnam and the fact that EC is one of the most economical ways of adding power to the grid; • <i>Institutional Framework and Governance:</i> The anticipated passing of an EC law in 2009 and the legal framework for the EESP industry provide an excellent basis for the GoV to continue supporting EE & EC; • <i>Environmental Factors:</i> Environmental impacts of EC and EE activities are benign and would be supported by the GoV <p style="text-align: right;">Overall Rating</p>	<p style="text-align: center;">L</p> <p style="text-align: center;">L</p> <p style="text-align: center;">L</p> <p style="text-align: center;">L</p> <p style="text-align: center;">L</p>
<p>Outcome 2: Enhanced SME and public awareness of EC&EE through:</p> <ul style="list-style-type: none"> • The development of a communications strategy • Establishment of an information dissemination network • Database for SME energy use developed • EE&EC information disseminated through network • EE&EC advocacy campaign completed • SMEs registered for TA to implement EE & EC projects 	<ul style="list-style-type: none"> • <i>Financial Resources:</i> Continuance of awareness activities after the project is complete will largely depend on available financial resources which at this time is likely through limited GoV funding • <i>Socio-Political Risks:</i> Several NGOs are leading EE & EC awareness activities in various provinces that are likely to be sustained; • <i>Institutional Framework and Governance:</i> The anticipated passing of an EC law in 2009 provides an excellent basis for continued stakeholder awareness raising of EE & EC; • <i>Environmental Factors:</i> Environmental impacts of EC and EE activities are benign and would be supported by SMEs. <p style="text-align: right;">Overall Rating</p>	<p style="text-align: center;">ML</p> <p style="text-align: center;">L</p> <p style="text-align: center;">L</p> <p style="text-align: center;">L</p> <p style="text-align: center;">ML</p>
<p>Outcome 3: SME and EESP capacity has been enhanced to implement EE&EC projects through</p> <ul style="list-style-type: none"> • Training of trainers for EE&EC • Training for SMEs • Development of sustainable EE&EC training programs in universities and colleges • Energy audits on selected SMEs completed 	<ul style="list-style-type: none"> • <i>Financial Resources:</i> Training of SMEs and EESPs will be sustained through sectors that generate sufficient energy savings such as the ceramic and brick sectors. Other sectors such as textiles will require external financial support to sustain EC in their sectors; • <i>Socio-Political Risks:</i> Most SMEs and EESPs will want energy audits primarily if it can generate sufficient cost savings and earnings. There is a risk of a loss of interest in EC for less profitable sectors. This will likely require GoV support for continued EC in those sectors for which there is currently no certainty; • <i>Institutional Framework and Governance:</i> The anticipated passing of an EC law in 2009 provides an excellent basis for continued strengthening of SME and EESP capacity in profitable EC activities. The GoV will likely support EC in less profitable sector; however, the extent of this support is questionable given the high level of effort required to achieve EC and EE in textiles or the pulp and paper 	<p style="text-align: center;">ML</p> <p style="text-align: center;">ML</p> <p style="text-align: center;">ML</p>

Table 7: Assessment of Sustainability for Objectives

Intended Outcome	Assessment of Sustainability	Dimensions of Sustainability
<p>Outcome 6: Increased credibility of EC&EE through successfully implemented and evaluated demonstration projects through:</p> <ul style="list-style-type: none"> • Completed thorough techno-economic feasibility analyses of potential EC&EE investment projects • Identification and evaluation of demonstration requirements • Identification and removal of demonstration project barriers • Collection of baseline data for demonstration sites • Sharing demonstration projects experiences with other stakeholders • Provision of TA to implement 500 EC&EE investments 	<ul style="list-style-type: none"> • <i>Financial Resources:</i> All demonstration projects will generate financial benefits. However, the profitable ceramic and brick sectors will generate more interest from their demonstrations. Interest in energy savings from textiles, food processing and pulp and paper will need a “push” from the provincial ECCs to sustain the interest of the relevant SMEs to invest time and funds to implement EC activities; • <i>Socio-Political Risks:</i> Unlike the ceramic and brick sectors, there is less sustained interest in the textile, food processing and pulp and paper SMEs to implement replication. This is partly due to these sectors generally being marginally profitable, and SMEs not having the time to increase their knowledge of EC&EE. GoV regional coordinators will be required to find additional resources (human and fiscal) to continue EC activities in these sectors as well as and increase effective outreach to SMEs. They will require external assistance in this regard; • <i>Institutional Framework and Governance:</i> The anticipated passing of an EC law in 2009 provides an excellent basis for continuation of demonstration activities which may be required to increase the effectiveness of demonstrations for the less profitable sectors. The GoV will likely support EC in these sectors; however, the extent of this support is questionable given the high level of effort required to achieve EC&EE in textiles, food processing or the pulp and paper sectors. The provincial ECCs will play an important role in promotion of EC&EE in these sectors; • <i>Environmental Factors:</i> Environmental impacts of EC and EE activities are benign and would be the primary force behind the additional demonstrations. <p>Overall Rating</p>	<p>ML</p> <p>ML L (for ceramic and brick sectors) ML (for other sectors)</p> <p>ML</p> <p>L</p> <p>ML</p>

There are issues concerning the sustainability of the LGF mechanism as currently designed. Currently, there are only 13 loan guarantees against the LGF with complaints about the complex procedures to apply for the guarantee including the borrower having to place collateral valued at 25% of the loan amount requested. *The Project will need to propose streamlining loan guarantee application procedures including waiving the guarantee of only 75% of the requested loan.*

2.5.2 Replicability

PECSME success is primarily measured on the rate of demonstration project replication. The rate of replication reflects successful outcomes of the other project components that would support SME investments into EE & EC including policy development, awareness of EC & EE activities, availability of financial support and technical assistance. Replication of demonstration projects, however, is limited to those sectors that generate sufficient energy savings and increase profitability. A short assessment of the replication of each of the PECSME demonstration sectors is presented below:

- *Brick sector.* Replication of EE brick kilns has been successful. There has been an investment of over US\$4.5 million into 27 EE demonstration and replication brick kilns (mostly VSBKs) that have been constructed since the VSBKs were demonstrated in early 2007 in Phu Tho province in the North and Binh Duong Province in the South (northwest of HCMC). Replication and impact projects have been well supported by the emergence of EESP service companies, brick field entrepreneurs being enthusiastic about the actual energy savings of the VSBK, the improvements in the brick quality and the improved rate of brick production; and by additional funding for VSBKs that has been made available by the National Environmental Fund in the form of a soft loan provision and local governments in the form of subsidies¹⁸;
- *Ceramic sector.* Replication and impact projects have been successful in the ceramics sector that includes a US\$0.48 million investment for over 22 LPG kilns. Reasons for this success includes well-managed demonstration projects, good dissemination activities, stakeholder recognition of improved production and profitability, and the availability of finance (either through various SME banking schemes or equity). This was noteworthy in Bat Trang (see Box 1) where more than 30 LPG kilns have been installed since the successful demonstration of 2007;
- *Pulp and paper sector.* Main interventions appear to be the installation of efficient boilers and steam recovery. The demonstration project in HCMC at the Thien Tri Company has had some exposure for replication purposes. The pulp and paper entrepreneurs interviewed expressed fears of sharing their EC experiences with others, possibly due to issues related to tax evasion or proprietary knowledge. As such, technical knowledge of EC&EE investments in pulp and paper is likely not readily shared with other SMEs stunting its replication potential; a total of 6 replication projects have been implemented in this sector, less than the 25 and 20 replication projects in the brick and ceramic sectors respectively. The provincial ECCs will play a pivotal role in promoting EC&EE in this sector;
- *Food processing.* An EC demonstration at the Nhat Hoang Food Processing Company in Danang consisted of a number of smaller less visible measures including efficient lighting, and steam recovery. The regional EC coordinator in Danang has had limited success in replication of these EC measures partly due to the host demonstration company being unwilling to fully share its EC experiences with other SMEs. Furthermore, visitors are deemed to be disruptive to production lines, and hence, are discouraged from viewing the EC measures. Similar to pulp and paper, ECCs will play a pivotal role in promoting EC&EE in this sector. A total of 12 replication projects have been implemented in this sector;
- *Textiles.* An EC demonstration in Hanoi at the Tin Thanh Textile Company consisted of a number of very small measures including efficient lighting, use of natural lighting through roofing modifications, and use of capacitors to regulate current into older motors. The potentially most visible measure, steam recovery from a textile steam machine, was not installed due to lack of available space in the factory. Furthermore, there were issues regarding the measurement of the actual energy saved from these

¹⁸ Local government subsidies differ between provinces; Binh Duong province provided for each VSBK VND 30 million (USD 1,800) while the local government of Hai Duong provided a subsidy of only VND 7 million (USD 420) for each VSBK.

measures. As a consequence, the demonstration lacked the “visibility” required to generate replication and investment interest. As a result, a number of textile SMEs are likely using their own funds to implement EC measures as indicated by the number of replication projects (3) and number of impact projects (9). There are efforts underway, however, through a prominent textile association to facilitate EC&EE investments amongst textile SMEs.

3. CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions

Main **achievements** of the project as of September 2008 have been:

- Project involvement with drafting of energy conservation laws and policies that promote EC&EE investments; these should provide the basis for increased SME involvement in EC activities in Vietnam. The Draft Law of Energy Conservation and Efficient Use is designed to encourage intensive energy end-users to appropriately manage the energy consumption and report the impact of the EC measures to GoV. The draft EC Law provides incentives measures such as tax rebates for promoting EC equipment purchases. In addition, the Draft EC Law stipulates the establishment of an Energy Conservation Fund by the GoV to provide direct support to EC initiatives. Passing of the law is anticipated in 2009 or 2010;
- Successful setup of supporting information networks with DoST for SMEs and energy service providers (EESPs) in 20 out of 64 provinces in Vietnam. This includes:
 - appointment of provincial coordinators who manage the overall EC program under DoST and to assist them in setting sectoral priorities for ECCs to pursue with SMEs;
 - the setup of 20 provincially administered “Energy Conservation Centers” ECCs/TTCs with personnel to identify EC opportunities for SMEs within a particular provincial area;
 - the emergence of individual persons who are energy efficiency service providers (EESPs) in various provincial centers who specialize in providing technical assistance to SMEs for EC initiatives. In larger centers, some of these EESPs have formed or are operating energy service companies (ESCOs) that are providing EC services to larger companies and SMEs..
- Delivery of training programs for EESPs and SMEs on planning, designing, financing and implementing EC projects. These have been delivered as planned to improve their knowledge base of EC issues for priority SME industrial sectors;
- Delivery of energy services by PECSME-trained EESPs to SMEs and lending institutions. Services have been delivered to SMEs to assess feasibility of EC projects and conduct energy audits, EC measures implementation support, and to lending institutions and SMEs’ owners for the preparation of bankable documents, including the feasibility studies;
- Setup of an operational loan guarantee fund for SMEs and EESPs to raise financing for EC&EE projects. SMEs now have access to loan finance through commercial banks (eg. VietinBank) or government funds (VEPF) that are 75% guaranteed by the Project’s Loan Guarantee Fund (LGF);

- Setup of demonstration projects for SMEs in the ceramic, brick, textile, food processing and pulp and paper sectors. These were all completed in 2007 although to varying degrees of success.

The most important **conclusions** drawn from this MTE mission includes:

- There are a number of incentive-based laws, policies and government incentive programs that serve as good starting points to accelerate SME adoption of EC measures. This includes 30% subsidies in some provinces for VSBKs from the National Environmental Fund from the Local Science and Technology Fund, concessional borrowing rates and tax exemptions;
- Replication of demonstration projects has had varying degrees of success. This is mainly due to the nature of the EC measures proposed, and to some extent, the inherent protective nature of the sector possibly related to proprietary or taxation issues. The actual replication of the demonstration projects for each sector indicates that EC adoption (or transformation) for each sector will be achieved through differing approaches. This includes self-sustaining transformation or demand driven (as is the case for the ceramic and brick sectors) to government promotion of EC measures (as is the case with textiles sector);
- The limited number of qualified EESPs in Vietnam will limit the number of new SME-EC projects per year. To increase the rate of rapid adoption of EC measures by SMEs, the pool of qualified EESPs will need to grow. Moreover, the new EESPs will need to be substantially competent with technical and financial issues related to EC financing and implementation in the 5 industrial sectors under PECSME;
- Many of the EESPs will be working with new and upcoming ESCO business model. These ESCOs will employ persons familiar with EC work; they are generally from the ECCs and various technical institutes such as Hanoi University of Technology (HUT). The GoV has strategies to migrate state employees from government positions (such as the provincial ECCs) to the private sector (i.e. ESCOs). The transition from a public sector to private sector working environment can be difficult. To increase the chances of these ESCOs to succeed in the private sector, assistance to these ESCOs should be provided in the areas of business development and management;
- The PMU has performed at a high level in implementing the Project. The evaluator has also observed that senior PMU management work extremely hard to meet reporting deadlines and project targets; however, their work loads reduce their valuable time to strategize or plan for future activities. With increasing work loads anticipated for the remaining period of PECSME, the PMU are in need of measures to reduce their work load. This would include more sophisticated tools to track progress, notably for replication projects which are scattered throughout Vietnam;
- The Project log-frame requires revisions to reflect ongoing GEF migration towards outcome or impact reporting. The current version of the log-frame is basically an action plan with the key indicators, and needs revision to reflect intended outcomes of each activity that conform with general GEF formats for log-frames. Moreover, some

activities will need to be removed as they are basic evaluation activities of the various components.

Project ***sustainability is moderately likely*** given the current incentive-based policies in place, the information sharing network, ongoing training, SME financing and the setup of demonstration projects, but with the need to confirm that finances will be in place to continue Project activities after the completion of PECSME. Moreover, Project sustainability can be enhanced:

- if there is a clear vision of the post-PECSME scenario including:
 - the use of LGF funds after PECSME is complete. There is currently no commitment from Vietinbank or the GoV on the existence of the LGF after PECSME is complete. As such, questions will linger as what financial instrument will be available to SMEs to finance EC initiatives after PECSME is complete;
 - other financial instruments that can be mobilized for EC activities such as CDM funds for the brick and ceramic sectors;
- through a focused training program (to be implemented between now and the end of PECSME) to address the needs of EESPs and ESCOs after the project is completed. The content of the type of training program will need to be guided by the aforementioned vision of the post-PECSME scenario, and would likely include business training for ESCO personnel who are from ESCOs or technological institutes.

Replication of EC measures will be sustained if:

- there is sufficient demand by the SMEs; energy savings would be substantial, and the new technologies would provide improved productivity, improved quality of final products and increased profitability. This has been most evident in the brick and ceramic sectors;
- EC opportunities are presented in a coherent manner to SMEs by ECCs and TTCs. ECCs and EESPs need to work in close consultation with SMEs to efficiently present clear solutions and benefits, especially in the textile, food processing and pulp and paper sectors;
- there is growth in the number of qualified EESPs to develop the EC opportunity.

3.2 Recommendations

The following recommendations are provided in an approximate order of importance to the project:

Recommendation 1: The Project should resolve issues to ensure there are loan guarantees for SMEs after the completion of the project. Currently, there appear to be two courses of action for PECSME:

- Work with the relevant government agencies (MoST, MoPI and MoF) on their commitment to have the LGF continue to serve as the loan guarantor. In a post-project scenario, MoST would replace PECSME in the administration of the LGF applications and provide the necessary technical assistance; and
- Work with relevant government agencies at the provincial level on commencing a pilot “Energy Performance Contract” (EPC)¹⁹. At least to the knowledge of the Evaluator, the EPC business model is unique in Vietnam and is a means of spreading risk to both the financial lending institute and a competent ESCO. PECSME can provide technical assistance or the initial capital towards setup of the pilot scheme using a portion of available LGF funds (roughly US\$250,000).

By implementing one or both courses of action, a basis can be established on which to provide more focused capacity building programs for the remainder of PECSME. Assuming PECSME implements either or both courses of action, PECSME will need to provide technical assistance and capacity building support as described in Recommendation 2.

Recommendation 2: Revise PECSME training approach to assist EESPs to adapt to the envisioned post-project business environment scenario. Using the limited PECSME budget available, PECSMEs training approach should be adjusted to respond to the needs of the post-project business environment. Since most EESPs are now competent “generalists” in the area of energy conservation, they are only able to provide a certain level of service to most SMEs and financial institutions/fund managers. For these EESPs to evolve to a higher level of competence and to increase their marketability, the training approach will need to foster the development of “champions”, from both a technical and business perspective. As such, the revised training approaches:

- should incorporate more specialization and improving EESP skills to provide improved services to the financial sector. Suggested areas of specialization includes thermal engineering for boilers, thermal engineering for bricks and ceramics, energy efficient lighting, and financing;
- will need to determine locations of where certain sectoral skills are required. For example, Binh Duong Province is a logical choice for developing a brick EESP champion;
- will need to identify individuals who can become champions in each sector:
 - the ceramic sector in Bat Trang already has a qualified candidate for development into a ceramics champion;
 - the brick sector already has two qualified candidates for becoming brick champions;

¹⁹ An energy performance contract is undertaken by an ESCO to implement EC measures for an SME, in return for monthly payments from the SME based on energy saved. ESCO funding to undertake EC measures comes from an open guarantee from a commercial bank such as Vietinbank or from the VEPF (soft loan). To lower the financial risk and maximize efficiency of the program in terms of implementing EC projects, the maximum payback period for an SME is 2 years, preferably 12 to 18 months.

- for the textile, pulp and paper and food processing sectors, there are capable EESPs currently functioning as private ESCOs within these sectors in the HCMC area for EC technical assistance only.

If a pilot EPC is implemented, PECSME should:

- develop the EPC pilot scheme through these “champions” wherever possible or appropriate. This can lead to the outcome of an effective demonstration of a new EC business model in Vietnam that can be replicated by newcomers or ECCs shifting from SoE entities to a private sector company;
- continue to provide training that accelerates market transformation of EC services with other EESPs, including the aforementioned training approaches towards specialization;
- provide advanced business training to participating ESCOs related to formulation and execution of EPCs; and
- provide technical assistance that strengthens the institutional and legal framework of EPCs with a model that reduces risks for the lending institution and the ESCO. This would include assignment of liabilities to the ESCO, lender and the SME.

Recommendation 3: Provide additional support to promote demonstration projects in the textile, food processing and pulp and paper sectors.

The demonstration projects of these sectors has not resulted in larger-scale replication. Additional support to ECCs and provincial DoST coordinators will be required for awareness and technical assistance to promote EC in these sectors. In some cases such as the textile sector, working through the appropriate industry association could be a vehicle for promoting EC projects. If the industry association and government officials jointly conduct promotional and TA work, technology adoption would be more effective as a stronger message would be conveyed to SMEs on the importance of EC measures in Vietnam. Another solution is to implement an EPC (see Recommendation 1) for EC investments in the textile, food processing and pulp & paper industrial sectors; these sectors are, as a rule, not cost-intensive, and would have a short payback period if implemented through an EPC.

Recommendation 4: Amend conditions for obtaining loan guarantees from the LGF by:

- Guaranteeing 100% of the requested loan covered by the LGF. Current conditions for SMEs applying for a loan guarantee from the LGF include the SME having to raise their own collateral equivalent to 25% of the requested loan amount. If this condition was waived, an outcome of more SMEs requesting loans through the LGF is more likely. Moreover, the risks of waiving this condition are offset by the fact that there are currently no repayment issues of loans approved against the LGF, as indicated by Project records. In addition, the LGF will likely receive more requests for loan guarantees from the brick and ceramic sectors; these sectors are under better financial condition than the textile and pulp and paper sectors;
- raise the LGF ceiling from 2.0 billion VND to 5.0 billion VND. Rationale for this recommendation comes from the rising costs of EC projects over the last 2 years, and the need to include larger projects in the LGF portfolio; and

- transfer US\$250,000 from the LGF to provide additional training or knowledge transfers for EESPs and SMEs on the LGF and other financial issues related to EC implementation. This is being presented as a means to support of Recommendation 2 for additional training support on LGF financing issues, and responds to several concerns amongst stakeholders, especially Vietinbank, of the need for improved understanding amongst SMEs of this financial instrument. The risk of lowering the LGF by US\$250,000 is low given that the LGF will still be able to cover an equivalent of 80 replication projects (assuming an average replication project cost of US\$43,000). The transferred budget provision will be useful to additional activities such as training in the preparation of bankable documents, introducing a new business model such as the EPC approach and project bundling in the brick making and ceramic sectors under future carbon trade programs to be launched by the World Bank and other multi-lateral organizations.

Recommendation 5: Facilitate preparations for a CDM project in the ceramic and brick sectors. The Project is in a unique situation to facilitate the formation of an entity or selection of an existing entity to prepare and manage a CDM project. With the Project's technical knowledge of these sectors, its stakeholder network and its linkages to multilateral assistance for soft support, an effort should be made to ensure CDM revenue can support the continuation of market transformation in the brick and ceramics sectors. Preparations can include:

- determining baseline and appropriate CDM methodology to estimate CER generation;
- institutional arrangements for designing and managing the project and distributing CDM revenue streams;
- determining PECSMEs role in facilitating CDM preparations.

Recommendation 6: Re-assess methodology used to calculate electricity-based GHG emission reductions through the use of "marginal grid emission factors". Current estimation methods used by the Project for grid emissions is based on a grid emissions factor that is averaged, notwithstanding the different energy sources used during different times during the day. The use of a marginal emissions grid factor will provide a more precise determination of the actual grid emissions at a particular time of day based on generation sources. PECSME at this time is likely underreporting GHG emissions from its activities.

An example of the differences between GHG reporting using the average and marginal emission factors would be the use of efficient lighting in the food processing and textile sectors. With the efficient lighting used during the daytime operations, GHG savings are estimated using an average grid factor of 0.43 kg CO₂/kWh or the average of daytime generation (being a combination of hydro and fossil fuels) and nighttime generation (hydro only). A more realistic GHG reduction would account for the daytime grid emissions factor of more than 0.6 kg CO₂/kWh based on reduction of grid power consumption from fossil fuels.

Recommendation 7: PECSME will need to invest some resources to improve efficiencies in project monitoring. The aim of this recommendation is to reduce the workload of the PMU to the extent that they can focus on adaptively managing the project.

This recommendation also makes the assumption that the workload during the second half of PECSME will increase; any increase in PECSME workload will result in an increased risk that the PMU cannot manage the project in a manner similar to its past high performance. Specifics of this recommendation include:

- an assessment of how to setup an information management system that can be queried for project progress, and produce progress reports efficiently for PMU reporting requirements as already outlined in the M&E Guidelines issued in May by the PMU in 2008;
- discussions with PMU staff and other users of the database as to the design of the database structure (using the current Excel spreadsheet). The design should ensure ease and relevance of data entry, relevant query functions, and reporting formats;
- ensure database design compatibility with database software. The software platform is likely to be Microsoft Access and its compatibility with other Microsoft software; and
- training for PMU staff on the use of the information management system, related software and best practices of continuous monitoring and evaluation.

Recommendation 8: Reset log-frame targets and outcomes to reflect relevant and realistic targets. Some of the success indicators or targets in the original log-frame are not attainable or have become irrelevant from changes in the work plans. These targets were set in 2004 under a different environment, and with considerably less information than is currently available on the Project today. Furthermore, the log-frame is written in terms of work plan strategies and not outcomes as is the case with many other GEF project log-frames.

As such, the log-frame success indicators need to be updated and strategies of the log-frame converted to intended outcomes of PECSME. Examples of specific target and outcomes that require review or have been reviewed include:

- cumulative GHG reductions and energy savings for the entire project. GHG savings for example, were lower for all sectors except for the brick sector;
- the 500 energy audits and/or feasibility studies to be completed by the end of the Project. This may need to be reduced since there are insufficient resources to complete 500 audits/studies;
- 60 and 80 replication projects financed by the Vietinbank Loan Program and other additional funds respectively. Combining these numbers into one target is recommended;
- an outcome of developing EE&EC training programs for colleges and universities. The PMU have recommended removal of this outcome;
- evaluation activities of each assessment that have their own success indicators. These should be removed as they are project activities and not outcomes of the project.

If the PMU feels the targets are not attainable, the target numbers should be reset. The Evaluator has also provided suggested “outcomes” to replace “strategies” in the original log-frame. These can be found on in the Evaluation Report on Table 1 in the main report.