Ministry of Industry and Trade (MOIT), Vietnam
Ministry of Construction (MOC), Vietnam
Ministry of Foreign Affairs, (Danida), Denmark
Ministry of Climate, Energy and Buildings (MCEB), Denmark

Final
Project Document

Low carbon transition in the energy efficiency sector

Vietnam

October 2012

Cover sheet

Country	Vietnam
Title of project	Low Carbon Transition in the energy efficiency sector
Partners	Ministry of Industry and Trade Ministry of Construction
Starting date and duration	1 January 2013 3 years

Project budget (all figures DKK million)	Total	2013	2014	2015
Component 1	20.6	5.7	6.9	8.0
Component 2	4.4	1.4	1.7	1.3
Programme management, review	5.0	1.4	2.3	1.4
Total (without additional investment)	**29.9**	**8.5**	**10.9**	**10.6**
Additional investment	35.0	0.0	10	25.0
Total (with additional investment)	**65.0**	**8.5**	**20.9**	**35.6**

Note additional investment budget line (Total DKK 34.5 million) is subject to confirmation. All detailed budget figures are subject to change

Date Signed Name: Martin Lidegaard Minister of Climate, Energy and Building	 Signed Name: Vu Huy Hoang Ministry of Industry and Trade

Executive summary

Context

The Governments of Vietnam and Denmark recently initiated a long term dialogue on low carbon transition within the energy sector in Vietnam, specifically targeting energy efficiency initiatives. This dialogue builds on the present cooperation within energy efficiency under the climate change adaptation and mitigation programme (2008-2015) which provides targeted budget support to the Vietnam Energy Efficiency Programme (VNEEP, 2006-2015). VNEEP consists of 11 projects within 4 programme areas: awareness raising; industry; buildings and, transport.

In support of the dialogue on low carbon transition, the Global Framework under the Climate Envelope 2012 will fund a project on energy efficiency sector in Viet Nam. Led by the Ministry of Climate, Energy and Buildings (MCEB) and supported by the Embassy of Denmark in Hanoi (EDK), a joint Vietnamese / Danish team formulated the new project June 2012. The proposed project consists of two components: the first supports the Ministry of Industry and Trade (MOIT) in promoting energy efficiency in the Small and Medium Enterprise (SME) sector with a focus on the brick, ceramic and at least one other sector to be decided upon; the second provides support to the Ministry of Construction (MOC) in implementing the building codes for energy efficiency.

Support to SMEs in the chosen sectors is a priority for the VNEEP. SMEs account for 45% of the industrial energy use in Viet Nam and offer good prospects for energy efficiency savings and Green House Gas (GHG) emission reductions. SMEs play an important social and economic role and have the potential to contribute to the green growth and promotion of green jobs. SMEs are relatively unsupported by other donors and, because of their small scale they offer a cost effective opportunity for physical improvements to be achieved in the 3 year period. Earlier experience shows that the brick and ceramic sectors show the greatest potential for scaling up energy efficiency of SMEs. A range of criteria including the potential for stimulating commercial partnerships between Vietnamese and Danish companies will be applied to select a third sector for support.

Support to energy efficiency to buildings through implementation of the building codes is selected because it offers a huge potential for energy savings and GHG emission reduction if building codes are enforced for new large buildings. This is a priority area for VNEEP and an area that is relatively unsupported by other donors (so far support has been focused on the development of the building code). The building sector also offers good scope for developing a technical collaboration between the MOC in Viet Nam and the MCEB in Denmark. In the longer term, should funding be available the component will lead to implementation of energy efficiency demonstration projects.

Objectives and outputs to be achieved

The development objective is: "Improved energy efficiency in small and medium enterprises and buildings in Viet Nam contributes to sustainable development and a transition to a low carbon economy". This objective is consistent with the VNEEP phase 2 objectives and also consistent with the current Danida support to VNEEP.

The immediate objectives are:
For component 1) Energy efficiency in SMEs – "Small and medium enterprises in at least 3 sectors adopt energy efficiency measures that will contribute to the VNEEP energy saving targets of between 5-10%. This objective will be achieved through support to project #2.3 under the VNEEP 2011-15, complemented by the initiation of lasting partnerships between Vietnamese and Danish industries.

For component2) Energy efficiency in buildings - " Improved capacity for implementing Energy efficiency in large buildings improves and contributes to the VNEEP energy saving targets of between 5-8%." This objective will be achieved through support to project #3.1/3.2 under the VNEEP 2011-15, complemented by the initiation of a partnership between the MOC (Viet Nam) and MCEB (Denmark).

The outputs to be achieved within component 1 are:
1. 5 Provincial governments have promulgated energy efficiency and conservation policies/programs and developed action plans to promote the application of energy efficiency and conservation technologies/measures within at least 3 sectors.
2. Between 500 and 1000 SMEs are aware of energy efficiency potential, technical solutions, sources of technical support and financial sources, within at least sectors.
3. Between 30 and 50 Service providers are strengthened in their capacity to provide energy efficiency services and financial consultancy within at least 3 sectors.
4. Between 150 and 250 energy efficiency projects in brick and ceramic and other sectors have been implemented.
5. 3 demonstration projects of energy efficiency in at least one other sector implemented and disseminated to other enterprises within selected sector.
6. 2 Commercial partnerships initiated between Vietnam and Denmark in at least one sector.

The outputs to be achieved within component 2 are:
1. Mechanisms established for regulation
2. Capacity increased in MOC and related agencies for implementing the building code leading to gradual compliance for all new buildings by 2015.
3. A fundable proposal is presented for approval by GOV and EDK/MCEB by the end of the project.
4. A partnership mechanism is in place that will enable MOC and others to access state of the art policy and regulatory competence from Denmark within energy efficiency and low carbon transition in buildings.

The project will take place from January 2013 to December 2015 with an inception phase of 6 months. The inception phase will not delay the main activities of the project and its two components, because these activities can start immediately on 1 January 2013.

Budget
The budget is shown below:

	Vnd (billion)				Dkk (million)			
Budget total	**year 1**	**year 2**	**year 3**	**Total**	**year 1**	**year 2**	**year 3**	**Total**
EE in SMEs	19.0	23.0	26.5	68.5	5.7	6.9	8.0	20.6
of which investment	4.0	7.0	9.0	20.0	1.2	2.1	2.7	6.0
EE in Buildings	4.7	5.8	4.2	14.7	1.4	1.7	1.3	4.4
Programme management	4.5	7.5	4.5	16.6	1.4	2.3	1.4	5.0
Total (without additional investment)	**28.2**	**36.3**	**35.2**	**99.8**	**8.5**	**10.9**	**10.6**	**29.9**
Additional investment (EE in SMEs)	0.0	33.3	83.4	116.7	0.0	10.0	25.0	35.0
Total (with additional investment)	**28.2**	**69.6**	**118.6**	**216.5**	**8.5**	**20.9**	**35.6**	**65.0**

Although most of the support will be in the form of recurrent costs for awareness raising, capacity building and technical support there will also be direct support for investments to replicate energy efficiency projects in the brick and ceramic sectors and to demonstrate new technologies in the third to be selected. An additional investment budget line of DKK 35 million has been confirmed intending to establish a sustainable financing mechanism for energy efficiency in SMEs. Under the VNEEP framework, MOC with the support of technical assistance from MCEB will prepare a demonstration project for energy efficiency in new buildings ready for a potential follow up phase (but not financed under this phase).

Co-financing by MOIT and MOC: The implementing agencies of the two components contribute in kind: human resources, working rooms, office equipments and facilities, equipment for energy audit, electricity and water etc.

Management and funding arrangements

The Energy Efficiency and Conservation Office (EECO) under the Ministry of Industry and Trade will manage the project. EECO is governed by and reports directly to the national steering committee led by MOIT and composed of relevant stakeholders from the public sector, the private sector and civil society both at central and provincial level. Decision-making on project implementation is guided strategically by the overall 10-Year program and operationally by the annual work plans and budgets. EECO, in coordination with its partners, will adjust and refine the strategic and operational plans and present them for approval by VNEEP national steering committee at least once a year. EECO will directly manage component 1 and the MOC will directly manage component 2 as they are the lead agency for energy efficiency in buildings.

To facilitate discussion, enable fast decision making and ensure a constructive dialogue between the partners, a project steering committee will be established. The project steering committee will be composed of the head of the EECO, a representative of MOC, a representative from the Embassy of Denmark and a representative of MCEB. It will meet twice a year in advance of the VNEEP national steering committee and will also be timed to coincide with technical supervision visits of MCEB. The project steering committee will endorse annual work plans and budgets for the project and recommend them for approval by the VNEEP national steering committee. The project steering committee will review progress every six months and if necessary make recommendations for adjustment to the workplans and budgets.

As for the current Danida support, the Embassy of Denmark will transfer funds to the Ministry of Finance as Targeted Programme Budget Support (TPBS) earmarked for the

specific projects to be supported within VNEEP i.e. project 2.3 on support to energy efficiency in industry and project 3.1/3.2 on support to implementing energy efficiency building codes. The implementing partners will use the normal state management procedures for planning, budgeting, procurement and reporting. These procedures have been tested and reviewed during the last 3 years and are found appropriate. The current Danida support has put in place a range of safeguard measures and these will be continued for the assistance provided under this project.

Technical supervision visits will be made as part of the partnership to be established between MCEB and the MOIT/MOC. A mid-term review will be held after 1½ years.

Assumptions and risks

The main assumptions of the project are:

- The EECO is fully staffed by mid 2013.
- Financial freezes as occurred in 2010/11 do not re-occur.
- A workable mechanism for channeling support for investments is available.
- SMEs continue to invest in energy efficiency measures
- There is demand for Vietnamese/Danish commercial partnerships in energy efficiency.
- The building codes are finalized before the end of 2012 and the environment for enforcement is improved.
- The M&E system is established and reliable.

Contents

In addition to this document there is a Volume II which provides supplementary information on:

- National sector context
- Safeguards (as part of the overall TPBS to VNEEP)
- List of Danish competences in energy efficiency
- Exchange of information on support to Buildings
- People met and programme of the identification and formulation mission

Acronyms

ADB	Asian Development Bank
Danida	Danish Development Assistance, Ministry of Foreign Affairs, Denmark
DOIT	Department of Industry and Trade
DOST	Department of Science and Technology
DPI	Department of Planning and Investment
DSM	Demand Side Management
EC	European Commission
EDK	Embassy of Denmark
EE	Energy Efficiency
EECO	Energy Efficiency and Conservation Office
EEBC	Energy Efficiency Building Code
ESCO	Energy Services Company
EU	European Union
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Green House Gas
GoV	Government of Viet Nam
IFC	International Finance Corporation
JICA	Japan International Cooperation Agency
KFW	Kreditanstalt Für Wiederaufbau (German Development Bank)
LCTU	Low Carbon Transition Unit
M&E	Monitoring and Evaluation
MARD	Ministry of Agriculture and Rural Development
MCEB	Ministry of Climate, Energy and Buildings, Denmark
MOC	Ministry of Construction, Vietnam
MOET	Ministry of Education and Training
MOF	Ministry of Finance
MOIT	Ministry of Industry and Trade
MOST	Ministry of Science and Technology
MOT	Ministry of Transport
MPI	Ministry of Planning and Investment
NGO	Non Government Organisations
PECSME	Project on Energy Conservation for SMEs
PPC	Peoples Provincial Committee
SME	Small and Medium Enterprise
TA	Technical Assistance
TOR	Terms of Reference
TPBS	Targeted Programme Budget Support
VNEEP	Viet Nam National Energy Efficiency Programme
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organisation
VUSTA	Viet Nam Union of Science and Technology Associations
WB	World Bank

Exchange rate used:

USD = 20,000 VND = 6 DKK

1 Introduction

Viet Nam and Denmark have a strategic priority to strengthen cooperation in the area of climate, energy, environment, and green growth, as expressed in the joint Danish-Vietnamese declaration of 2011. The Ministry of Climate, Energy and Building (MCEB) and the Danish Ministry of Foreign Affairs have initiated a long term dialogue with the Government of Vietnam on the framework for the Danish support to and funding of a low carbon transition within the energy sector in Vietnam, specifically targeting energy efficiency initiatives. The funding for the assistance to Vietnam will be sourced from the Global Framework under the Danish 2012-Climate Envelope, which is part of Denmark's contribution of 1.2 billion DKK to fast-start financing following the commitment made in the Copenhagen Accord.

The Global Framework under the Climate Envelope 2012 focuses primarily on mitigation related activities in (mainly) middle income and growth economies where the development is leading to a significant rise in Green House Gas (GHG) emissions. These countries have typically reached an institutional level which enables them to benefit from Danish competencies and experiences in developing the necessary policy structure for a low carbon transition. A Low Carbon Transition Unit (LCTU) has been established at MCEB to administer some of the initiatives under the Climate Envelope 2012, including energy sector initiatives in two fast-growing developing countries. The specific initiatives in Vietnam shall take into account the following considerations for activities under the Global Framework and the LCTU goals in Vietnam, namely that:

- The activities potentially lead to significant mitigations in global GHG emissions.
- Supported activities in Vietnam focus on energy efficiency initiatives within industry and buildings, especially where there is a link between Danish competencies and experience.
- Supplement/Complement Phase 1 and 2 of the Viet Nam National Energy Efficiency Programme (VNEEP) (including a consideration to build on the existing Danida support to VNEEP).
- The activities can be used to leverage other countries of importance to the total mitigation effort in the region or globally.
- The activity is leading to new or supporting existing partnerships between Denmark and relevant actors in Vietnam.

Process

An accelerated preparation process was carried out taking advantage of the experience of ongoing support provided by Danida to VNEEP. A short desk report was prepared and mission was fielded in Viet Nam from June 4 to June 8 2012 led by MCEB and supported by an international and local consultant team. A debriefing note with the main findings was presented. This project description is based on proposals forwarded to the mission by the Ministry of Industry and Trade (MOIT) and the Ministry of Construction (MOC).

Justification

The project consists of two components: the first supports energy efficiency in the Small and Medium Enterprise (SME) sector with a focus on the brick, ceramic and at least one

other sector to be decided upon; the second provides support to the MOC in implementing the building codes for energy efficiency.

Support to SMEs in the chosen sectors is selected because: SMEs play a role for social and economic development and employment; SMEs account for 45% of energy consumption in the industrial sector; SMEs have high energy saving potentials which can contribute to reduced GHG emissions. For these reasons SMEs are a priority for the VNEEP. SMEs are relatively unsupported by other donors and because of their scale give an opportunity for physical improvements to be achieved in the 3 year period. Brick and ceramic sectors are chosen as based on earlier experience they show the greatest potential for scaling up energy efficiency of SMEs. The third sector will be selected based on a range of criteria including the potential for stimulating commercial partnerships between Vietnamese and Danish companies.

Support to energy efficiency to buildings through implementation of the building codes is selected because the potential for energy saving in large buildings in particular is considerable. There is a new opportunity with the imminent passing of building codes as experience has shown that rigorous and consistent implementation of building codes for new buildings is a highly efficient means of obtaining energy savings and reducing GHG emissions. For these reasons it is a priority area for VNEEP. Support to implementation of building codes is relatively unsupported by other donors (so far support has been focused on the development of the building code). It also offers good scope for developing a technical collaboration between the MOC in Viet Nam and the MCEB in Denmark. In the longer term, should funding be available, the component will lead to implementation of energy efficiency demonstration projects.

Summary of design

The project objectives aim at increasing energy efficiency in alignment with the vision of VNEEP and the Global Framework for the climate envelope. Support will be provided to two components: energy efficiency in SMEs and, energy efficiency in large new buildings. The rationale and justification for these choices are given above. The main partners will be the MOIT and MOC working together with the broader range of stakeholders including energy centers, the private sector and provincial bodies.

The project is consistent with and will align to the broader programme of support being provided by Danida to VNEEP under the climate change and mitigation support programme (2008-2015). It is also consistent with and will further the aim of establishing a strategic cooperation between Viet Nam and Denmark within energy efficiency through a technical partnership between the MCEB and its counterpart agencies in Viet Nam.

Consistent with the ongoing Danish support to VNEEP, TPBS will be provided as the main modality with direct support being provided for technical assistance. Some support will be provided to promote investments by SMEs through the TPBS using the government grant subsidy facility. For an additional investment support that is planned, the project objectives will better served by use of loan-based and sustainable funding arrangements for climate change and energy efficiency that are co-financed with other donors. The additional investment support is subject to confirmation. If the current and

prospective arrangements are not available in time to make use of project funds, the funds for investment support will be used to assist in the longer term design of funding facilities and for assisting SMEs to make bankable project proposals for financing through current market channels. It is also expected that commercial partnerships between Danish and Vietnamese firms will be initiated in order to generate a self-perpetuating and profit driven diffusion of energy efficiency technology and practices.

As well as reporting to the VNEEP steering committee as the ultimate decision making body, a project steering committee will be established between MOIT, MOC, EDK and MCEB. The project steering committee will meet twice a year and facilitate discussion, enable fast decision making and ensure a constructive dialogue between the partners. A programme coordinator/energy adviserwill be recruited to assist in the management and coordination of the project and to contribute to donor coordination and policy dialogue on energy efficiency. A mid-term review will take place after 1½ years and each year there will be two technical supervision visits by MCEB designed to coincide with project steering committee meetings. These missions will help ensure that an operational partnership is established and that tangible results are obtained in the relatively short project period. The missions will also further the emergence of longer term cooperation beyond the project period, that can potentially make use of future climate related funding. The project steering committee will review the project assumptions and risks and take mitigating measures as outline in this document if necessary.

The exit strategy is to establish a sustainable set of partnerships between Denmark and Viet Nam. At the government level, it is expected that a deepening partnership will enable Viet Nam to access over the longer term support from Danish authorities within energy efficiency, especially within buildings but also in other areas. At the commercial level, it is expected that mutually-beneficial commercial partnerships between Danish and Vietnamese companies will promote technology exchange and constant upgrading of know how.

2 National Sector Context

An overview of the energy sector and a presentation of the drivers and barriers for energy efficiency are given in Annex B. An assessment is also presented of:

- The policy and legal framework
- Institutional and coordination arrangements
- The national planning and programming (VNEEP)
- The financial and budget situation
- Donor support

Further details that might be useful are presented in a volume II of supplementary information.

3 Objectives

The development objective is:

"Improved energy efficiency in small and medium enterprises and buildings in Viet Nam contributes to sustainable development and a transition to a low carbon economy"

This objective is consistent with the VNEEP phase 2 objectives, with the current Danida support to VNEEP and also the Danish support to the Global Framework under the Climate Envelope 2012.

The immediate objectives are:
1) Small and medium enterprises in at least 3 sectors adopt energy efficiency measures that will contribute to the VNEEP energy saving targets of between 5-10%.

This objective will be achieved through support to project 2.3 under the VNEEP 2011-15 complemented by the initiation of lasting partnerships between Vietnamese and Danish industries.

2) Improved capacity for implementing Energy efficiency in large buildings improves and contributes to the VNEEP energy saving targets of between 5-8%.

This objective will be achieved through support to project 3.1/3.2 under the VNEEP 2011-15 complemented by the initiation of a partnership between the MOC (Viet Nam) and MCEB (Denmark).

The link between the VNEEP and the project objectives are shown below:

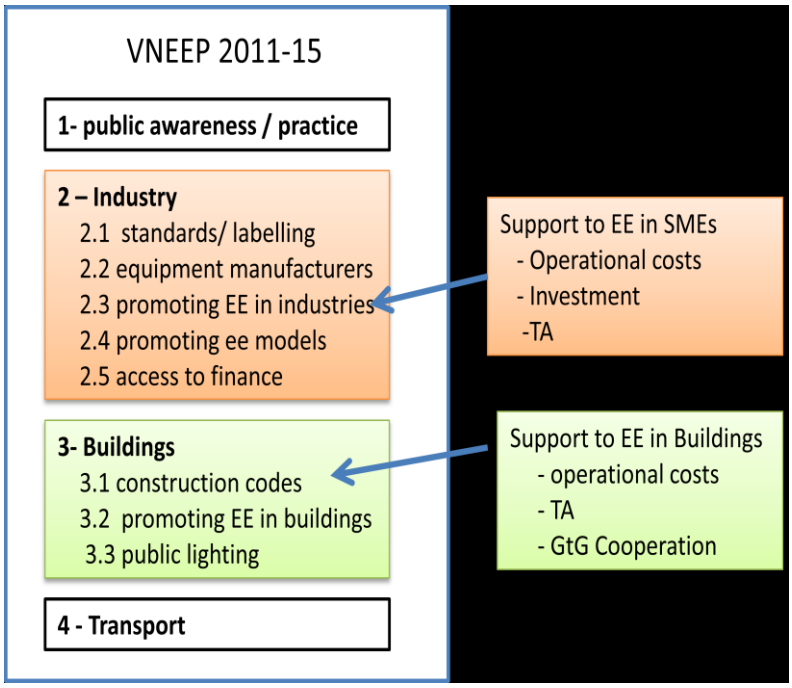


Fig 3.1 Link between VNEEP and project objectives

The rationale for support to SMEs is that these enterprises are not supported by current efforts or other donors. SMEs account for some 40% of the industrial energy use of Vietn Nam and although the potential for savings in individual industries is greater within the large enterprises there is still a significant cumulative potential within the SMEs. Support to SMEs can also build on the successful and proven practice of the PECSME project. Furthermore, a focus on SMEs allows the relatively small funds and short time frame to have a greater demonstration effect.

The rationale for support energy efficiency in buildings is that this will have large and self-pertuating impact on energy efficiency. It will also make good use of expertise and

experience in MCEB and cataylise the creation of a techncial partnership between the governments of Viet Nam and Denmark.

4 Description of the components of the project

4.1 Component 1- Energy efficiency in SMEs

Outcomes and outputs

Outcomes in six main areas can be expected, based on the approach of PECSME and the vision of initiating a lasting commercial partnership between Vietnamese and Danish industry:

- Provincial governments adopt energy efficiency policies & programs for SMEs in at least 3 sectors.
- SMEs in 3 sectors are aware of energy efficiency potential in their sector.
- Energy efficiency service providers are capable and contribute towards energy efficiency in at least 3 sectors.
- SMEs can better access finance for energy efficiency initiatives.
- Energy efficiency projects in brick and ceramic sectors are replicated and the potential of energy efficiency is demonstrated in at least one other sector.
- A vibrant commercial partnership in energy efficiency between Vietnam and Denmark contributes to transition to a low carbon economy.

Figure 4.1 Rationale behind the choice of expected outcomes- SMEs

Rationale	Outcome
Provincial Governments/DOITs have the mandate as well as considerable resources and influence to promote EE in their areas. They are much closer and can more effectively promote EE than can be done from Hanoi or Ho Chi Minh City alone.	Provinces adopt EE policies, programs
Awareness of the potential of EE by SMEs to save money and improve quality of their products is a key driver for adopting EE practices.	SMEs are aware of EE potential
Service providers are potentially a driver of EE (especially if they adopt a private energy service provider model). SMEs are dependent on the technical expertise of the service providers.	EE service providers become capable
According to research access to finance is one of the major barriers for SMEs adopting EE practices	SMEs can better access finance for EE
EE for the brick and ceramic industry is well demonstrated, the challenge now is to bring these sectors to a new threshold where EE becomes replicated and routine. In other sectors, demonstration is still needed.	EE projects replicated and demonstrationed
Sustainable and continuous adaptation and improvement of EE practice and technology diffusion can best be promoted in the long term through commercial partnerships.	Commercial partnerships Viet Nam /Denmark

These outcomes will be reached through attainment of the following tangible outputs:

1. Energy efficiency promoted at provincial level - 5 Provincial Governments have promulgated energy efficiency and conservation policies/programs and developed action plans to promote the application of energy efficiency and conservation technologies/ measures within at least 3 sectors.
2. SMEs aware of energy efficiency potential – 500- 1000 SMEs are aware of energy efficiency potential, technical solutions, sources of technical support and financial sources, within at least 3 sectors.
3. Service providers competent and available – 30-50 Service providers are strengthened in their capacity to provide energy efficiency services within at least 3 sectors.
4. Energy efficiency in brick and ceramic sectors replicated – 150-250 energy efficiency projects in brick and ceramic and other sectors have been implemented.
5. Energy efficiency demonstrated in new sectors - 3 demonstration projects of energy efficiency in at least one other sector and results of implemented demonstration project disseminated within selected sector.
6. Longer term commercial partnerships established - 2 Commercial partnerships initiated between Vietnam and Denmark in at least one sector.

These outputs are consistent with the intentions of project 2.3 under the VNEEP. However, whereas the VNEEP project 2.3 focuses on all sectors and on both large industries as well as SMEs and in all 63 provinces, the financial resources and technical assistance provided through this component will prioritise efforts in 5 provinces (although not exclusively) and 3 sectors including the brick and ceramic and at least one other sector.

Typical activities

Detailed activities for project 2.3 have not yet been developed by VNEEP. The activities identified below are based on experience of PECSME (which forms the basis for the original proposal for this component (Ref.12)). The typical activities are intended to be illustrative and generic. They will serve as a basis/inspiration for developing annual workplans over 3 years for project 2.3 which, as mentioned earlier, will also include other activities.

Activities in support of: Output 1 Energy efficiency promoted at provincial level

- Select provinces that have the greatest potential in the chosen sectors and highest level of readiness to make use of support and sustain energy efficiency initiatives.
- Support provinces (including the DOITs) to develop an overview of the energy efficiency potential in the province and an understanding of the stakeholders involved and the barriers and drivers for adopting energy efficiency.
- Support provinces to develop appropriate policies/programs/action plans for promoting energy efficiency in SMEs (this will include environmental aspects as outlined in the environmental screening note – Annex G).
- Support provinces to monitor and evaluate the results of energy efficiency initiatives.

Activities in support of: Output 2 SMEs's aware of energy efficiency potential

- Evaluate level of awareness and perceptions on energy efficiency amongst SMEs at sector and province level.

- Seek partnerships at province and inter-provincial level for raising awareness (e.g. amongst sector associations, the national programme for SME development (Ministry of Planning and Investment (MPI)/ Department of Planning and Investment (DPI)).
- Develop a raising awareness and communication strategy and information package on energy efficiency at sector and province level.
- Carry out awareness raising events such as workshops, competitions, mass communication (radio, television, internet (Utube)), publications on technologies, benefits and potential sources of technical support and finance.

Activities in support of: Output 3 Service providers competent and available

- Review current levels of service provider availability and competency in different sectors and regions of the country and determine likely demand as well as interest in providing EE services. The list of service providers should be available to SMEs.
- Develop a strategy for building capacity of existing and potential service providers, including cost sharing procedures.
- Carry out training and study tour events and develop/improve existing manuals especially within energy auditing and for undertaking feasibility and design within the brick, ceramic and at least one other sector.

Activities in support of: Output 4 Energy efficiency in brick and ceramic sectors replicated

- Improve/modify existing technical guidelines, templates and standards for bankable project proposals in the brick and ceramic sectors.
- Promote partnership with other SME support mechanisms and projects that can provide more general training and support to improvement of commercial, marketing and financial practice e.g. the EU supported project for SMEs to adapt & adopt corporate social responsibility for improved linkages with global supply chains in sustainable production.
- Provide training for SME personnel on EE technology operations and EE measures/techniques
- Support SMEs and service providers to develop bankable project proposals through training, mentoring and providing expert opinion available at the energy efficiency centers and elsewhere.

Activities in support of: Output 5 Energy efficiency demonstrated in new sectors

- Refine and confirm criteria for selecting new sector(s) ensuring that the sector(s) selected has the confidence of Vietnamese and Danish industry that it could lead to lasting commercial partnerships.
- Review guidelines for use of the government subsidy system as applied to the selected sector(s).
- Solicit, support, approve and monitor the implementation of successful applications for use of subsidy support and/or support the development of alternative financing.

- Support the dissemination of projects carried out.

Activities in support of: Output 6 Longer term commercial partnerships established

- Scope the potential for commercial partnerships within energy efficiency.
- Develop a strategy for promotion of partnerships including sector specific and product line approaches.
- Finance study tours, information exchange and other activities aimed at stimulating partnerships.

The overall component linkages are summarized in Table 4.1

Strategy and rationale

Government partnership – The Government of Viet Nam set up the VNEEP as a national target programme with a broad participation of stakeholders in recognition of the need for multi-institutional cooperation in energy efficiency. In support of this effort to coordinate different actors through the one programme, Danish support will rely on MOIT as the lead institution to outsource and engage the necessary range of partners such as the DOITs, the Energy Efficiency Centers, Non Government Organisations (NGO)s, service providers, industry associations and the private sector. Thus the support from Denmark will have a single anchorage and will not attempt to set up independent channels of assistance to particular agencies.

Modalities - The VNEEP is the flagship programme of the government for promoting energy efficiency. Danida is already providing targeted programme budget support to VNEEP and this will be extended to 2015. Other donors are providing project based aid in support of specific projects. In response to the request from MOIT, in recognition of the need to prioritise SMEs, acknowledging the need for tangible outputs in a short time frame and, learning from the PECSME project, it was decided to make an internal earmarking of TPBS funds to a specific project (project 2.3) and in addition to further prioritise these funds to a limited number of sectors and provinces. This will help focus efforts and increase the chance that concrete achievements are obtained in the 3 year project lifespan.

Selection of sectors – The brick and ceramic sectors are chosen in order to build on and consolidate the efforts of PECSME with the aim of replicating and scaling up energy efficiency in these sectors so that in time greater reliance can be placed on market mechanisms. At the same time there is a need to extend experience into at least one other sector making use of commercial mechanisms of technology transfer and diffusion.

The criteria for selecting the additional sector(s) are: i) the presence of considerable unexploited potential for energy efficiency amongst SMEs; ii) presence of enabling conditions (legislation, health and safety, child labour practice); iii) a positive market and competitive outlook; iv) an energetic and proactive industry association; v) interest and potential of longer term commercial partnerships between Viet Nam and Denmark. The selection of sector(s) will be done by the project steering committee.

Role of MCEB in supporting the SME sector

MCEB has extensive experience with promotion and stimulating and supporting Danish companies and associations within energy efficiency. This experience will be valuable for MOIT and its partners to draw up. Because of differences in technology and other issues it is unlikely that MCEB will be able to offer specific technical assistance to the brick or ceramic sectors. Energy efficiency projects in these sectors have already been completed successfully in Vietnam and experience from these is available. Whether MCEB can offer relevant technical support for the third sector depends on the sector finally chosen. It is expected that MCEB will be able to provide support in identifying and ensuring that Danish-Vietnamese partnerships develop.

The role of MCEB is not to offer detailed technical advice on bricks or ceramic - the project can call on specialists from around the world if needed (It is also possible to draw on experience from Cleaner Development Mechanism projects in other developing countries where MCEB has relevant experience working with these projects). The main role of MCEB is transfer Danish expertise developed over 40 years on promoting energy efficiency and cleaner production, and where relevant networking between industry associations should there be a demand for this from the Vietnamese side.

MCEB and short term experts can participate in workshops, training activities, exchange of information, networking and dialogues as needed as well as the semi-annual steering committee meetings

Process flow chart and role of stakeholders

A process flow chart based on the steps of the PECSME developed over a number of years is presented in Annex I. The steps have been adjusted to give greater emphasis to the role of SME associations and also Energy Efficiency Service Providers (EESP) in light of the fact that the management of the process will be changing from being under a project to being under public sector management. Some of the advantages and disadvantages and the mitigating measures that need to be taken are outlined in Annex I. The flow chart is still tentative and will need to be further defined and confirmed during the inception phase.

Channeling of finance to investments – Sustainable sector mechanisms for channeling of finance to subsidise or support energy efficiency investments are not in place. The original energy conservation fund foreseen by VNEEP was not been established because there was a fear that it could not be continued once external projects stopped. Various studies have been done on the financing mechanisms (for example: ref: 2 (2008); 15 (2011);24 (2008)) which are not repeated here although further details are given in Annex 1 of volume II supplementary information. There are also ongoing investigations as part of new projects being established. These mainly, but not exclusively, serve large industry. There are 4 options under consideration for this project:

- VNEEP grant facility
- Direct project grant facility
- Co-financing with other financing facilities
- Use available funds for technical assistance

These are briefly described below:

VNEEP grant facility

A government based grant facility was started in 2009 which provides up to 30% grant based on a number of conditions. So far about 3 to 4 grants up to Vnd 5 Billion each have been processed each year. A total of 16 projects have been financed to date. At present these can only be taken up by enterprises that are at least 15% state owned which excludes most SMEs. However MOIT is preparing a circular which could allow external funding to be used in a parallel fashion for enterprises that are entirely privately owned.

Box 4.1 Criteria used by the government grant subsidy facility

- Owned at least 15% by the government (this is under consideration)
- No more than 30% subsidy meaning that the remaining 70% should be owner or commercially financed
- Grant limit of VND 5 billion
- Technically and commercial feasible proposal which provides significant energy savings (this implies that the enterprise is
  - legally constituted and in compliance with relevant laws
  - not under or threatened by bankruptcy proceedings
  - well managed
  - is operating in a sector that has commercial prospects and is not vulnerable to closure.)

Replication of energy efficiency within the brick and ceramic industries would not be well served by a grant scheme that is limited to just a few enterprises a year. For special cases where there is a demonstration purpose such as adoption of new variations of energy efficiency technology, the grant scheme could be applicable. The conclusion is that replication in the brick and ceramic industry needs to be mainly based on provision of technical support by assisting enterprises prepare a bankable proposal which can then be financed either through owner capital or through normal commercial finance. As earlier mentioned, the experience of PECSME project indicates that this could be a viable approach as during the project over 500 enterprises adopted energy efficiency measures with only 54 of these taking advantage of the loan guarantee fund.

The government's grant facility could be used for demonstration purposes for the new sector(s) to be selected as this would justify better the highly targeted nature of a grant facility.

Direct project grant facility

Another option that has been raised is to construct a grant facility held by the MOIT and directly financed by the Embassy of Denmark (EDK). A grant facility could also, in principle, be outsourced to a suitable agent such as a consultancy company or non-government organisation such as an energy efficiency center or association of

Box 4.2 Outline procedures for the direct project grant facility

- The criteria (subsidy %; grant limit, eligibility) will follow the government grant system except that private sector entities will be eligible.
- The procedures for selection and award of grants will be identical to the government grant system and administered by MOIT except that a no-objection statement will be provided by the EDK for all awards.
- The project steering committee will review the progress of the facility every six months at its twice yearly meeting and make adjustments to the grant facility and its procedures if necessary.
- The project grant facility will be audited (technically and financially) once a year as part of the additional independent project audit.

industries. An amount of between 3 and 5% of the fund will need to be set aside for management costs such as auditing, reporting and monitoring. This option although clumsy in terms of transaction costs and the short time horizon, might become necessary if the government grant based facility does not allow application by privately owned SMEs. A detailed design of this facility is not provided here as this would require further investigation and research, particularly of the experience of similar facilities for cleaner production and other related initiatives.

Co-financing with other financing facilities

There are a number of ongoing funding mechanisms including:

- Asian Development Bank (ADB), National Energy Efficiency Programme, USD 45 million – funding arrangement with two banks using an ESCO model and mainly serving large industry (cement, steel, other)
- World Bank, Renewable Energy Development project, USD 350 million – credit line to be established through intermediary banks
- Swiss supported, Green Credit Trust Fund for cleaner production (and energy efficiency), USD 5 million – loan guarantee and partial grant channeled through 3 Vietnamese Banks
- UNDP/ Global Environment Facility (GEF), PECSME, USD 1.7 million – Channeled via VIETIN Bank. The facility is now in a withdrawal phase, however VIETIN Bank is interested in continuing the scheme, under an improved set of procedures, they cannot foresee a viable operation with a loan guarantee fund of less USD 10 million.
- International Finance Corporation (IFC)/ GEF, Viet Nam Clean Production and Energy Efficiency Project, USD 2.3 million – development of market mechanisms for finance and use of ESCO model, channeled via Techcombank.

There are also others such as the KFW funding for climate change related investments. Each of these mechanisms have advantages and disadvantages and not all of them will necessarily be suitable for co-financing with this project. A recent study (ref 12) provides a preliminary assessment of the first 4 of the mechanisms listed above. This assessment will need to be extended further in order to provide a solid basis for deciding on whether to co-finance and if so, how to co-finance, these mechanisms.

Use the available funds for technical assistance

A final option, given the uncertainty in finding suitable funding mechanisms is to use some (but not all) of the potentially available funds for technical assistance for this first project with the aim of developing an appropriate long term sustainable funding mechanism that could potentially receive funds from future Danish Climate funding (and other sources if relevant). At the same time the technical assistance could assist more intensively with preparing bankable investment projects and larger demonstration project(s).

Summary

After various considerations the following decisions have been made:

- The VNEEP grant facility will be the default option for VND 20 billion (approx DKK 6 million) of investment funding.
- Co-financing with existing financing mechanisms (either the VIETIN Bank SME loan guarantee fund or other) will be the default option for VND 116.7 billion (approx DKK 35 million) of investment funding.

The trigger for the VNEEP grant facility (VND 20 billion) is the approval of the circular on use of funds for privately owned businesses. If, by the start of the project (1 January 2013), this circular is not approved by MOIT, then a fall back option will need to be considered. The final choice of fall back will depend on the analysis of options during the inception period. In principle it could consist of: i) direct project grant facility; ii) co-financing with existing funds; iii) converting the funds to technical assistance. The decision will be taken by the project steering committee and documented by exchange of letters (MOIT/EDK/MCEB).

The trigger for the co-financing with existing mechanisms (VND 116.7 billion) is the approval of the recommendation on what mechanism to co-finance as documented in a feasibility report on financial mechanisms developed during the inception phase. The approval will be made by the project steering committee and documented by exchange of letters (MOIT/EDK/MCEB). If, 6 months after the end of the inception phase (31 December 2013) a recommendation is not approved, then the fall back will be to reduce the budget accordingly.

It is clarified here that: A financing mechanism for the investment funds must be decided upon within the inception period meaning that a firm technical decision to recommend an option is forwarded the project steering committee who then have an additional 6 months to make the final approval. As co-financing with others the continuation of financing through the VIETIN bank is an obvious choice it is expected that early steps are taken to verify the feasibility of this option and negotiate relevant conditions.

Promotion of commercial partnerships – Experience has shown that it will not be easy to promote commercial partnerships. It is important therefore that the new sector(s) to be selected have sufficient potential and prospects for success. One sector that seems potentially relevant is the food processing industry e.g. the fish processing plants.

Table 4.1 Linkage of outcome, outputs and activities		
Outcomes	**Outputs**	**Activities**
Provinces adopt energy efficiency policies & programs for SMEs in at least 3 sectors	1. Energy efficiency promoted at provincial level - 5 Provincial governments have promulgated energy efficiency and conservation policies/programs and developed action plans to promote the application of energy efficiency and conservation technologies/ measures within at least 3 sectors	Select provinces that have the greatest potential in the chosen sectors and highest level of readiness to make use of support and sustain energy efficiency initiatives
		Support provinces (including the DOIT) to develop an overview of the energy efficiency potential in the province and an understanding of the stakeholders involved and the barriers and drivers for adopting energy efficiency
		Support provinces to develop appropriate policies/programs/action plans for promoting energy efficiency in SMEs
		Support provinces to monitor and evaluate the results of energy efficiency initiatives
SMEs in 3 sectors are aware of energy efficiency potential	2. SMEs aware of energy efficiency potential – 500-1000 SMEs are aware of energy efficiency potential, technical solutions, sources of technical support and financial sources, within at 3 least sectors	Evaluate level of awareness and perceptions on energy efficiency amongst SMEs at sector and province level.
		Seek partnerships (e.g. amongst sector associations, the national programme for SME development (MPI/DPI)) at province and inter-provincial level for raising awareness.
		Develop a raising awareness and communication strategy and information package on energy efficiency at sector and province level.
		Carry out awareness raising events such as workshops, competitions, mass communication (radio, television, internet (Utube)), publications on technologies, benefits and potential sources of technical support and finance
Energy efficiency service providers are capable and contribute towards energy efficiency in at least 3 sectors	3. Service providers competent and available – 30-50 Service providers are strengthened in their capacity to provide energy efficiency services within at least 3 sectors	Review current levels of service provider availability and competency in different sectors and regions of the country and determine likely demand as well as interest in providing services
		Develop a strategy for building capacity of current and potential service providers, including cost sharing procedures
		Carry out training and study tour events and develop manuals especially within energy auditing and for undertaking feasibility and design within the brick, ceramic and at least one other sector
SMEs can better access finance for energy efficiency initiatives	4. Energy efficiency in brick and ceramic sectors replicated – 150-250 energy efficiency projects in brick and ceramic and other sectors have been implemented	Improve/modify technical guidelines
		Promote partnership with other SME support mechanisms and projects that can provide support to improvement of commercial
		Support SMEs and service providers to develop bankable project proposals through training Provide trainings for SME's personnel on EE technology operations and EE measures/techniques
Energy efficiency projects in brick and ceramic sectors are replicated and the potential of energy efficiency is demonstrated in at least one other sector.	5. Energy efficiency demonstrated in new sectors - 3 demonstration projects of energy efficiency in at least one other sector.	Refine and confirm criteria for selecting new sector(s) ensuring that the sector(s) selected has the confidence of Vietnamese and Danish industry that it could lead to lasting commercial partnerships
		Review guidelines for use of the government subsidy system as applied to the selected sector(s)
		Solicit, support, approve and monitor the implementation of successful applications for use of subsidy support and/or support the development of alternative financing
		Support the dissemination of projects carried out
A vibrant commercial partnership in energy efficiency between Vietnam and Denmark contributes to transition to a low carbon economy.	6. Longer term commercial partnerships established - 2 Commercial partnerships initiated between Vietnam and Denmark in at least one sector	Scope the potential for commercial partnerships within energy efficiency
		Develop a strategy for promotion of partnerships including sector specific and product line approaches
		Finance study tours, information exchange and other activities aimed at stimulating partnerships

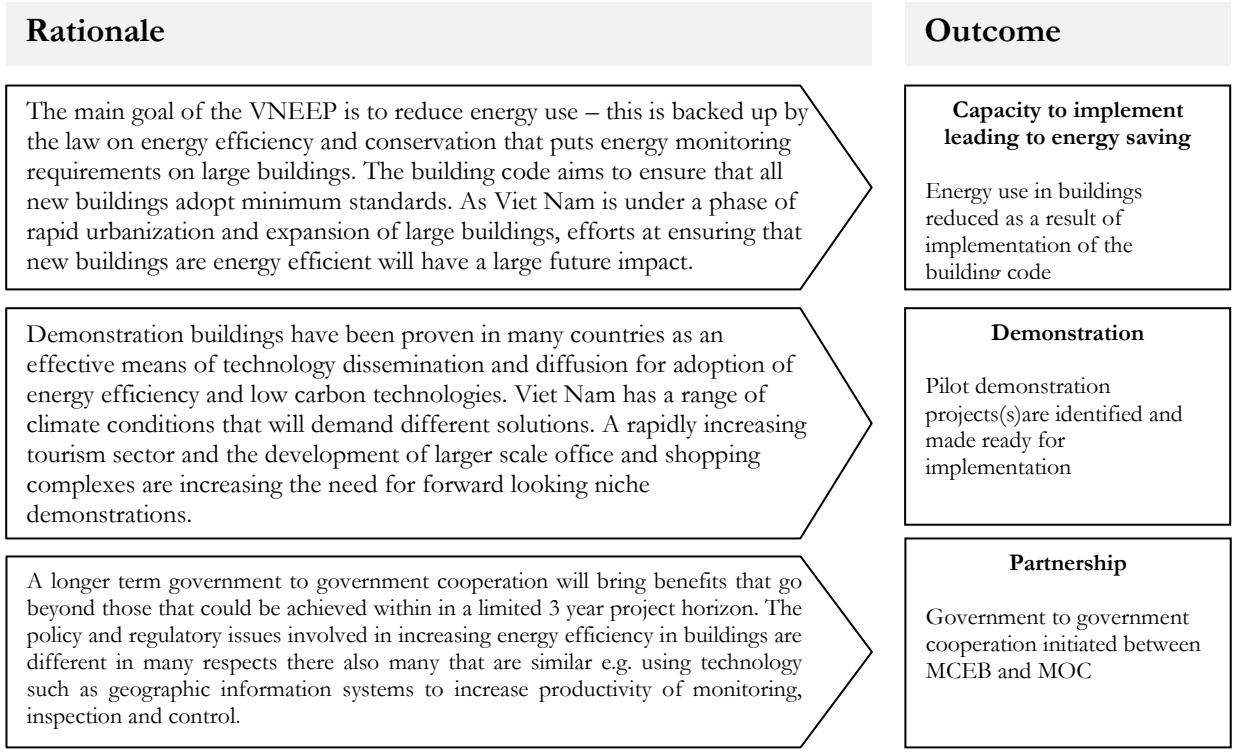
4.2 Component 2 – Energy efficiency in large buildings

Outcomes and outputs

Outcomes in 3 main areas have been defined:

- Energy use in buildings reduces as a result of implementation of the building code
- Pilot demonstration projects are identified and made ready for implementation
- Government to government cooperation initiated between MCEB and MOC

Figure 4.2 Rationale behind the choice of expected outcomes – buildings



These outcomes will be attained through attainment of the following outputs:

1. Mechanisms established for regulation
2. Capacity increased in MOC and related agencies for implementing the building code leading to gradual compliance for all new buildings by 2015.
3. A fundable proposal is presented for approval by GOV and EDK/MCEB by the end of the project.
4. A partnership mechanism is place that will enable MOC and others to access state of the art policy and regulatory competence from Denmark within energy efficiency and low carbon transition in buildings.

Typical Activities

Detailed activities for project 3.1/ 3.2 have not yet been developed by VNEEP/MOC. The activities identified below are based on initial discussions with MOC and others. The typical

activities are intended to be illustrative and generic. They will serve as a basis/inspiration for developing annual workplans over 3 years for project 3.1/3.2 . The focus will be on developing a long term partnership in phases. This phase will focus on establishing an operational partnership, developing capacity to implement the building codes at least for large new buildings (and major retrofits) and planning a demonstration project for future phases. It is expected that by early 2013, the MOC with the support of the World Bank and others will have updated and revised its building code. This will allow the component to start support towards implementing the new building code. For the most part this will be composed of capacity building interventions both at national and local level.

Activities in support of: Output 1 Mechanisms established for regulation

- Support the development of regulations that will assist in prioritizing the implementation of the building codes within existing and likely future resources (e.g. assessment of energy efficiency prior to granting building permits; guidelines on construction).
- Assist MoC to develop an Action Plan for the implementation of EE activities 2012-2015 and 2015-2020
- Assist to develop circulars on assessment, energy certification for buildings
- Assist to prepare, issue and apply codes and standards on EE in buildings (based on experience, standards and instructions from Denmark)

These activities will be closely coordinated with the support being provided by other donors especially the World Bank project that is supporting the up-dating of the building codes.

Activities in support of: Output 2 Capacity development for implementing the building code

- Undertake a capacity development strategy for implementing the Energy Efficiency Building Codes including assessment of performance gaps, attainment capacity outputs, design of training and other interventions of an institutional nature (e.g. incentive environment). This will follow initial learning events that bring different actors (including other donors as well as contractors, architects and licensing officials) together in order to develop a common approach.
- Implement the capacity development strategy including:
    - Nominate experts from MOC/MCEB partnership;
    - Undertake workshops for relevant experts and stakeholders in Denmark and Vietnam, e.g. policy makers, managers, technicians or construction companies;
    - Provide coaching, training and capacity building for relevant stakeholders at the central level and at the provincial level (construction licensing officials). Capacity will be delivered in different areas including: design and construction of buildings; monitoring, inspection and control activities i.e. deployment of the building code; adjustment of policy, regulation and operating procedures.
- Evaluate regularly the outcome of capacity development interventions and adjust the approach and strategy accordingly.

Activities in support of Output 3 A fundable proposal on demonstration of energy efficiency

- Design outline strategy for the pilot proposal: i) define the key objectives of the project e.g. technologies to be tested; construction practices and costs to be tested/tried out; perceptions or practices to be altered/improved; demonstration on how to comply to current codes and/or inspiration for the next generation of buildings; ensure that the demonstration building(s) will be actively used in the training of energy efficiency auditors, inspectors and building companies ii) examine alternatives and undertake a pre-feasibility assessment of the pros and cons; iii) make recommendations for discussion and adoption.
- Develop detailed proposal based on outline strategy, comments received and likely funding levels: i) select the location; ii) confirm project management, legal and logistical arrangements to allow swift implementation; iii) confirm costs and cost sharing arrangements incl. Vietnamese co-financing; iv) undertake full feasibility study and document the findings in a detailed project proposal ready for funding.

Activities in support of: Output 4 A partnership mechanism in place

- Develop and deepen the joint understanding of the Memorandum of Understanding between MOC and MCEB including clarity over the objectives, scope and level of ambition of the cooperation. Clarify roles and operating procedures, develop indicators and benchmarks for the partnership
- Operate the partnership in areas of knowledge sharing, technology exchange and help-desk responses on key issues. Possible secondment of Danish staff to MOC and/or MOC staff to MCEB can be considered.

The overall component linkages are summarized in Table 4.2.

Table 4.2 Linkage of outcome, outputs and activities

Outcomes	Outputs	Activities
Energy use in buildings reduces as a result of implementation of the building code	1.Mechanisms established for regulation	Support the development of regulations that will assist in prioritizing the implementation of the building codes within existing and likely future resources (e.g. assessment of energy efficiency prior to granting building permits; guidelines on construction).
		Assist MoC to develop an Action Plan for the implementation of EE activities 2012-2015 and 2015-2020
		Assist to develop circulars on assessment, energy certification for buildings
		Assist to prepare, issue and apply codes and standards on EE in buildings (based on experience, standards and instructions from Denmark)
	2.Capacity increased in MOC and related agencies for implementing the building code leading to gradual compliance for all new buildings by	Undertake a capacity development strategy for implementing the Energy Efficiency Building Codes including assessment of performance gaps, attainment capacity outputs, design of training and other interventions of an institutional nature nature (e.g. incentive environment).
		Implement the capacity development strategy including: Nominate experts from MOC/MCEB partnership; Undertake workshops for relevant experts and stakeholders in Denmark and Vietnam, e.g. policy makers, managers, technicians or construction companies; Provide coaching, training and

Table 4.2 Linkage of outcome, outputs and activities		
Outcomes	**Outputs**	**Activities**
	2015.	capacity building for relevant stakeholders at the central level and at the provincial level (construction licensing officials). Capacity will be delivered in different areas including: design and construction of buildings; monitoring, inspection and control activities i.e. deployment of the building code; adjustment of policy, regulation and operating procedures.
		Evaluate regularly the outcome of capacity development interventions and adjust the approach and strategy accordingly
Pilot demonstration projects are identified and made ready for implementation	3.A fundable proposal is presented for approval by GOV and EDK/MCEB by the end of the project.	Design outline strategy for the pilot proposal: i) define the key objectives of the project e.g. technologies to be tested; construction practices and costs to be tested/tried out; perceptions or practices to altered/improved; demonstration on how to comply to current codes and/or inspiration for the next generation of buildings; ii) examine alternatives and undertake a pre-feasibility assessment of the pros and con; iii) make recommendations for discussion and adoption.
		Develop detailed proposal based on outline strategy, comments received and likely funding levels: i) select the location; ii) confirm project management, legal and logistical arrangements to allow swift implementation; iii) confirm costs and cost sharing arrangements; iv) undertake full feasibility study and document the findings in a detailed project proposal ready for funding
Government to government cooperation initiated between MCEB and MOC	4.A partnership mechanism is place that will enable MOC and others to access state of the art policy and regulatory competence from Denmark within energy efficiency and low carbon transition in buildings.	Develop and deepen the joint understanding of the Memorandum of Understanding between MOC and MCEB including clarity over the objectives, scope and level of ambition of the cooperation
		Operate the partnership in areas of knowledge sharing, technology exchange, help-desk responses on key issues

4.3 Strategic concerns at the project level

Capacity building strategy

Capacity building is at the heart of the VNEEP and the external attempts to support energy efficiency through the VNEEP. As noted in the assessment of the sector framework (Annex B) there are a lot of donor efforts on capacity building and the large multi-lateral funding institutions such as the World Bank are focused on providing technical assistance rather than direct investment.

There would be a lot to be gained from an effort to develop a common approach to capacity building and technical assistance. Such a common approach could lead to the development of a coherent capacity development strategy for the sector as recommended by the Danida review mission of June 2011(Ref: 18).

The capacity strategy would take an actor perspective and combine this with an analysis of performance gaps related to the mandates and roles of different stakeholders, not least industries and the owners/users of buildings. The analysis of performance gaps would take into account the enabling environment as well as organizational factors and if relevant unpack aspects of political economy and functional roles and responsibilities. In turn, this would lead to definition of capacity outcomes and outputs thus giving the basis for the adoption of a results-based approach to capacity development.

An approach pioneered by the Danida, "train4Dev" and "LenCD" networks is to hold a multi-stakeholder learning event to trigger a deeper dialogue and understanding of these issues in the sector. This could lead to a consensus being formed on the need and shape of a common effort to develop a systematic capacity development strategy.

It could be considered to launch such an initiative as part of the current Danida support to the VNEEP as it goes beyond the scope of this project alone. Alternatively it could be launched it during the inception period where it could also make use of MCEB resources.

Technical assistance will be delivered through:

- A programme coordinator/energy adviserhoused in the EDK
- Staff from the MCEB who will undertake regular six monthly technical supervision missions – this will ultimately lead to a technical government-to-government partnership that will bring some of the longer term benefits of twinning.
- Short or long term national consultants
- Short term international consultants

The technical assistance should be partner led, demand responsive and results orientated. Partner led means that the MOIT/ECCO and MOC should take the lead in defining the need for technical assistance, coordinating technical assistance from this project with that being provided by other support efforts, drawing up TOR, selecting the technical assistance and supervising the delivery. Demand responsive means that the technical assistance should be based on systematic capacity development strategy that addresses the core performance issues related to achieving project objectives. It also implies that there should be readiness to make use of the technical assistance and any new skills that are developed. Results orientated means that the technical assistance should have clear TOR with measurable outputs that are evaluated in practice. This will also help the technical assistance to deliver cumulative and visible results.

Partnership strategy

The project could provide the basis for a longer term partnership between MCEB and MOC/MOIT in the transition to a low carbon and green growth economy. Initially a platform will be created within energy efficiency in buildings. This is an area where Denmark has world class expertise and where Viet Nam is lacking international partners. The

partnership will be based on a Memorandum of Understanding between Vietnam and Denmark. The partnership acknowledges differences in the socio-economic conditions and climate between Denmark and Viet Nam but also notes areas where the ministries share a mandate (e.g. in regulation) and where there are opportunities for learning, sharing experience and adopting new technologies.

The project will also promote the emergence of a commercial partnership between Vietnamese and Danish firms within energy efficiency. This will pave the way to move from aid to trade and in this way sustain improvements in the future. As mentioned earlier, commercial partnerships are not easy to develop. The project will have to be realistic and ensure that, at an early stage, any support efforts are demand led to avoid wasted effort. Promoting both a product line approach in areas such as control valves, pumps and similar equipment as well as promoting one-to-one company relationships are possible.

As mentioned in the draft Viet Nam green growth strategy (Ref: 27), the quality of Viet Nam's growth has been declining and has become increasingly unsustainable due to environmental pollution, loss of natural capital, low returns on public investment and static economic competiveness. Low energy efficiency in industry and buildings is a contributory factor and one of the focus areas for turning Viet Nam into a more advanced, low carbon economy that takes advantage of the potential of green growth. This is a complicated area where collaboration with Danish industry, which has had to become increasingly efficient in its energy use, could yield benefits for both Viet Nam and Denmark.

Exit strategy

An exit strategy is closely linked to the adoption of the capacity development strategy and the partnership strategy above. Both these strategies are aimed at encouraging sustainability of the energy efficiency improvements that the project and other efforts will bring about.

The capacity development strategy contributes to sustainability as it will lead to a more effective mobilization of internal Vietnamese resources. This will be achieved not only through direct training but also through institutional changes that provide greater incentives for the private sector to engage in energy savings either as industries (end users) or service providers that ultimately make their living from the money saved by more efficient use of energy.

The partnership strategy contributes to sustainability as it provides a long term source of information through the twinning of the policy and regulatory functions of government that will enable Viet Nam to access Danish and international experience as it moves in the direction of greater and greater sophistication and encounters the opportunities and challenges of a medium income country. On the commercial front, the emergence of profit driven partnership will tend to be self-sustaining.

4.4 Specific measures to address other issues

This section is mainly derived from the component description for support to VNEEP 2007.

Poverty - The VNEEP and thereby this project will mainly contribute to poverty reduction by enhancing the general economic development through improving the energy efficiency of industrial enterprises and through new job opportunities related to the energy efficiency improvements on both maintenance and investments. In the long term a transition to a low carbon economy will strengthen Viet Nam's international competiveness. As efficient use of energy pollutes less, the VNEEP and the project will also indirectly contribute the improved living conditions for people living in the vicinity of the enterprises. This is particularly true of the brick and ceramic industries. The structure of the energy pricing system will be of significant importance to the impact on poor and efforts will be allocated at technical level and at policy level to ensure a fair pricing policy towards the less privileged. Below are listed positive and possible negative impacts on poor.

Table C1 Positive and possible negative impacts on poor

EE impact	Positive effects on the poor and poverty	Negative effects on poverty
Reduced emissions	• Reduced air pollution • Generally improved environment • Reduced health problems	
Lower costs for energy purchase (enterprises)	• Improved financial situation for the poor with cross-subsidizing, e.g. maintaining low prices on kerosene for cooking	• Higher energy pricing as an instrument for EE will result in reduced affordability for the poor
Increased competiveness (enterprises)	• Room for expanding the business → Creation of new jobs • Higher workers skills • Improved occupational health and safety	• Unskilled poor will need additional training in order to get jobs
General economic development	• Increased availability of - Energy - Health resources - Education • Developing economy will inter alia result in more jobs → increased number of poor employed	• Possible increased inflation will affect the affordability of the poor more than the rest of society

Environment and climate change - Improved energy efficiency will reduce the use of fuels and electricity and thereby contribute to a lower level of emissions such as O_2, SO_2 and NO_x, as well as a lower increase in the demand for investment in new power plants. Energy efficiency is a key element in development of a low carbon economy and climate change mitigation. In some sectors such as brick and ceramics, the introduction of energy efficiency equipment and processes will also result in less use of fossil resources and less air pollution.

Good governance and transparency - Together with the main Danish support to the VNEEP, this project will assist in establishing a well-functioning and reliable financial facility for energy efficiency improving investments in enterprises and commercial buildings. As the Danish program/components will utilise the GoV system for implementation and reporting it offers an opportunity to strengthen the system from within – in particular a focus is put on

transparent and regular reporting. This will in itself be an addition to good governance and transparency process.

Gender - The project will create job opportunities for consultants, which is an area where it is easier for women to obtain work. Gender data for trainings should be be part of the monitoring system. SMEs often employ a greater proportion of women in managerial and influential positions than large enterprises, thus support to training of SMEs will benefit women.

HIV/AIDS - There is an opportunity in the training awareness programs to include HIV/AIDS awareness messages

Disaster risk management – There will be little direct contribution to disaster risk management.

5 Budget

The overall budget is shown in table 5.1 below :

The budget estimates are based on experience of PECSME and on an outline budget prepared in VND by the MOIT (see Annex A, Table A2). In practice for the TPBS transfers the unit costs will follow Government of Viet Nam cost norms. For the direct support transfers the unit costs will in general follow European Union (EU) cost norms in Viet Nam and Europe. Illustrative breakdowns of the costs related to likely outputs are given in Annex A. The funds channeled via TPBS will mostly be for recurrent costs such as holding workshops, making publications, outsourcing auditing and feasibility studies, salary and travel costs. As indicated in Table 5.1 there is a budget line under the TPBS for investments which will provide support for SMEs through the government grant subsidy facility. There is also a budget line for additional investments intended to support the creation of a sustainable funding mechanism(s) for energy efficiency in SMEs in Viet Nam.

The overall budget for the VNEEP 2010-2015 is given in Annex A (Table A1) and summarized in Table 5.2 below. This shows that the budget for project 2.3 is a total of VND 240 billion and for project 3.1 is a total of VND 13 billion and for project 3.2 is a total of VND 12 Billion. The amount of funding to be directed to project 2.3 and 3.1/3.2 will need to be confirmed on the basis of annual workplans and budgets.

For investments, a minimum contribution from the private sector of 70% is assumed. This indicates that the investment from the private sector will be close to VND 500 billion.

Table 5.1 Budget

		Vnd (billion)					Dkk (million)			
Modality	**Budget EE in SMEs**	**year 1**	**year 2**	**year 3**	**Total**	**%**	**year 1**	**year 2**	**year 3**	**Total**
TPBS	Brick sector	2.0	3.0	3.0	8.0	4%	0.6	0.9	0.9	2.4
	Ceramic sector	2.0	1.0	1.0	4.0	2%	0.6	0.3	0.3	1.2
	Other sector	3.0	4.0	5.0	12.0	6%	0.9	1.2	1.5	3.6
	Investment support using government facility	4.0	7.0	9.0	20.0	11%	1.2	2.1	2.7	6.0
Direct support	Technical assistance	5.0	5.0	4.5	14.5	8%	1.5	1.5	1.4	4.4
	Partnership promotion	3.0	3.0	4.0	10.0	5%	0.9	0.9	1.2	3.0
	Investment support (additional)		33.3	83.4	116.7	63%	0.0	10.0	25.0	35.0
	Total without additional investment	19.0	23.0	26.5	68.5		5.7	6.9	8.0	20.6
	Total (with additional investment)	**19.0**	**56.3**	**109.9**	**185.2**	**100%**	**5.7**	**16.9**	**33.0**	**55.6**

		Vnd (billion)					Dkk (million)			
Modality	**Budget EE in buildings**	**year 1**	**year 2**	**year 3**	**Total**	**%**	**year 1**	**year 2**	**year 3**	**Total**
TPBS	i) Establish mechanisms	1.0	1.0	1.0	3.0	20%	0.3	0.3	0.3	0.9
	ii) Capacity building in implementing	1.0	1.0	1.0	3.0	20%	0.3	0.3	0.3	0.9
	iii) Preparation of pilot	0.6	1.0	0.4	2.0	14%	0.2	0.3	0.1	0.6
Direct support	Technical assistance	2.1	2.8	1.8	6.7	46%	0.6	0.8	0.5	2.0
	Total	**4.7**	**5.8**	**4.2**	**14.7**	**100%**	**1.4**	**1.7**	**1.3**	**4.4**

		Vnd (billion)					Dkk (million)			
Modality	**Programme management**	**year 1**	**year 2**	**year 3**	**Total**	**%**	**year 1**	**year 2**	**year 3**	**Total**
Direct support	Programme officer	3.3	3.3	3.3	9.99	60%	1.00	1.00	1.00	3.00
	Reviews, audits (technical /financial), supervison	1.2	4.2	1.2	6.60	40%	0.36	1.26	0.36	1.98
	Total	**4.53**	**7.53**	**4.53**	**16.59**	**100%**	**1.36**	**2.26**	**1.36**	**4.98**

	Vnd (billion)				Dkk (million)			
Budget total	**year 1**	**year 2**	**year 3**	**Total**	**year 1**	**year 2**	**year 3**	**Total**
EE in SMEs	19.0	23.0	26.5	68.5	5.7	6.9	8.0	20.6
of which investment	4.0	7.0	9.0	20.0	1.2	2.1	2.7	6.0
EE in Buildings	4.7	5.8	4.2	14.7	1.4	1.7	1.3	4.4
Programme management	4.5	7.5	4.5	16.6	1.4	2.3	1.4	5.0
Total (without additional investment)	**28.2**	**36.3**	**35.2**	**99.8**	**8.5**	**10.9**	**10.6**	**29.9**
Additional investment (EE in SMEs)	0.0	33.3	83.4	116.7	0.0	10.0	25.0	35.0
Total (with additional investment)	**28.2**	**69.6**	**118.6**	**216.5**	**8.5**	**20.9**	**35.6**	**65.0**
Notes								
1 Exchange rate								
I usd =	20000 vnd							
I DKK =	3333 Vnd							
2 Technical assistance for EE in SMEs for 2012 is VND 8 billion which includes an allowance of VND 0.8 billion for a Car for the ECCO office								
3 The additional investment budget line is subject to confirmation								

Note: Detailed budget figures are subject to change

Co-financing by MOIT and MOC: The implementing agencies of the two components contribute in kind: human resources, working rooms, office equipments and facilities, equipment for energy audit, electricity and water etc.

Explanatory notes:

- The funds to be spent on technical assistance be it short-term international or national consultants, assistance from MCEB , and of course the Programme coordinator/energy adviser shall not be transferred to the Vietnamese Ministry of Finance and onward to MOIT and MOC, but remain for disbursement directly from EDK.
- The funds for investment to SME EE projects shall remain with the EDK until a solution and decision have been reached on the financing mechanism for these investments.
- If the circular on use of funds for privately owned businesses is not approved by the Vietnamese authorities by 1st January 2013, the VND 20 billion will be channeled through the same financing mechanism as the big amount of investment funds, and not to the VNEEP grant facility.
- TBPS support incudes: operational expenses for supporting the brick, ceramic and others sectors. Investment funds for the grant facility (provided the above stipulations are met)
- Direct support includes: technical assistance, partnership promotion, investment support (other than that provided under direct support) and programme management related costs.

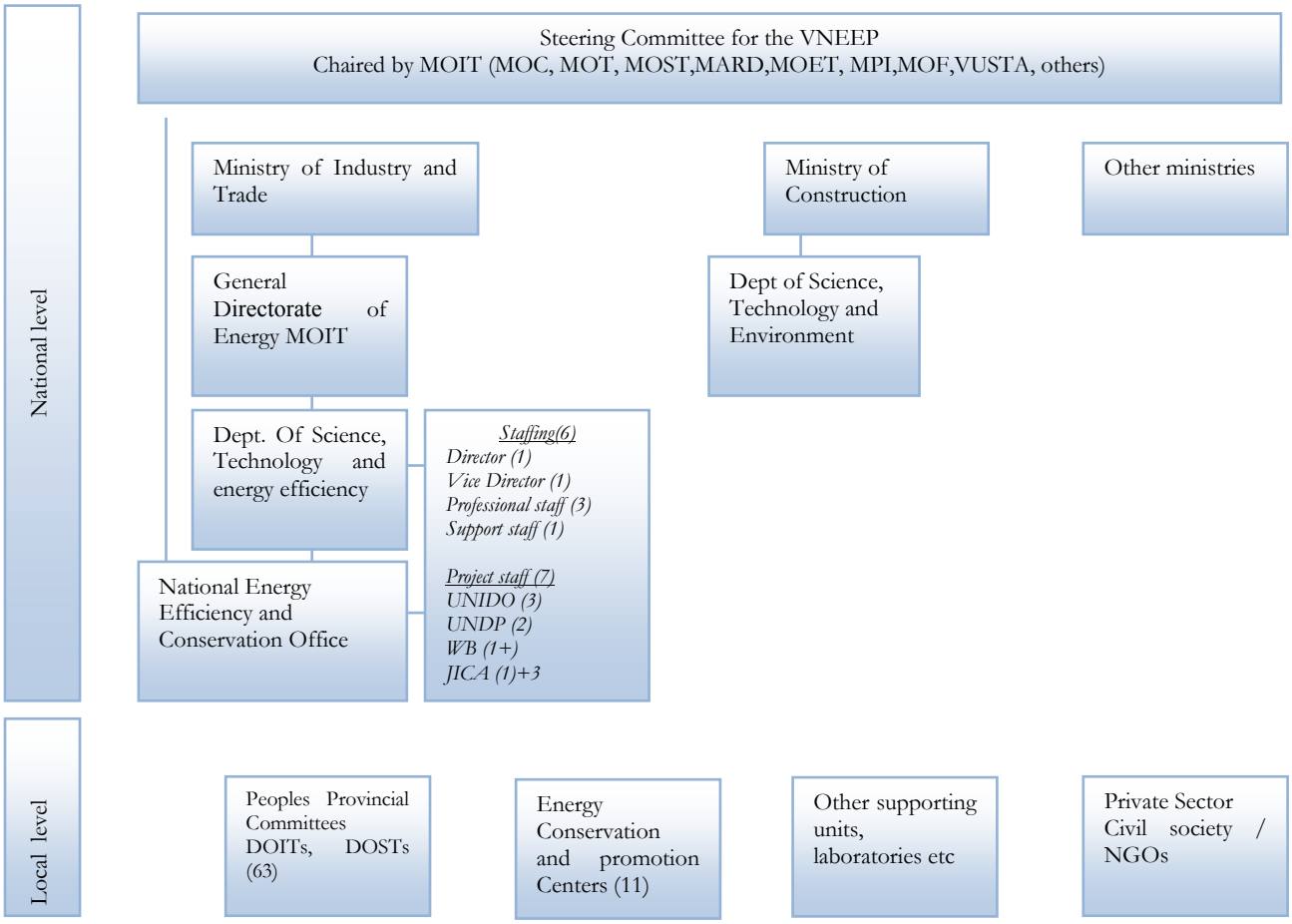
Table 5.2 Government of Viet Nam and Danish funding to projects 2.3 and 3.1/3.2

Projects (VND billion)		GoV funding		Danish Funding without investment	Danish funding as % of GoV funding	Danish Funding for investment (incl additional investment)	Private sector funding (70%)
		Total 2010-15	Pro rate 2013-15				
2.3	Promoting EE in industry	240	144	48.5	34%	136.7	456
3.1	Construction codes	13					
3.2	Promoting EE in buildings	12	15	14.7	98%		
Total		**240**	**159**	**63.2**	**40%**	**136.7**	**456**

6 Management and organisation

The institutional set up for the VNEEP is shown in figure 6.1 below:

Figure 6.1 Institutional set up for the energy efficiency sector[1]



The steering committee for the VNEEP has the overall responsibility for the programme including the following tasks (decision QD/01-BCD in 2006):

- Develop policies, mechanisms (including on energy pricing), provide budget for the programme and supervise and check the results achieved.
- Ensure smooth flow of funds to priority investments under the programme.
- Develop energy efficiency policies at provincial level, implement projects under the VNEEP (PPC).
- Monitor and evaluate the progress of the VNEEP.
- Implement energy efficiency measures (households and enterprises).

The General Directorate of Energy (Decision on new General Directorate of Energy 5 September 2011) has the following tasks:

- Prepare policy on energy efficiency for submission to the Minister of MOIT.

[1] United Nations Industrial Development Organisation (UNIDO); United Nations Development Programme (UNDP); World Bank (WB); Department of Science and Technology (DOST); Japan International Cooperation Agency (JICA)

- Prepare and present programs and projects on energy efficiency.
- Supervise and manage national projects on demand side and energy efficiency.
- Develop and manage a national database on energy efficiency.

The national EECO acts as the standing office (secretariat) to the steering committee and has the following tasks (decision 919/QD-BCN in 2007, revised 557/QD-BCT dated 09 Feb, 2012):

- Provide a focal point for coordination between steering committee members.
- Provide guidance to different ministries, provinces and sectors on implementation of the programme.
- Prepare and submit to the steering committee the activities of the different sectors, provinces under the framework of the program.
- Prepare the annual budget.
- Supervise, check and summarise the implementation performance of the VNEEP (including the barriers and any problems requiring reporting to the steering committee).
- Provide regular reports to the steering committee.
- Filling and recording of documents.
- Any other tasks requested by the steering committee.

Project level management and role of the project steering committee

To facilitate discussion, enable fast decision making and ensure a constructive dialogue between the partners, a project steering committee will be established (see figure 6.2). The project steering committee will be composed of the head of the EECO, a representative of MOC, a representative from the Embassy of Denmark and a representative of MCEB. It will meet twice a year in advance of the VNEEP national steering committee and will also be timed to coincide with the twice yearly technical supervision visits of MCEB. The project steering committee will endorse annual work plans and budgets for the project and recommend them for approval by the VNEEP national steering committee. The project steering committee will review progress every six months and if necessary make recommendations for adjustment to the workplans and budgets. TOR for the steering committee are given in Annex C.

The main roles of MOIT and MOC will be:

- Implementing the approved annual work plans and budgets
- Providing policy and strategic leadership

The main role of MCEB will be:

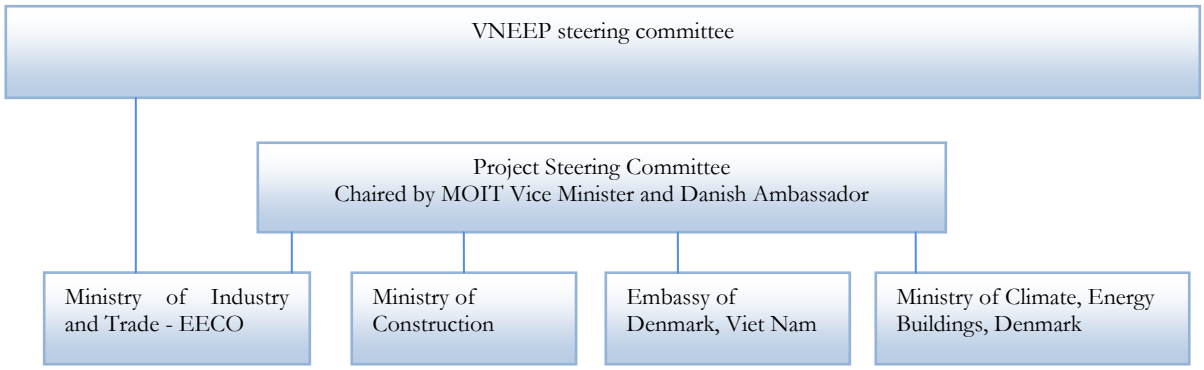
- Leading the technical supervision missions
- Providing technical and policy support

The main role of the EDK will be:

- Ensure effective delivery and administration of technical and financial support

- Provide regular liaison with MOIT/MOC, including attending donor coordination events.

Figure 6.2 Project steering committee



A programme coordinator, housed at the EDK, will be recruited to support the project management and coordination, provide policy advice, advocate for energy efficiency including promotion of commercial partnerships and, undertake necessary project administration. A job description is given Annex E.

Decision making and coordination

Decision making will follow the normal state management principles. Overall managerial responsibility will lie with the head of the General Directorate of Energy , MOIT. Day to day operations will be delegated to the head of the EEC Office. The EECO will carry out all the tasks within the approved annual workplans and budgets.

The strategic framework is defined by the 10 year program for energy efficiency and conservation, VNEEP. Within the VNEEP, annual work plans and budgets are made for all relevant areas of the program consisting of 4 sub-programs and 11 projects. Thus the detailed decision-making will in practice be guided strategically by the overall 10 year program and operationally by the annual work plans. It will be the responsibility of the EECO, in coordination with its partners, to adjust and refine the strategic and operational plans and present for approval by VNEEP national steering twice a year.

The national program calls for a coordinated approach involving the relevant stakeholders. The EECO will need to hold regular meetings with partners involved in the planning and implementation of the VNEEP, and monthly meetings on each project. These meetings will document and follow up on the matters discussed; the decisions taken that need cooperative agreement and the agreed action of different parties. The Terms of Reference (TOR), composition and detailed procedures of these coordinated management instruments still need further strengthening and this can be provided through the general support to VNEEP provided by Danida and others.

Donor coordination is particularly important as they are several donors providing support in overlapping areas. The Donor coordination meeting held in May 2012 (Ref:6) was particularly useful and should, ideally, be held every six months.

Procedure for planning, budgeting and tendering

The planning and budget for the component supported activities will be made as an integrated part of the VNEEP annual work plan and budget, which means the state management procedures for procurement and cost norms will be followed. The budgeting will take place each year in June for the following year and be done by the EECO, presented to VNEEP steering committee for approval and sent to the Ministry of Finance (MOF) and Ministry of Investment and Planning (MPI) for appraisal , which will seek the overall approval budget from the Government, which authorized to Ministry of Finance (MOF). Significant deviation from the approved budget will require departmental approval.

The Vietnamese counterpart will be responsible for preparing TOR for technical assistance assignments in cooperation with EDK. They will also take part in the contract negotiations and will be responsible for effective utilisation and monitoring of the technical assistance.

The EDK and the MCEB, will have a supervisory role in satisfying themselves that the assistance channeled via national systems is being implemented as intended and is reaching the desired aims. This supervisory role will be exercised twice a year during a technical supervision mission. In addition a mid-term technical review is planned as described in chapter 8.

Revision and adjustment to the component support

The project can be adjusted or revised within the original objectives by the VNEEP steering committee with the endorsement of the project steering committee.

If during the year, significant deviations are likely to occur, which will impact on the achievement of the objectives or imply over or under spending in relation to approved budgets, then the EECO as the implementing agency will inform the Embassy in writing in advance.

7 Financial management and procurement

The public expenditure review of 2005 (Ref 28; Annex 7 Fiduciary risk assessment) states that *" Vietnam public finance management systems are generally sound with a medium exposure to fiduciary risk. The capacity of staff working in public financial management has been constantly and steadily strengthened."* Danish support in the form of TPBS has been provided to the VNEEP since 2009. A review was undertaken in 2011 (ref: 18) and audits are underway. The review findings indicate that the public financial management related risks and the detailed safeguards that are summarized in original program document (and outlined in Annex 2 of Volume II supplementary information) are still largely relevant and also sufficient. Continued monitoring of the safeguards will take place as part of the Danida support to the VNEEP under the climate change adaptation and mitigation programme which has now

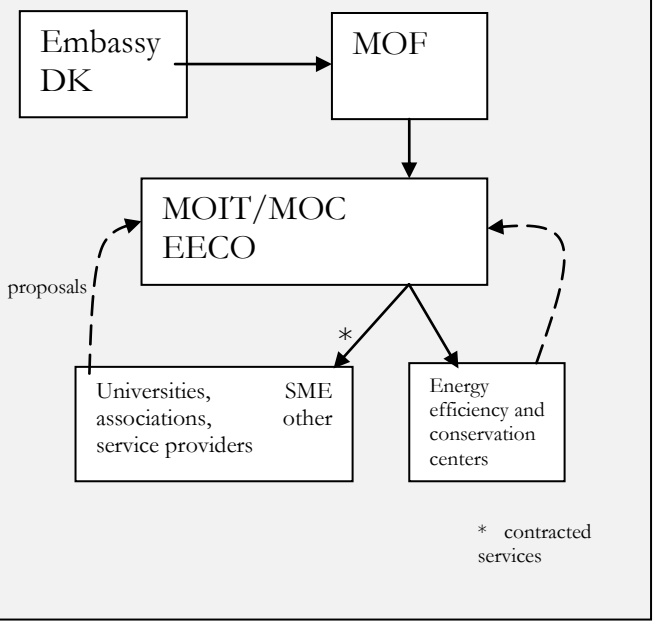
been extended to 2015. It does not make sense to carry out a parallel monitoring under this project.

Guiding principles for financial management and procurement

As is the case for the support under the climate adaptation and mitigation programme, the support interventions funded under TPBS will be fully aligned to the Vietnamese national systems. Thus the financial management responsibility will be placed with the Vietnamese organization that has the lead agency mandate for the area of work involved (in Vietnamese terminology the "project owner"). This is likely to be MOIT, MOC, PPC/DOIT or in case of outsourced activities the energy efficiency centers, SME associations or similar bodies.

The financial management procedures and modalities will follow the systems of the implementing agencies. Where the implementing agent is under state management, the procedures will be identical to those defined under the various regulations that govern state management. The flow of funds is shown in figure 7.1.

Fig 7.1 State management (TPBS)



The program document for Danida support to VNEEP (2008) provides an outline description of the Vietnamese systems both within state management and within public sector funds and instruments outside of state management. The planning and budgeting, the funds transfer, the accounting and reporting, the procurement and the auditing procedures are described (or reference is made to the Vietnamese documents) that define in detail the procedures.

The activities funded under direct support will be provided in kind to the VNEEP and will in general be procured following the procedures of the EDK which are aligned to the EU cost norms in Viet Nam and Danish Ministry of Foreign Affairs procurement procedures for internationally procured goods and services.

Summary of financial procedures

The financial procedures are summarized in table 7.1

Table 7.1 Summary of procedures for financial management of state management

Area	Outline procedures
Planning and budgeting	The EECO will draft an annual work plan and budget for the VNEEP (see examples Ref 19,20). This will be subject to approval by the relevant stakeholders including the co-financing donor (Denmark). For state management ,the budget will specify: i) the amounts to be transferred to the

Area	Outline procedures
	program by the MOF using Government of Viet Nam (GoV) funds; ii) the amount transferred by Denmark and other donors via the MOF to the VNEEP program and iii) the amounts provided as project aid or in kind.
Funds transfer	The funds approved in the annual work plan will be transferred from the Embassy to the MOF in a single annual transfer. The MOF will then, following its detailed procedures (Circular 82/2007/TT-BTC) transfer the funds to MOIT /MOC.
Accounting and reporting	The VNEEP program will provide semi-annual progress and financial reports based on the normal government accountancy systems.
Procurement	Procurement for activities carried out directly by the EECO will follow GoV procedures and norms.
Auditing	GoV audits are carried out every 2 years at MOIT and every 2 -3 years at the national program level. State Audit Law 2006.The State Audit of Viet Nam audits will be supplemented by additional independent audits financed by the project overall budget. The audits will be in the form of annual financial audits as well as additional value-for-money audits and procurement audits. The EDK and MCEB reserve the right to conduct independent and procurement audits for the expenditure and procurement financed by the Government of Denmark for the National Target Program budget when deemed necessary.

Table 7.2 , below outlines the sector specific risks and recommended safeguards:

Table 7.2 Project specific risk analysis

Area	Risk category	Main issue (s)	Supportive action / safeguard
Budget	Medium	Delays in budget transfer	Supportive action: This is likely to be a problem mainly in the first year (2013) due to difficulty in getting the TPBS for project 2.3 and 3.1 inscribed in the national budget even if the government to government agreement is signed in November 2012. Safeguard: Provide support in 2012 to ensure advanced preparation and approval of work plans for all involved organisations that integrate likely future Danish support and their own contribution
		Budget distribution to project owners other than the lead agency	Supportive action: EECO makes contracts with the institutions and individual who contribute to the implementation, defining output, level of qualifications needed, fees, costs and the timeframe, with clear performance indicators. Safeguard: ex ante approval of work plans and budgets plus annual audits (ie. ensuring that MOC and others obtain the relevant level of funding).
		Cost norms may lead to inefficient implementation	Supportive action: Draft contracts are tested for adequacy and possible conflicts with cost norms. Safeguard: Cost norms are agreed at national level. The issue is discussed with Embassy of Denmark (EDK), when annual work plans are agreed to. This issue was confirmed by the review mission of June 2011 (ref 18).
Administration	Medium	Operating	Supportive action: Detailed planning of specific tasks

Area	Risk category	Main issue (s)	Supportive action / safeguard
		procedures dysfunctional	focus on efficient operating procedures. Especially now that the staffing has been reduced and the pace of activities will increase there is a need to improve procedures. It might be relevant to encourage employment of well qualified support staff. Safeguard: The issue is discussed with EDK, when annual work plans are agreed to.
Technical	Medium	Planning not detailed enough in the annual work plans	Supportive action: use technical assistance to help in planning and monitoring in order to set clear targets and performance indicators. Projects 2.3 and 3.1 could provide examples of more detailed planning. Safeguard: use the opportunity of approval of annual workplans and budgets to improve the quality.
		Value for money	Supportive action: Ex ante agreements with involved institutions outline their contribution (staff, offices, tools etc.) as a precondition for participation. The detailed planning specifies the duties, contributions and gains for each institution, as well as performance indicators. Safeguard: Semi-annual progress reports plus annual audits.
Stakeholder participation (enterprises and owners of buildings)	High	Information publicly available Incentives sufficient	Supportive action: The program focuses on providing targeted information and on increasing economic incentives. . Information and incentives will be reconsidered regularly for efficiency, and revised if need be. Safeguard: Semi-annual progress reports

8 Monitoring, reporting, reviews and evaluations

Guiding principles

In line with the overall alignment principle, the reporting and monitoring responsibility will be placed with the Vietnamese organization that has the lead agency and project owner mandate for the national program and the individual projects under the VNEEP. Thus MOIT will be responsible for the component on energy efficiency in SMEs (project 2.3) and MOC will be responsible for the component on energy efficiency in buildings (project 3.1).

Monitoring

Generally speaking the government system does not operate with a strict Logical Framework Analyses planning system or monitor by using pre-defined indicators – instead the practice is to set out programme based targets. Although monitoring is not formalized and comprehensive, there are common practices which provide a means of measuring performance. These include: i) setting of targets which can be considered as indicators and which provide a high level source of performance measurement information; ii) use of managerial oversight and judgment on performance based on a range of formal and informal information.

The baseline for the VNEEP is given in the program itself. The base case is the 2006 forecast on the energy consumption development. The VNEEP sets the energy savings targets of 3-5 % of the total energy consumption during the period 2006 - 2010, and 5-8 % during the period 2011 - 2015, measured against the base case.

The VNEEP is in the process of completing a monitoring and evaluation framework. The draft framework sets out a number of indicators which are presented and analyzed in Annex D. It is very tempting to set up a project specific series of indicators, especially as the national system is not yet operational. However, experience has shown that such project specific monitoring systems risk undermining the efforts to put in place a coherent programme based system that can be sustained once the project stops. For an area such as energy efficiency which relies on effective monitoring it is very important that a sustainable national system is put in place. For this reason, reliance will be put on supporting and, where necessary, extending the national monitoring system and using the already agreed indicators. To compensate for this reliance on a system that is not yet working, technical supervision reviews will be carried out twice a year.

Table 8.1 Analysis of indicators as related to the VNEEP

#	Indicator *(adaptation for the project)*	2015 target for project attainment	Comment
2.3.2	The energy managers's network in the industrial sector set up completed and operated within a given timeframe	Established by end 2013	The network is relevant for this project (energy efficiency for SMEs) and the project will contribute towards training energy managers. However the SME network will be more vulnerable as there are unlikely to be as many full time energy managers.
2.5.2	a) No. of energy audits done in the selected sector *(brick/ ceramic/ other)*	Brick 85 Ceramic 50 Other 30	It could be possible to especially select the brick, ceramic and (other) sector and apply these indicators. The indicators would be consistent with the national system and also very useful for measuring the progress of the project. The targets for brick, ceramic and other sector are taken based on the illustrative budget prepared by EECO (Annex A, table A2). It is assumed that energy audits are conducted in all the enterprises receiving technical assistance. Note benchmarks already established for fish processing sector.
	b) No. of enterprises in the selected sector implement energy efficiency measures *brick/ ceramic/ other)*	Brick 90-150 Ceramic 50-80 Other 10-20	
	c) Benchmarks established by sector *brick/ ceramic/ other)*	End 2013	
	d) Awareness campaigns completed *brick/ ceramic/ other)*	Brick 30 Ceramic 10 Other 20	
	e) No. of enterprises receiving technical assistance and investment support from VNEEP	Technical assistance: Brick 85 Ceramic 50 Other 30 Investment support: Brick 4 Ceramic 3 Other 3	It could be relevant to set up a sub-target for the targeted sectors of brick, ceramic and (other).

#	Indicator *(adaptation for the project)*	2015 target for project attainment	Comment
	f) Information on energy efficiency and conservation technologies and success stories available	Brick 100-200 Ceramic 80-160 Other 300- 600	Under these indicators the project could contribute to national targets and sector specific targets could be set up. It would probably be possible to distinguish the sectors with the national data collected for the indicators. It is assumed that at least twice as many enterprises receive information as those attending training courses. This gives 960 enterprises which is rounded up to 1000. If only 250 enterprises receive training this will reduce the information and awareness related target to 500
	g) No. of energy service providers trained on ESCO business model	Additional: 30-50	
3.1	% of new large scale buildings (over 2500m^2) that establish energy management systems as regulated	X to be established by VNEEP	This data should be available as a product or output of implementing building codes. Compliance towards 100% will be gradual given the number of buildings across all the provinces.
3.2	% of new buildings that apply energy efficiency measures	100%	
3.3	No. of buildings that apply energy efficiency measures	X to be established by VNEEP	
	No of workshops/training events to promote energy efficiency standards and design	Additional: X	This data is likely to be available from the accounting records. Because of the way that funds are traced, it is likely that the events that the project funds contributed to will be measureable.
	No. of trainings held for building staff to build capacity of applying building code to building designs	Additional: X	
	No. of trainings held for staff to improve capacity of examining, appraising designs and planning of energy efficiency and conservation.	Additional: X	
	No. of trainings held for energy managers to improve skills in promoting energy efficiency	Additional: X	

Note: the targets set above for the Brick, Ceramic and other sector are based on the illustrative budget set out in Annex A (Table A2) which demonstrates using the unit costs provided by ECCO that there is sufficient budget to achieve these targets.

Table 8.2 Indicators related to the project

Component 1 Objective: Small and medium enterprises in at least 3 sectors adopt energy efficiency measures that will contribute to the VNEEP energy saving targets of between 5-10%.	
Outputs	**Indicator # in VNEEP, Indicator, [target]**
Energy efficiency promoted at provincial level - 5 Provincial governments have promulgated energy efficiency and conservation policies/programs and developed action plans to promote the application of energy efficiency and conservation technologies/ measures within at least 3 sectors	No indicator in VNEEP but covered by the other indicators
SMEs aware of energy efficiency potential – 500- 1000 SMEs are aware of energy efficiency potential, technical solutions, sources of technical support and financial sources, within at 3 least sectors	2.5.2 d) Awareness campaigns completed *brick/ ceramic/ other)* [Brick 30, Ceramic 10, Other 20] 2.5.2 f) Information on energy efficiency and conservation technologies and success stories available [Brick 100-200, Ceramic 80-160, Other 300- 600]

Service providers competent and available – 30-50 Service providers are strengthened in their capacity to provide energy efficiency services within at least 3 sectors	2.5.2 g) No. of energy service providers trained on the ESCO business model * [additional 50] *also on private sector energy service providers
Energy efficiency in brick and ceramic sectors replicated – 150-250 energy efficiency projects in brick and ceramic and other sectors have been implemented	2..5.2 b) No. of enterprises in the selected sector implement energy efficiency measures [Brick 150; ceramic 80, other 20] 2.5.2 e) No. of enterprises receiving technical assistance and investment support from VNEEP [Brick 85; ceramic 50, other 30]
Energy efficiency demonstrated in new sectors - 3 demonstration projects of energy efficiency in at least one other sector.	See above
Longer term commercial partnerships established - 2 Commercial partnerships initiated between Vietnam and Denmark in at least one sector	No indicator in VNEEP Evidence of a partnership such as an agreement on cooperation, a contract for goods or services or equivalent.

Component 2 Objective: Improved capacity for implementing Energy efficiency in large buildings improves and contributes to the VNEEP energy saving targets of between 5-8%.	
Outputs	**Indicator # in VNEEP, Indicator, [target]**
Mechanisms established for regulation	No explicit VNEEP indicator but deemed to be covered by the indicators below (#3.2)
Capacity increased in MOC and related agencies for implementing the building code leading to gradual compliance for all new buildings by 2015.	#3.2 % of the new (large) buildings that apply energy efficiency measures [100%]
A fundable proposal is presented for approval by GOV and EDK/MCEB by the end of the project.	Self evident: Presence of a proposal document
A partnership mechanism is place that will enable MOC and others to access state of the art policy and regulatory competence from Denmark within energy efficiency and low carbon transition in buildings.	To be developed as part of the partnership

As a minimum the indicators above should be gender disaggregated. For the indicators this above, this will require the proportion of female headed enterprises that are supported should be noted. This can be done by making an adjustment in the application form. However, even though it is not an indicators the efforts made in training should also be recorded by gender. This mean that in practice the number of females and males trained should be recorded (this is an automatic part of the accounting procedure as all workshops paid for by state funds must have names of the participants from which the gender can be deduced).

Reporting

The EECO prepares annual VNEEP progress reports and submits them for approval by the VNEEP steering committee. The report for the project's activities will be included as an integrated part of these reports.

The standard practice within state management functions is that each department makes semi-annual progress reports based on their approved work plan and budget. Where a department is composed of several divisions, these divisions usually submit their own chapters which are then aggregated into the departmental report. In practice it seems that this has only happened so far on a yearly basis.

These reports are signed by the head of department and submitted to the parent ministry and/or PPC who then approve and use them for an annual ministerial/ provincial report. The department reports are discussed in semi-annual meetings where the heads of department are expected to answer questions and defend the progress made in the last year. These meetings are normally not minuted according to Vietnamese practice. Where the discussions merit the issuing of a written instruction, a circular, decision, directive or regulation may be issued as circumstances demand.

The reports vary in length, detail and format but normally include a section on the progress of achievements against that planned, actual expenditure against planned, explanations for deviations and suggestions for improvements. An example of a typical report for the period 2006-2010 and 2011 is available (Ref:3, 10) . The reports do not systematically compare the budgeted tasks and their progress, but give an overall impression of the progress of the VNEEP.

<u>List of actions that could be taken to strengthen the M&E and reporting</u>

It is recommended to establish a strengthened procedure for keeping track of the implementation of the many elements of VNEEP, listing systematically:

- detailed plan for implementation of each component and each project in the VNEEP, preferably detailed year by year until 2015.
- the progress of each project in the VNEEP, related to the above mentioned implementation plan.
- problems and challenges encountered and measures taken to overcome the problems.
- the implementing organisation(s) for each project.
- the use of funds on each project.
- projects pending.
- a plan for implementation of outstanding parts of the VNEEP in the coming years
- the status of data collection and processing for monitoring the indicator values of the proposed M&E system.

These recommendations should be enforced by the project steering committee and all those involved in the project. It is appreciated that due to staff shortages and management overload the reporting on VNEEP has not been at the level normally required of projects. For the same reasons, less has been achieved than originally expected in terms of raising the general standard of VNEEP reporting.

The weakness of reporting will be compensated by short technical supervision reviews carried out by the MCEB. This is likely to more effective and less disruptive than insisting on separate reporting. At the same time the more general technical assistance provided under the Danida supported climate change adaptation and mitigation programme will support a gradual improvement in reporting. The MCEB short term supervision reviews will pay special attention to the M&E issue by taking action on strengthening it and providing an independent source of monitoring until the systems is found to be reliable.

The progress report and final repot shall be submitted to the MPI, MOF and relevant stakeholders as per current regulations of the Government of Vietnam on the management and use of ODA fund.

Reviews

The GoV has undertaken a mid-term review of phase 1 (2006-2010) prior to starting on phase 2 (2011-2015) in part to satisfy the demands of the MPI appraisal system. Danida launched a review of the entire climate change adaptation and mitigation programme in 2011 and are likely to field another perhaps in 2013. The Danida reviews assess the progress of the TPBS support and provide recommendations for enhancement and improvements. The findings will be used as inspiration for discussions of required changes in the support as well as identifing needs for further studies. The mid-term review will be undertaken jointly with GoV and other donors if possible/advantageous.

As mentioned under monitoring and reporting, a technical supervision review led by the MCEB will be carried out twice each year and will be part of the strategic partnership to be established between MCEB, MOC, MOIT and other relevant organisations. In the middle of year 2, a more detailed mid-term review will be carried out that can also consider the possibilities of extending cooperation into a next phase if there is funding available. The mid-term review could be combined with the technical supervision review in year 2.

Evaluation

No evaluation is planned.

9 Key assumptions and risks

The main assumptions of the project are:

- The EECO is fully staffed by mid 2013.
- Financial freezes as occurred in 2010/11 do not re-occur.
- A workable mechanism for channeling support for investments is available.
- SMEs continue to invest in energy efficiency measures
- There is demand for Vietnamese/Danish commercial partnerships in energy efficiency.
- The building codes are finalized before the end of 2012 and the environment for enforcement is improved.

- The M&E system is established and reliable.

1) The EECO is fully staffed by 2013

This assumption is critical to the attainment of the objectives, because without further staff in EECO, the projects 2.3 and 3.1, which are time consuming, will not all be initiated and well managed. It is estimated that the current staffing levels would need to double from 6 to 12.

The risk factors that influence this assumption are i) final permission to employ staff is not given or MOIT provide insufficient funds and/or internal allocation of staff given the other priorities of the ministry; ii) suitably qualified and experienced staff are not available or interested in taking up the positions; iii) the availability of donor funded project staff temporarily reduce the need to employ permanent staff. The risk is judged as medium.

The mitigation actions that can be taken will be: i) EECO to continue to demonstrate that it is obtaining acceptable levels of productivity from existing staff , implementing as much as possible the strategy of mobilizing the resources of the provinces and private sector; ii) donors to continue to make the case during project steering committee meetings, high level policy dialogue meetings with the MOIT and to raise the issue at the national steering committee meetings; iii) EECO ensure that the recruitment process leads to well qualified staff being employed and provides training and capacity development of new staff even if the staff are fewer than expected; iv) EECO use the inception phase to re-design the project if significantly few staff are available.

The monitoring of the assumption and risk factors can best be done by following closely the decision processes and recruitment steps.

2) Financial freezes as occurred in 2010/11 do not re-occur

This assumption is critical to the attainment of the objectives, because without finance being released through the government system many of the projects including projects 2.3 and 3.1 will be stalled.

The risk factors that influence this assumption are negative macro-economic factors that lead to a reduction in government spending. The risk is judged as low.

The mitigation actions that can be taken will be: i)for donors to raise the issue during policy dialogue meetings with the MOIT and others (MPI/MOF) and to raise the issue at the national steering committee meetings; ii) to consider to use project modalities for at least some tasks that are crucially affected by any future freeze.

The monitoring of the assumption and risk factors can best be done by following closely the budget allocation process.

3) A workable mechanism for channeling support for investments is available

This assumption is critical to the attainment of the objectives, because without a workable mechanism for channeling support for investments being in place the replication in the brick/ceramic industries and demonstration in other sectors will be slowed down and constrained by lack of finance.

The risk factors that influence this assumption are i) delays in issuing adjustments to the current circular on the government grant subsidy facility; ii) delays and complications in arranging for fallback options. The risk is judged as medium.

The mitigation actions that can be taken will be: i)for donors to raise the issue during policy dialogue meetings with the MOIT and other donors and to raise the issue at the national steering committee meetings; ii) re-orientate the project in the inception phase to focus more on the larger SMEs which have better access to finance and to select a third sector which is not overly dependent on improved access to finance.

The monitoring of the assumption and risk factors can best be done by i) following closely the circular approval process and ii) undertaking a study of the financial constraints actually impacting the sectors under consideration.

4) SMEs continue to invest in energy efficiency measures

This assumption is critical to the attainment of the objectives, because the energy efficiency in the SME industry sector is dependent on SME willingness to invest – without investment by SMEs, energy savings will not be realized.

The risk factors that influence this assumption are i)a slowdown in the Vietnamese/ world economy that reduces demand for the SME products; ii) continued low energy prices that offer too little incentive to make energy efficiency investments. The risk is judged as low for i) and high for ii).

The mitigation actions that can be taken will be: i) select additional sectors that have a robust economic prospect; ii) continue to advocate for higher energy prices that reflect the real global prices.

The monitoring of the assumption and risk factors can best be done by i) following closely the response of SMES and ii) improving the awareness raising and training provided so that SMEs find the arguments for adopting energy efficiency more convincing.

5) There is demand for Vietnamese/Danish commercial partnerships in energy efficiency

This assumption is critical to the attainment of the objectives, because without demand for partnerships the longer term commercial sustainability and value that can be added by private sector collaboration will not emerge.

The risk factors that influence this assumption are i) the sectors chosen (especially the third sector not yet selected) do not benefit from competitive Danish technology and know-how; ii) Danish and Vietnamese companies judge the cost and risks of commercial partnership as being too high given the likely commercial prospects; iii) the macro-economic development lead to SMEs to reduce the level of investment and become more risk adverse. The risk is judged as medium to high.

The mitigation actions that can be taken will be: i) to ensure that the selection of the third sector reflects an area where there is strong demand for commercial partnerships on both sides; ii) to ensure that a highly professional approach is taken to promoting the partnerships and that is demand led.

The monitoring of the assumption and risk factors can best be done by i) following closely the outcome of the initial promotion efforts; ii) keeping records on investments made through commercial partnerships.

6) The building codes are finalized before the end of 2012 and the environment for enforcement is improved

This assumption is critical to the attainment of the objectives, because without the building code being finalized, it will difficult to build capacity for monitoring, inspection and enforcement which in turn will lead to less energy savings than envisaged.

The risk factors that influence this assumption are i) delays in the approval process; ii) constraints in development capacity in MOC either due to insufficient staff or staff that are not qualified for the task. The risk is judged as medium to high.

The mitigation actions that can be taken will be: i) to undertake frequent technical supervision missions to raise the issue with MOC and at the national steering committee level; ii) to ensure that the strategy of using provincial, private sector and other partners is put into place to reduce the workload of MOC staff; iii) to make use of innovative technologies and approaches to prioritization that can reduce the workload and demand on MOC; iv) re-design the project during the inception phase

The monitoring of the assumption and risk factors can best be done by i) following closely the outcome of the approval process; ii) using the indicator system being established under the VNEEP which include a number of detailed indicators on energy efficiency in the building sector.

7) The M&E system is established and reliable

This assumption is critical to the attainment of the objectives, because without the M&E system being reliable it will be difficult to adjust the management of the programme should it not be effective enough in reaching objectives. Accountability will also suffer and confidence that VNEEP is attaining its goals will reduce.

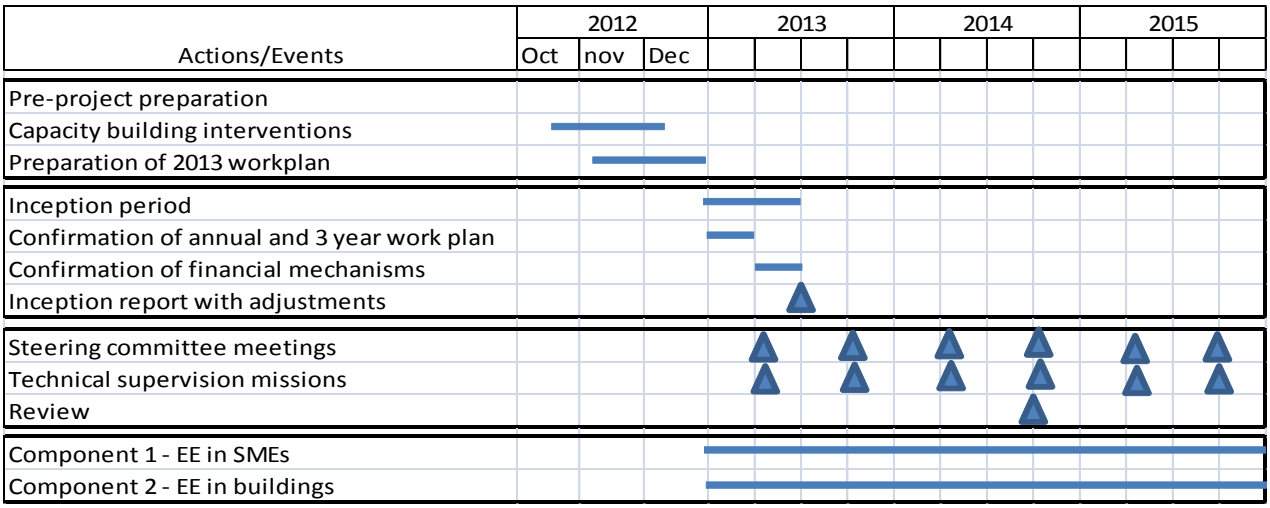
The risk factors that influence this assumption are i) delays in the final approval process; ii) insufficient priority in terms of budget and staff time. The risk is judged as medium.

The mitigation actions that can be taken will be: i) to undertake frequent technical supervision missions to strengthen the MOIT in its M&E task; ii) outsource some of the M&E work to the private sector and other partners is put into place to reduce the workload of MOIT staff; iii) MCEB to provide independent monitoring until reliable indicator values are available.

The monitoring of the assumption and risk factors can best be done by i) following closely the outcome of the approval process; ii) taking the issue up as a standing item on the agenda of the programme steering committee.

10 Implementation plan

The project implementation plan will be developed in detail as part of the annual work plan and budget process of the VNEEP. The first year's workplan will be prepared as usual in November by the EECO and revised as necessary during a 6 month implementation period.



As shown in the char above, the inception phase will not delay the main activities of the project and its two components.

Annexes:

Annex A Budget details

Table A1 VNEEP budget 2011-2015

VNEEP budget		VND Billion	
Project		2011-2015	annual amount
1.1	Awareness raising	110	22
1.2	Education	75	15
1.3	Pilot models for households	35	7
			0
2.1	Standards/labelling	20	4
2.2	Equipment manufacturers	25	5
2.3	Promoting EE in industry	240	48
2.4	Promoting EE models	50	10
2.5	Access to finance	0	0
			0
3.1	Construction codes	13	2.6
3.2	Promoting EE in Buildings	12	2.4
3.3	Public lighting	15	3
3.4	Other	95	19
			0
4.1	Transport infrastructure	21	4.2
4.2	Transport systems	50	10
4.3	Applying new technologies	59	11.8
			0
	Total	**820**	164

The table below is illustrative and based on estimates provided by EECO using updated units costs based on experience from PECSME. It will need to be updated. The budget is intended to be illustrative of the scale of outputs achievable within the budget limits and is not intended as a definitive budget for the project. The project budget should be drawn up during the normal annual workplan and budget process.

Table A2 Illustrative budget for the energy efficiency in SMEs component

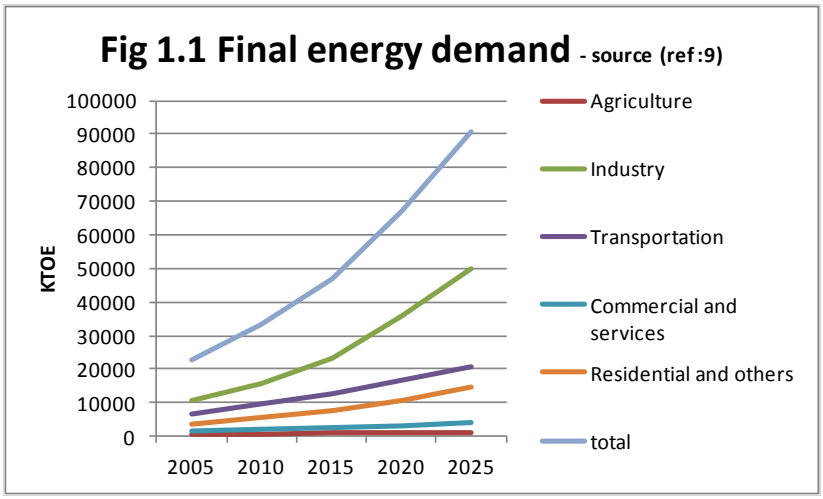
TT	Activities	Unit cost, US$	Quantity				Cost (USD)				Cost (VND million)			
			Total	2013	2014	2015	Total	2013	2014	2015	Total	2013	2014	2015
1	**Support brick SMEs in switch from traditional technology to EE technologies**													
1.1	Provide technical assistance to provincial governments in developing local policies on EE&EC promotion	5,280	3	1	1	1	15,840	5,280	5,280	5,280	317	106	106	106
1.2	Organize 30 awareness and information sharing workshops	3,000	30	10	15	5	90,000	30,000	45,000	15,000	1,800	600	900	300
1.3	Designing and printing leaflets, booklets, articles & newspapers	2,000	9	4	3	2	18,000	8,000	6,000	4,000	360	160	120	80
1.4	Producing TV and VOV programs	2,200	8	3	3	2	17,600	6,600	6,600	4,400	352	132	132	88
1.5	Conducting 02 training courses on vertical shaft brick kiln and non-fired brick technologies transfer for consultants from the science and technology transfer centers, technology providers in provinces	12,000	2	1	1		24,000	12,000	12,000	-	480	240	240	0
1.6	Provide technical assistance to adoptions of EE technology projects for 85 SMEs	1,500	85	30	40	15	127,500	45,000	60,000	22,500	2,550	900	1,200	450
1.7	Support SMEs to access loan provision from financial institutions	1,500	50	20	20	10	75,000	30,000	30,000	15,000	1,500	600	600	300
1.8	Conducting training on EE technology operations for SME	3,000	10	3	3	4	30,000	9,000	9,000	12,000	600	180	180	240
	Sub-total						397,940	145,880	173,880	78,180	7,959	2,918	3,478	1,564
2	**Support ceramic SMEs to switch from traditional coal kiln to EE LPG kiln**													
2.1	Provide technical assistance to provincial governments in developing local policies on EE&EC promotion	5,280	3	1	1	1	15,840	5,280	5,280	5,280	317	106	106	106
2.2	Organize 10 awareness and information sharing workshops	3,000	10	2	5	3	30,000	6,000	15,000	9,000	600	120	300	180
2.3	Designing and printing leaflets, booklets, articles & newspapers	2,000	6	2	2	2	12,000	4,000	4,000	4,000	240	80	80	80
2.4	Producing TV, VOV programs …	1,500	6	2	2	2	9,000	3,000	3,000	3,000	180	60	60	60
2.5	Conducting 02 training course on EE technology transfer for technology providers	8,000	2	1	1	0	16,000	8,000	8,000	-	320	160	160	0
2.6	Provide technical assistances to 50 SMEs in applying of EE technologies	1,500	50	15	20	15	75,000	22,500	30,000	22,500	1,500	450	600	450
2.7	Support SMEs to access loan provision from financial institutions	1,500	12	4	4	4	18,000	6,000	6,000	6,000	360	120	120	120
2.8	Conducting trainings on EE technology operations for SME	3,000	8	2	4	2	24,000	6,000	12,000	6,000	480	120	240	120
	Sub-total						199,840	60,780	83,280	55,780	3,997	1,216	1,666	1,116
3	ementation of energy conservation solutions and energy management for SMEs in the industrial and business sector													
3.1	Select 6 sites for demonstration (03 sectors)	10,000	6	1	3	2	60,000	10,000	30,000	20,000	1,200	200	600	400
3.2	Organize 20 awareness and information sharing workshops	5,000	20	6	10	4	100,000	30,000	50,000	20,000	2,000	600	1,000	400
3.3	Designing and printing 03 leaflets and 03 booklets on EE	3,000	6	2	2	2	18,000	6,000	6,000	6,000	360	120	120	120
3.4	Producing TV, VOV programs and media publications	2,000	16	4	6	6	32,000	8,000	12,000	12,000	640	160	240	240
3.5	Conduct 03 training courses on technical and financial consultation provision for energy efficiency service providers	20,000	3	1	1	1	60,000	20,000	20,000	20,000	1,200	400	400	400
3.6	Provide technical assistances to 30 SMEs in implementation of EE measures and adoption of best practices	5,000	30	10	10	10	150,000	50,000	50,000	50,000	3,000	1,000	1,000	1,000
3.7	Support SMEs to access loan provision from financial institutions	3,000	30	10	10	10	90,000	30,000	30,000	30,000	1,800	600	600	600
3.8	Conduct 10 training courses for energy mangers or technicians from 300 enterprises on energy management and EE measures/techniques	3,000	30	10	10	10	90,000	30,000	30,000	30,000	1,800	600	600	600
	Sub-total						600,000	184,000	228,000	188,000	12,000	3,680	4,560	3,760
4	**Investment support for SMEs**						-	-		-				
4.1	Projects at average of VND 3 billion each	150,000	10	**2**	**4**	**4**	1,500,000	300,000	600,000	600,000	30,000	6,000	12,000	12,000
	Sub-total						1,500,000	300,000	600,000	600,000	30,000	6,000	12,000	12,000

Annex B National Sector Context

This annex is further supplemented by more detailed material in Volume II supplementary annexes.

1 National sector context

Energy demand in Viet Nam has tripled in the last 10 years, growing at 12 percent per year from 1998 to 2007 (Ref:5). According the Viet Nam Energy Master Plan of 2008, energy demand is likely to double if not triple again in the next 10 years at current rates of economic growth (see figure 1.1). This will make Viet Nam energy insecure and reliant on energy imports.



The drivers for Viet Nam's rise in energy demand are a combination of increasing industrialization, rapid urbanization, expanding use of motorized transport and accelerating household use of electricity. Figure 1.1 shows that industry, transportation and residential energy use are the main sectors of growth with industrial demand dominating. The energy intensity of Viet Nam's economy is also increasing from 387 kilograms of oil equivalent per USD 1000 of Gross Domestic Product (GDP) in 1998 to 573 kilograms of oil equivalent per USD 1000 GDP in 2007 (at constant 2000 prices) (Ref 5). The effect is particularly strong within the industrial sector where energy intensity has more than doubled in the same period indicating a switch to energy intensive industries. Electricity accounts for close to 40% of energy demand.

There are over 500,000 enterprises registered in Viet Nam. Of these over 97% are SMEs which account for over 50% of employment and contribute to over 40% of the GDP and consume over 45% of industrial energy use (Ref: 12)

Box 1 Drivers for energy efficiency in Viet Nam

Economic
- Cost savings and short payback period
- ESCO model creates incentives to promote EE

Regulatory
- Law on energy efficiency and conservation
- Labeling of equipment & efficiency standards

Support
- The VNEEP and similar programs provide incentives and reduce risks of adopting new practices and equipment.
- Awareness campaigns

Source: Ref 26

Energy efficiency and

conservation offer Viet Nam the lowest cost and most environmentally friendly means of matching demand with supply. Energy efficiency also provides a transition path towards a vibrant, competitive and low carbon economy. Experience from many countries has shown that market mechanisms alone are not enough to trigger widespread energy efficiency improvements. A combination of regulation and market based initiatives are needed.

Barriers and drivers for adopting energy efficiency are shown in box 1 and 2.

Box 2 Barriers for energy efficiency in Viet Nam

Regulatory based

- Limited capacity of authorities to regulate and monitor (skills and recurrent budget)
- Lack of economic incentives due to low cost of energy
- No enforcement or sanction for infringement of the Law on energy efficiency & conservation

Information and expertise based

- Low awareness among owners and managers of Energy efficiency potentials;
- Too few certified energy managers and energy consultants
- Insufficient expertise to design complex, integrated projects;
- Inadequate information on energy efficiency options, benchmarks
- Culture of priority on expansion not efficiency

Access to finance

- Lack of grants and/or credit facilities to finance both the planning phases and the actual investment;
- Reluctance of enterprises to focus investment only on energy efficiency means that some of the financing instruments are not well suited

Source: Ref 26

There are many opportunities for adopting commercially viable energy efficiency practices and investments. Drivers include rising energy prices, the potential for market and profit driven promotion on the Energy Services Company (ESCO) model or use of private energy service providers. With the passing of the law on energy efficiency and conservation in 2010, the regulatory environment is now more strongly in favour of energy efficiency. The VNEEP, supported by a variety of international projects is actively promoting energy efficiency and raising awareness across society.

The barriers center around the low energy prices which compared to world standards are subsidized by over 30%. There are also regulatory constraints arising from inadequate capacity to implement the law. Low awareness and information levels on energy efficiency impede adoption of commercially viable energy efficiency investments. Enterprises particularly SMEs are unable to easily access finance for energy efficiency projects.

1.1 Policy and legal framework

Vietnam has worked with energy efficiency issues for more than 15 years. Starting in the mid-1990s the first projects assessed the electricity savings potential and promoting Demand Side Management (DSM) as a means to reduce the growth in the need for additional power generation capacity. Gradually the Government of Vietnam has intensified the efforts to promote energy efficiency and conservation. The main milestones in the policy, legal and regulatory framework for energy efficiency are summarised in table 1.1

Table 1.1 Milestones in the policy, legal and regulatory framework for EE

Date	Milestones in policy, legal and regulatory framework	
Sept 2003	Decree on Energy Efficiency and Conservation 102/2003/ND-CP (replaced by 21/2011/ND-CP)	A major step in energy efficiency. This decree defined prioritised designated industries and buildings for energy efficiency. It also outlined the responsibilities of major stakeholders and introduced incentive mechanisms to conserve energy.
Nov 2005	Energy Efficiency Building Code (EEBC) QCXDVN 09:2005	Sets energy related design requirements for large buildings (defined as those over 2500m^2. The code set requirements for outside layers, ventilation,
April 2006	Decision on National Target Program on Energy Conservation and Efficient Use 79/2006/QD-TT	Launch of the VNEEP with 6 program areas and 11 project aimed at energy efficiency within households, industry, buildings and transport
June 2010	Law on Energy Efficiency and Conservation	Creates an enabling framework for energy efficiency

The National Climate Change Strategy (2011) and the recent Green Growth Strategy (2012) are highly supportive of energy efficiency measures.

Assessment

The policy, legal and regulatory framework is well conceived, consistent and forward looking but also ambitious. There are no major contradictions, gaps or overlaps. The main observations are:

- It will be crucial, as recognized by the strategy, to activate the provincial level and especially the Departments of Industry and Trade (DOIT)s and Departments of Construction (DOC) which are mainly responsible for implementation activities.
- Where the conditions for enforcement are far from ideal it will be important to intensify promotion in order to create better conditions for later enforcement once the capacity and full range of instruments are in place.
- Whilst the main priority is large scale industry, strategies are needed to replicate successes in promoting energy efficiency in SMEs.
- The implementation of building codes as well as downstream circulars and guidelines will be the main challenge in the near future for the building sector.
- Building effective capacity at national and especially at the local level within the public, and private sectors for promotion and enforcement of the law.

These areas are being addressed by the VNEEP with the support of donors including support from Danida in the form of Targeted Programme Budget Support (TPBS).

1.2 Institutional and coordination framework

The institutional framework consists of a number of actors. First and foremost are the households, the industries, the owners and users of buildings and, all that make use of motorized transport. In order to encourage adoption of best practices and energy efficiency technology, the VNEEP brought together a wide range of actors under a single steering

committee headed by MOIT. This steering committee includes the main ministries involved at the center including the MOC, the Ministry of Science and Technology (MOST), Ministry of Transport (MOT), Ministry of Agriculture and Rural Development (MARD), Ministry of Education and Training (MOET), Viet Nam Union of Science and Technology Associations (VUSTA) as well as representatives of the Peoples Provincial Committee (PPC)s, and industry associations. The steering committee is served by a secretariat (standing office) known as the Energy Efficiency and Conservation Office (EECO) under the General Department of Energy. This office working with the national steering committee exists to coordinate and mobilize a wide range of stakeholders including the PPCs, the DOITs, energy efficiency conservation centers, industry associations, private sector service providers and donors. Table 1.2 indicates the main role of the major stakeholders.

Table 1.2 Main roles of major stakeholders

Major stakeholders	Main role
National Steering Committee of VNEEP	Coordinates the VNEEP
MOIT	Lead agency for the VNEEP with special responsibility for promotion of energy efficiency, raising awareness and regulating the energy efficiency and conservation law within industry
MOC/MOT/MOET/MOST and others	Undertake direct responsibility for VNEEP projects assigned to them. Provide an enabling policy, legal and regulatory framework for their respective sectors (building, transport, education, science and technology)
EECO	Assists the steering committee to coordinate and mobilize the different actors; responsible for reporting and monitoring on the VNEEP
PPC/ DOIT	Implement the VNEEP projects assigned as the front line service agency
Research and support bodies	Develop energy efficiency technologies and practices, provide specialist services such as laboratory testing
Energy efficiency and conservation centers	Provide training and capacity building and specialist services for energy efficiency including energy auditing
Private sector service providers	Provide specialist services to industries and in service to the VNEEP e..g. in training and capacity building
Donors	Provide financial and technical assistance
Industry associations	Promote energy efficiency, disseminate technology and encourage members to develop and adopt innovative new practices
Householders, industry, building owners and occupiers, transport users	Comply with the law, engage energy managers where required, report on energy use and adopt energy efficiency practices where ever possible

Assessment

The institutional framework and arrangements for coordination are well founded and appropriate for the task of promoting and regulating energy efficiency and conservation. The main observations are that:

- The composition of the steering committee is inclusive and the strategy of mobilizing and engaging with a wide range of actors including civil society, the private sector and the DOITs is well conceived but not easy to achieve in practice.

- The EECO is energetic and strategically managed but grossly under-resourced. With its scarce professional and support services it is unable to fully manage the complex range of projects under its mandate. Some tasks have been delayed.
- Meetings of the national steering committee are not as frequent as originally envisaged. This places greater burden on the EECO and perhaps demands more formal coordination arrangements than are currently in place.

1.3 VNEEP

The VNEEP is now in its second five year phase (2011-2015). It is composed on four program groups and 11 projects (in some versions there are 15) as shown in Table 1.3 below. The programs and projects have clear owners and are guided by preparation of annual workplans and budgets.

Table 1.3 Programs and projects of the VNEEP

Program	Public awareness and education	Industry	Buildings	Transport
•Projects	•1.1. Public awareness raising •1.2. Curriculum development •1.3. Household pilot	•2.1. Standard and labelling •2.2. Equipment manufacture •2.3. Production enterprises •2.4. Energy management model •2.5 Access to finance	•3.1. Construction codes •3.2. Applying EE in buildings •3.3. Public lighting	•4.1. Master plan •4.2. Improvement •4.3. New energy, technology

The structure and composition of the VNEEP is considered suitable. The programs and projects are logically arranged, strategically chosen and well prioritized. The main observations based on the Government of Viet Nam own evaluation of phase 1 are:

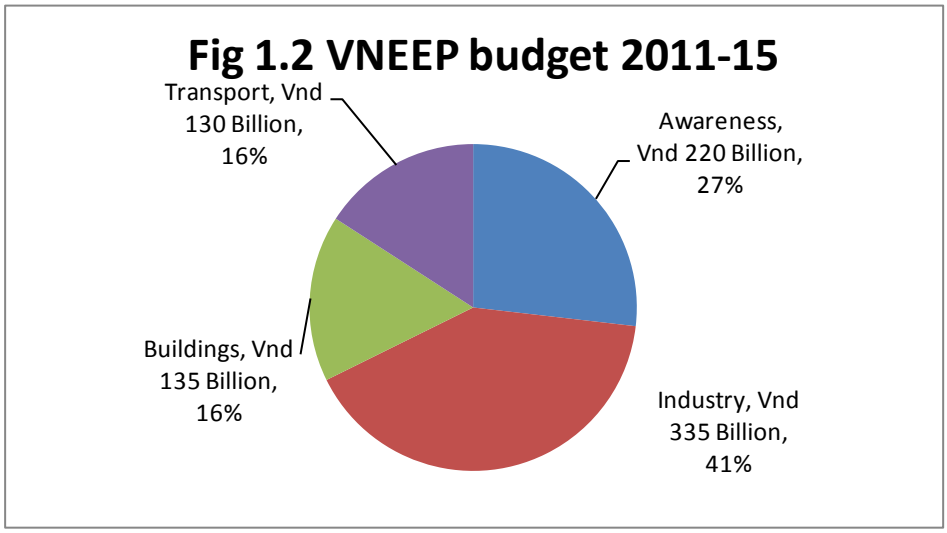
- Weak monitoring and coordination. The evaluation concludes "*Office buildings, production units received budget funds for energy efficiency and conservation but the benefits are not regularly monitored*". This was partly contributed by unavailability of the Monitoring and Evaluation (M&E) system in phase I. It was also recommended to "*strengthen the organizational structure, resources from central to local levels to implement, supervise, coordinate and enforcement of Law on Energy Efficiency and Conservation*".
- Weak action from Provincial People Committee: The report recommended that *"provincial people committee shall be actively planning energy efficiency and conservation, considering it as the responsibility and obligation under socio-economic program"*
- SMEs have high energy saving potential and in need of supports: It evaluated *"both industry and construction have great energy saving potentials but difficult to implement, especially SMEs because most of them are using outdated technology. SME's owners have limited awareness and they are facing problem of capital funding for replacing technology and it takes time"*. Apart from projects

such as the Project on Energy Conservation for SMEs (PECSME) phase 1 of VNEEP did not see much focus on SMEs.

- Weak enforcement in compliance to building code: It stated "*no deployment of energy efficiency in commercial building due to lack of human resources from central to local levels. The building code was issued in 2005 but not put in enforcement yet. Design and construction is partial applied by individual measure and device*". The building code is under revision by MOC, but the issue of new revision building code will not secure the enforcement unless there is additional awareness and guidance to both central and local level inspectors.
- Cross- cutting aspects are not dealt with explicitly (chapter 4 provides details on the potential contribution of this project to the cross cutting aspects).

1.4 Finance

The energy efficiency and conservation sector is financed through the supportive actions of the VNEEP, donors and a variety of other efforts that fund initiatives with similar objectives but outside of the VNEEP. There are also considerable investments made by householders and industry. A complete picture has not emerged because it is not yet possible to obtain an overview of donor financed activities or activities finance by industry and the private sector.



The VNEEP in its phase 2 is budgeted at VND 820 billion (USD 41 million) as shown in figure 1.2.

It is often pointed out that access to finance is one of the critical barriers (Ref 6,9). For SMEs the critical barrier is usually cited as the lack of collateral but there are also others such as in ability to make bankable proposals, poor record keeping within the enterprise (sometimes linked to taxation avoidance), lack of familiarity with financial planning and how to use external support. For SMEs there appear in principle to be 5 main options:

- Finance from owner capital.
- Finance through normal commercial loans.
- Finance through loan guarantee schemes (such as that established under PECSME).
- Finance through government subsidy facility.

- Finance through other supportive arrangements (which are usually project specific instruments of which there are many).

In the PECSME project there were over 500 investments or energy efficiency interventions (over VND 600 billion actual invested) of which, 54 energy efficiency investment projects got loans provision from Vietnam Environmental Protection Fund (VND 40 Billion) and Vietin bank (Around VND 45 billion) through the loan guarantee system. From this experience it would seem that finance from owner capital or normal commercial loans is more common than expected. From the loan figures above it would seem that the loan guarantee fund is used more for the bigger investments. More details on the PECSME loan guarantee scheme, the government subsidy facility and other arrangements are given in Annex 1 of Volume II supplementary information.

Assessment

The public funding of energy efficiency is considerable and appears well prioritized. The main observations are:

- Donor funding is not sufficiently transparent or aligned to the VNEEP to enable an easy overview of external funding to the energy efficiency sector to be obtained.
- There is little data on industry expenditure on energy efficiency.
- Not enough is known about how to best overcome the constraints of SMEs to access finance.
- There is a danger of too many project specific instruments for financing energy efficiency projects being developed. There is a tendency for the different instruments to compete for bankable projects and for each donor project to invent their own mechanism. This leads to large transaction costs without Viet Nam being left with a workable mechanism once the different projects stop.

1.5 Donors

A summary of donor supported projects is given in table 1.4 below, this list is based on the recent donor meeting (Ref:5) as well as other sources (Ref 6,27) and the information summarized in Annex 1 of Volume II supplementary information.

Table 1.4 Summary of major donor support to energy efficiency and conservation

Major Donors	Support (date -current or very recent) [approx budget]
ADB	Technical assistance energy efficiency in the cement and steel industry (2011/12) Technical assistance for implementing VNEEP - surveys, training, financing mechanisms (2008-10)
Danida	Targeted programme budget support to the VNEEP (2009-2015) [USD 15 million] Support to cleaner production including technical assistance and investment support (50% of budget) (2008-12) [USD 10 million]
EC	Mainstreaming energy efficiency through business innovations for SMEs (2009-2013)
Finland	Capacity building with a focus on energy auditing (2007-2010)
JICA	Energy master plan (2008-2009) / Private sector investment finance –loans for new equipment for industries / Support to climate change adaptation and mitigation (2007-

Major Donors	Support (date -current or very recent) [approx budget]
	2010) / Capacity building on energy management training (2011-2014)
KFW	Funding for economic infrastructure, climate change including energy
SDC	Green credit line - support for cleaner production investment (2008-12) [USD 5 million]
UNDP/GEF	PECSME energy efficiency in SMEs (2006-2010) [USD 29 million] / Energy efficiency standards and labeling (2010+) [USD 0.6 million] /Phasing out of incandescent lamps (2010-2014) [USD 3million] /Planned support in building codes, labeling/standards, capacity building
UNIDO/ GEF	Promoting industrial energy efficiency through system optimization and energy management standards, pilot projects in rubber, textile, pulp and paper and food and beverage. (2011-2014) [USD 4.5 million]
WB	Viet Nam demand side management and energy efficiency, industry and buildings (2000-2010) / Cleaner production and energy efficiency project – action plans for key sectors, development of energy service providers, capacity building in programme management (2011-2016) / Support to VNEEP for developing building codes for energy efficiency in large buildings.
IFC	Energy efficiency and cleaner production financing; IFC (2010-2011) [USD 2.3 million] MoU signed on energy efficiency in buildings – energy Survey on 60 large buildings to better understand energy efficiency potentials. Support to energy efficiency building code (EEBC) to be finalized by December 2012. In order to support the implementation and enforcement of EEBC, calculation tools, draft technical checklist and training materials shall be developed.

Assessment

Donors provide considerable support to energy efficiency. The energy efficiency sector is not a pure sector in that it is often more appropriate to support energy efficiency through improving business processes such as the European Commission (EC) does, or as a part of more general infrastructure investment such as KFW does or as a part of cleaner production effort such as the World Bank and others do. This makes it difficult to categorise the funding directed towards energy efficiency. The main observations are:

- Most if not all donors subscribe to and support the aims of the VNEEP. In some cases the projects are directly lined up with the VNEEP projects in other cases the donor funded projects cut across several areas although contributing to the overall targets. There is probably not much that can be done in the remaining period of the VNEEP for existing projects but new projects as far as possible (including the MCEB support) should try to align directly to the VNEEP projects.
- Support to energy efficiency is targeted mostly at large enterprises. Energy efficiency in SMEs and buildings and transport is an area of relatively little support.
- Most support is targeted as technical assistance and involves capacity building. Capacity building of energy auditing, energy management & system optimization and monitoring, in particular, seems to be supported through a number of projects.
- Development of financial mechanisms (as mentioned earlier) is mostly project specific rather than aiming at longer term facilities that can be sustained after the project – this is probably also because a commitment to establishing a longer term financial mechanism not yet made from the government of Viet Nam side.

- There are many initiatives that are still at the memorandum of understanding stage and have not yet been implemented, in part due to inadequate capacity within MOIT and MOC.
- Donor coordination has been constructive when it has taken place (ref: 6) but it is felt by a number of players that meetings need to be more frequent and with systematic follow up.

Annex C Mandate for Project Steering Committee

1. Background

The steering committee for the VNEEP has the overall responsibility for VNEEP including the following tasks (decision QD/01-BCD in 2006):

- Develop policies, mechanisms (including on energy pricing), provide budget for the programme and supervise and check the results achieved.
- Ensure smooth flow of funds to priority investments under the programme.
- Develop energy efficiency policies at provincial level, implement projects under the VNEEP (PPC).
- Monitor and evaluate the progress of the VNEEP.
- Implement energy efficiency measures (households and enterprises).

The VNEEP steering committee is the formal mechanism for decision-making concerning the VNEEP and for funding that is channeled by low carbon transition in the energy sector project in the form of Targeted Programme Budget Support (TPBS).

To facilitate discussion, enable fast decision making and ensure a constructive dialogue between the partners, a project steering committee will be established.

The project steering committee is the formal mechanism for joint decision-making for funding channeled as direct support or in-kind concerning the low carbon transition in the energy sector project between the MOIT, MOC, the Danish Representation in Viet Nam, and MCEB. The project steering committee will make recommendations to the VNEEP steering committee for activities under TPBS.

2. Mandate and scope

The VNEEP steering committee decides on the overall priorities of the programme in accordance with the project document, government programme agreement, and other legal documents. Where deviations from the programme support document are considered necessary, VNEEP steering committee takes the decisions. The VNEEP steering committee cannot alter overall programme objectives, but may recommend changes in immediate objectives.

The project steering committee will endorse annual work plans and budgets for the two component (specifically project #2.3 and #3.1 under the VNEEP) and recommend them for approval by the VNEEP national steering committee. The project steering committee will review progress every six months and if necessary make recommendations for adjustment to the workplans and budgets

The mandate of the project steering includes endorsement of: major planning documents, progress reports, work plans, budgets, audit reports, and decisions regarding major implementation issues such procurement, technical advisers, short-term consultants, studies, etc.

3. Composition

Co-chairs of the SC are:

- Vice Minister of MOIT
- The Ambassador of Denmark

Members of the SC are:

- Head of the EECO, MOIT
- A representative of MOC,
- A representative of MCEB.

Resource persons, who may be asked to participate in the meetings, are other relevant resource persons, e.g. from partner institution, university, civil society

4. The specific tasks of the project steering committee comprise:

- Strategic decisions to ensure the continued coherence between the project support and sector development (this includes the choice of additional sectors for SME support).
- Decisions concerning deviations from the project document
- Endorsement of Review Aide Memoires and ensuring follow up, including decisions concerning proposed reallocations among components
- Approval of timing and ToR of reviews and commenting on ToR for evaluations
- Ensure follow up on reviews and evaluations
- Approval of [annual work plans and budgets, revised semi-annual plans and semi-annual budgets, semi-annual requests for funds2] presented by programme management (EECO)
- Monitoring of overall progress of the project with a special focus on indicators, delays, problems and bottlenecks [approval of progress and financial reports, decisions on follow-up activities presented by programme management]
- Overseeing the implementation of particular Danida policy issues as identified in the project document
- Overseeing audits [approval of the terms of reference for the annual audit, overseeing follow-up on recommendations in the annual audit report presented by programme management]

[2] These and other documents must be presented by the programme management in a brief, concise and executive form to facilitate the strategic decision making by the steering committee

- Approval of revised job descriptions for technical assistance
- Approval of terms of reference for short-term consultants, if relevant

5. Working procedures

- The project steering committee meetings will be chaired by MOIT
- The EECO will act as the secretariat for the project steering committee
- Procedures for joint decision-making: Decisions are made by consensus.
- The project steering committee will meet twice a year in advance of the VNEEP national steering committee and will also be timed to coincide with technical supervision visits of MCEB.
- The Steering Committee may decide to reduce the frequency of SC meeting from semi-annually to annually depending on progress, in case it after the first year of implementation finds that one annual SC meeting is sufficient.
- Standard annual agenda for the project steering committee include: scheduling the approval of the annual audit report, the annual work plan and budget, review of progress reports and other milestones.
- The secretariat will announce the meetings with at least two weeks' notice. All documentation for the meetings (plan/budget, reports, proposals for adjustments, etc.) shall be distributed to the members at least two weeks in advance together with a draft agenda.
- The secretariat is responsible for drafting the minutes of the project steering committee meetings and distributing these to all participants within a week after the meeting. The project steering committee approves the minutes at the next meeting.

Annex D Indicators

The indicators that are potentially relevant to projects 2.3 and 3.1 are presented and commented on below

Table D1 Indicators from national M&E framework that are potentially relevant for the project.

#	Indicator	2015 target	Comment
2.3.1	No of designated enterprises that establish their energy management systems:	1024 (2013)	At the moment this indicator is purely for designated enterprise it is not easily transferable to SME because the energy management system is less relevant for SMEs. The indicator could be supplemented by the following indicators: o "*Number of enterprises (designated and SMEs per sector) that use high efficiency equipment and/or take energy efficiency measures to save energy"* o *"Number of enterprises (designated and SMEs per sector) that access to financial supports for investment in high efficiency equipment and/or energy efficiency measures* o *Number of provinces that develop EE action plan with sector specific activities*
2.3.2	The energy managers's network in the industrial sector set up completed and operated within a given timeframe	Established 2013	The network is relevant for this project (energy efficiency for SMEs) and the project will contribute towards training energy managers. However the SME network will be more vulnerable as there are unlikely to be as many full time energy managers. The indicator could be supplemented by the following indicators: o *"Number of enterprises (designated and SMEs per sector) that are aware of high efficiency equipment and/or energy efficiency measures to save energy"* o *"Number of consultants that deliver consultancy and prepare bankable proposal for enterprises (designated and SMEs per sector)*
2.5.2	No. of energy audits done in the selected sector	X	It could be possible to especially select the brick, ceramic and (other) sector and apply these indicators. The indicators would be consistent with the national system and also very useful for measuring the progress of the project.
	No. of enterprises in the selected sector implement energy efficiency measures	X	
	Benchmarks established by sector	X	
	Awareness campaigns completed	X	
	No. of enterprises receiving technical assistance and investment support from VNEEP	550-750 enterprises supported per year	It could be relevant to set up a sub-target for the targeted sectors of brick, ceramic and (other).
	Information on energy efficiency and conservation technologies and success stories available	X	Under these indicators the project could contribute to national targets and sector specific targets could be set up. It would probably be possible to distinguish the sectors with the national data collected for the indicators.
	No. of energy service providers trained on ESCO business model	X	
3.1	% of new large scale buildings (over 2500m^2) that establish energy management systems as regulated	X	This data should be available as a product or output of implementing building codes

#	Indicator	2015 target	Comment
3.2	% of new buildings that apply energy efficiency measures	100%	
3.3	No. of buildings that apply energy efficiency measures	X	
	No of workshops/training events to promote energy efficiency standards and design	X	This data is likely to be available from the accounting records. Because of the way that funds are traced, it is likely that the events that the project funds contributed to will be measureable.
	No. of trainings held for building staff to build capacity of applying building code to building designs	X	
	No. of trainings held for staff to improve capacity of examining, appraising designes and planning of energy efficiency and conservation.	X	
	No. of trainings held for energy managers to improve skills in promoting energy efficiency	X	

Annex E Job Description for programme coordinator / energy adviser

1 Background

The Governments of Vietnam and Denmark recently initiated a long term dialogue on low carbon transition within the energy sector in Vietnam, specifically targeting energy efficiency initiatives. This dialogue builds on the present cooperation within energy efficiency under the climate change adaptation and mitigation programme (2008-2015) which provides targeted budget support to the Vietnam Energy Efficiency Programme (VNEEP, 2006-2015). In support of the dialogue on low carbon transition, the Global Framework under the Climate Envelope 2012 is funding a project on energy efficiency sector in Viet Nam known as the project on low carbon transition in the energy efficiency sector.

The programme coordinator/energy adviser will support the project steering committee in management and coordination, provide policy advice, advocate for energy efficiency including promotion of commercial partnerships and, undertake necessary project administration. The programme coordinator/ energy adviser will link with MOIT and MOC on a weekly basis. There should be a smooth dialogue between the programme coordinator/energy adviser and MCEB. Where relevant, synergies across the different EDK programs including the commercial sector should be exploited.

2 Main responsibilities

Management and coordination, including

- Assist the ECCO in the preparation of steering committee meetings,
- Liaise and coordinate, with Vietnamese counterparts (MOIT; MOC, others)
- Ensure coherence and optimise synergies with other Danish (-funded) activities in green growth, climate change, energy efficiency
- Coordinate development of appropriate investment facility
- Coordinate the development of capacity building activities
- Coordinate /facilitate development of outstanding analysis and studies, i.e the analysis of alternative financing mechanisms for the investment in energy efficiency in SMEs.
- Coordinate and facilitate the linkages between MCEB and MOIT/MOC and other Vietnamese partners.

Policy advisory services, including

- Spearhead the provision of policy advisory services on energy efficiency through active collaboration with MCEB and MFA;
- Positioning Denmark/proving links to international climate change policy

Practice advocacy, including

- Contribute to strategic partnerships, where appropriate;

- Participation in the informal donor group on climate change and energy efficiency;
- Develop commercial partnerships between Danish and Vietnamese industry, where appropriate;
- Contribute to the communication strategy of the Embassy, including needs and requirements from MCEB;

Qualifications and experience

- A masters degree or corresponding qualifications in environmental management, engineering, economics, international development, political science and/or subjects relevant to energy efficiency and promotion of commercial partnerships in environmental management.
- 10 years of experience in work in one or more related fields such as: promotion of energy efficiency in industry and/or buildings; cleaner production; development of commercial partnerships; promotion of small and medium enterprises; donor coordination; development of financial mechanisms; implementation of environmental regulations.
- Familiarity with development assistance and, preferably Danish development assistance
- Extensive experience from developing countries and, preferably, East Asia;
- Fluency in English written and spoken;
- Good written and verbal communication skills
- Ability to work as part of an interdisciplinary team with relations to different ministries and stakeholders.

Annex F Documents

No	Title of document	Type of document	Issued by	Year
1	Agreement between GoV and GoD regarding grant for Climate Change Adaptation and Mitigation 2009-2013	Government Agreement	MoNRE-RDE	12/2008
2	Climate Change Mitigation - Support to the Vietnam Energy Efficiency Program in Vietnam	Component Document	MoIT-MOFA	07/2008
3	Conclusion of Phase I (2006-2010) and Orientation of content implementation in Phase II (2011-2015) National Targt Energy Efficiency Programme	Report	MoIT – Programme Steering Committee	03/2011
4	Decision 79/2006/QD-TTg Approving the National Strategic Program on Energy Saving andEffective Use Period 2006-2015	Decision	VN Prime Minister	04/2006
5	Expanding Opportunities for Energy Efficiency in Vietnam	Report	World Bank	03/2010
6	International Donor Coordination meeting on Energy Efficiency and Conservation: Barriers and Opportunities	Meeting minutes	MoIT	05/2012
7	Organizing Framework for Scoping of PMR (Partnership for Market Readiness) activities	Presentation	MPI	05/2012
8	PECSME Project Brief	Project Description	PECSME	10/2004
9	Peer review on EE in Vietnam	Final report	Asia-Pacific Economic Cooperation	2009
10	Results of the implementation of national energy efficiency programme in 2011 and the implementation plan in 2012 and the period of 2011-2015	Report	MoIT – Programme Steering Committee	03/2012
11	Support MoIT in Revision - Update of VNEEP Phase 2 (2011-2015)	Report	World Bank	02/2011
12	Program on promoting energy conservation in the small and medium scale enterprise sector	Project brief	PECSME Project Management Unit - submitted by MOIT	2010 and updated June 2012
13	List of Energy Audited Enterprises by different auditors	List	(Summary from different sources)	2011
14	Detailed result by Indicators for Vietnam National Energy efficiency Programme (VNEEP)	Log frame	VNEEP Management Unit	2012

15	Review on Financial Structure of some Energy programmes in Vietnam (in Vietnamese)	Report		2011
16	Findings and Recommendations on 2011-2015 Implementation Plan for Vietnam Energy Efficiency Program - Phase 2	Report	Jeanne Clinton, EE Adviser	01/2011
17	Promoting Industrial Energy Efficiency through System Optimization and EMS in Vietnam	Project brief	GEF/MOIT/UNIDO	2010
18	Review of Climate Change and Adaptation Programme	Review report	Danida	June 2011
19	Decision: 6429 /QĐ-BCĐ On assigning the task of implementing the 2010 National Program on Energy Efficiency and Conservation of the Ministry of Industry and Trade	Annual Work plan 2010	MOIT	December 2009
20	Undated draft decision: On assigning the task of implementing the 2011 National Program on Energy Efficiency and Conservation of the Ministry of Industry and Trade	Annual Work plan 2011	MOIT	2010
21	Green Infrastructure Finance	Study report	World Bank	2012
22	Green Infrastructure Finance	Framework report	World Bank	2012
23	Vietnam CIC Business Plan	Draft report	World Bank	2012
24	Cleaner production and cleaner technology in Viet Name – Funding mechanism review	Report	Danida –EPRO	December 2008
25	Policy, Regulatory and Institutional analysis – energy efficiency	Report	UNIDO – EPRO	October 209
26	Desk study for Desk Report on identification and formulation for supporting local carbon transition in the energy sector, Viet Nam	Report	MCEB- PEMconsult	May 2012
27	Viet Nam Green Growth Strategy - draft	document	Government of Viet Nam	May 2012
28	Danish energy and environment firms operating in Viet Nam	List	Danish Embassy, Hanoi	2012
29	Public Expenditure Review Annex 7 Fiduciary risk assessment	Report	Government of Vietnam	2005
30	Viet Nam National Climate change strategy	Decision	Government of Vietnam	2011

Annex G Environment and climate change screening note

Attached as a separate file.

Annex H Memorandum of Understanding with MOC

MEMORANDUM OF UNDERSTANDING BETWEEN THE MINISTRY OF CONSTRUCTUION OF THE SOCIALIST REPUBLIC OF VIETNAM AND THE MINISTRY OF CLIMATE, ENERGY AND BUILDING OF THE KINGDOM OF DENMARK ON COOPERATION IN THE AREA OF ENERGY EFFICIENCY IN BUILDINGS

The Government of the Socialist Republic of Vietnam, Ministry of Construction

and

The Government of the Kingdom of Denmark, Ministry of Climate, Energy and Building

(hereinafter referred to as "the Parties");

Recognizing the common interests shared by the Parties toward sustainable development, the efficient use of energy sources and transition to low carbon economies;

Considering the strategic role of energy efficiency, in addressing current global challenges and development needs;

Wishing to promote mutually beneficial cooperation in the field of development and promotion of energy efficient and sustainable buildings;

Recognizing the importance of promoting low carbon solutions and the urgency of finding cost effective and lasting solutions to energy issues that are compatible with the need for economic growth and the fight against poverty;

Considering the Joint Declaration on the Establishment of a Comprehensive Strategic Partnership in the areas of Climate Change, Environment, Energy and Green Growth between the Government of the Socialist Republic of Vietnam and the Government of the Kingdom of Denmark, signed on 28th November 2011;

Recognizing the results of recently initiated long term dialogue between the Governments of Vietnam and Denmark on low carbon transition within the energy sector in Vietnam, specifically targeting support to the Vietnam National Energy Efficiency Program (VNEEP), 2013-2015;

Bearing in mind that this Memorandum of Understanding is intended to provide a general framework for cooperation and to express the cooperative intent of the Parties,

Have agreed as follows:

Article 1

The objective of this Memorandum of Understanding is to promote a mutually beneficial partnership between the Parties in the field of energy efficiency in the building sector. The cooperation is subject to the respective laws of each country and within the functions and authorities of the two Parties.

Article 2

The following topics have been identified as high priority areas for cooperation and capacity building between the Parties under the framework of this Memorandum of Understanding:

- Development and promotion of energy efficiency in the building sector, including development of mechanisms, strategies, action plans, codes and standards on energy efficiency;

- Preparation and implementation of regulation of energy efficient buildings with special focus on implementation of the Energy Efficiency Building Code (EEBC), including enforcement of standards and minimum requirement for building components;

- Investigating the possibility of setting up energy efficient pilot models of buildings, e.g. to demonstrate how to implement EEBC obligations in a cost effective way, including an effort to motivate private companies' economic participation.

Article 3

The Parties shall establish a Working Group (WG) to enhance cooperation and exchange of views on energy efficiency in the building sector;

The WG refers to the Steering Committee which is established within the framework of the project "Low carbon transition in the energy efficiency sector, Vietnam", mentioned below, under Article 4 a). The WG coordinates its activities with the activities carried through under the "Low carbon transition in the energy efficiency sector, Vietnam" project;

Article 4

Cooperation between the Parties under this Memorandum of Understanding may be conducted in the form of:

a) activities specified under agreement between Denmark and Vietnam regarding on Danish Support to implementation of VNEEP 2013-2015, stated in the Project Document entitled "Low carbon transition in the energy efficiency sector, Vietnam";

b) exchange visits by experts, and delegations involving experts, scientists, private companies and other relevant agencies, e.g. to share experiences through training seminars for decision-makers on energy efficient building regulations, management and technology;

c) exchange of information and documentation

d) other forms of cooperation as mutually agreed upon

Article 5

Both Parties shall encourage organizations, private companies, government institutions at all levels and research institutions on both sides to establish cooperation activities aimed at fulfilling the objectives of this Memorandum of Understanding.

Article 6

Costs related to the activities under this Memorandum of Understanding are subject to the availability of appropriate funds, in conformity with budgetary provisions and the relevant laws of each Party.

The implementation of each particular activity under this Memorandum of Understanding will require that the Parties put into writing the terms and conditions for the necessary funding, in accordance with each Party's relevant national legislation.

All costs resulting from cooperation under this Memorandum of Understanding are to be borne by the Party that incurs them, unless otherwise mutually agreed.

Article 7

This Memorandum of Understanding may be amended at any time by the mutual written consent of the Parties.

Article 8

Any dispute about the interpretation or implementation of this Memorandum of Understanding will be resolved through consultations between the Parties.

Article 9

According to national legislation and international agreements in force in both countries, the Parties shall adopt the appropriate measures to protect the intellectual property rights arising under the implementation of this Memorandum of Understanding.

The conditions for the acquisition, maintenance and commercial exploitation of intellectual property rights over possible products and/or processes that might be obtained under this Memorandum of Understanding will be defined in the specific programs, contracts or working plans, which shall also set out the conditions regarding the confidentiality of information whose publication and/or disclosure might jeopardize the acquisition, maintenance and commercial exploitation of intellectual property rights obtained under this Memorandum of Understanding.

Article 10

This Memorandum of Understanding shall enter into force on the date of signing. This Memorandum of Understanding shall be valid for three (3) years, automatically renewed for a further period of two (2) years. Either Party may terminate this Memorandum of Understanding by means of a written notice to the other Party. Termination will take effect three months following the date of notification and will not affect activities already under implementation.

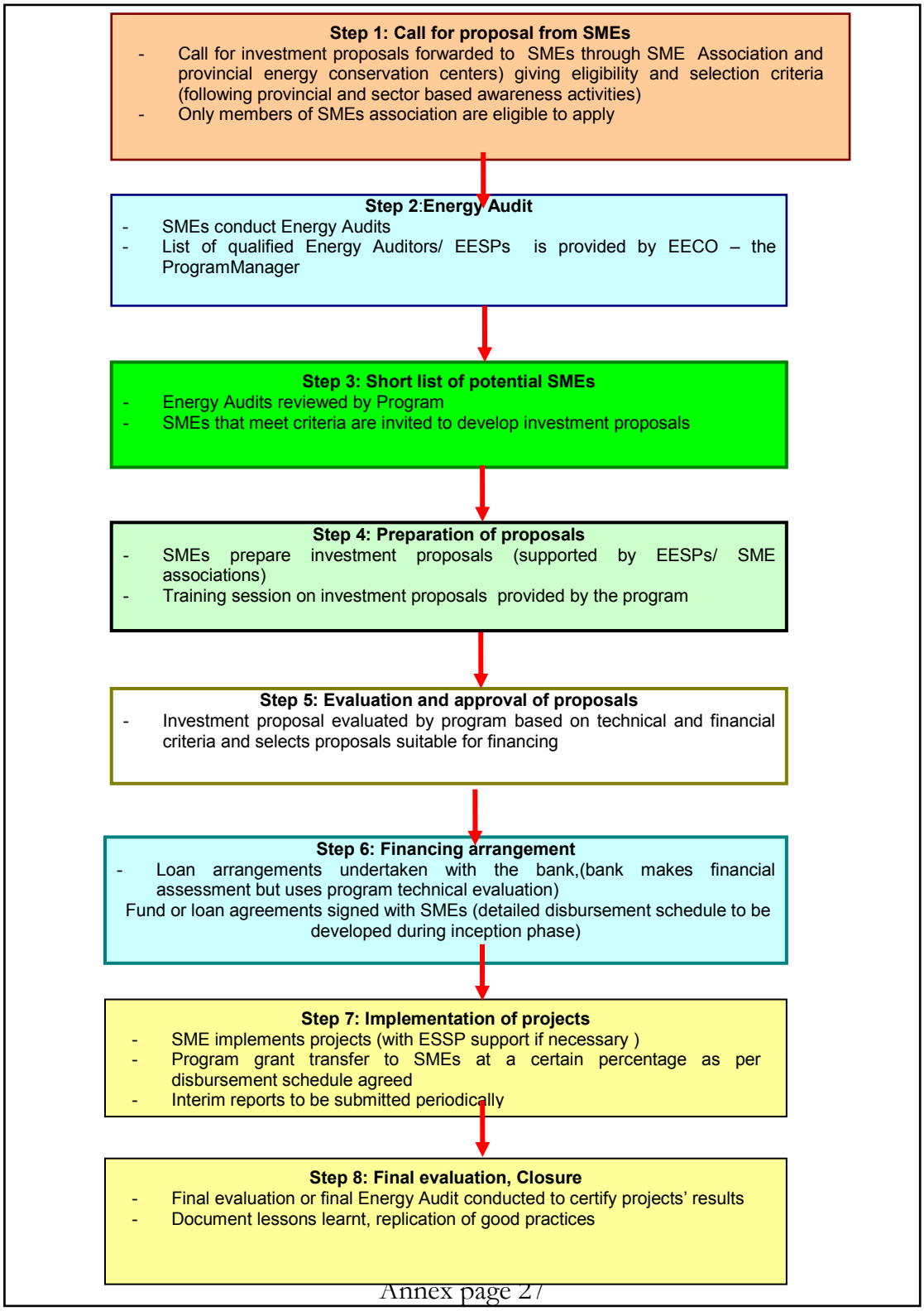
Signed in duplicate in Hanoi on November 2012, in the Vietnamese and English languages, both texts having equal validity. In the case of divergent interpretations, the English text shall prevail.

FOR THE MINISTRY OF CONSTRUCTION THE SOCIALIST REPUBLIC OF VIETNAM	FOR THE MINISTRY OF CLIMATE, ENERGY AND BUILDING, THE KINGDOM OF DENMARK
Trinh Dinh Dung Minister for Construction	Martin Lidegaard Minister for Climate, Energy and Building

Annex I Process flow and role of stakeholders

SUPPORT TO SMEs

Project process flow chart to be confirmed in inception phase



Notes: (1) SME Association is a NGO (not business). We do not call for investment proposal from SME Association. However, the SME Association would be responsible for disseminating information regarding the call for investment proposal sent by Program.
(2) List of qualified Energy Auditors/ EESPs must be provided by EECO –the Program Manager. The SME Association will be involved as information distribution/facilitator only.
(3) The funding of projects should be disbursed after a certain period of the implementation of the investment projects in order to avoid the misuse of the Program grant.

The actors: The following actors will participate in the program/projects:

Actor	Roles	Steps involved
SMEs	Investors and implementers of the energy efficiency improvements	2,4,6,7,8
SME associations	Provide advice and knowledge sharing on technical options, business development and market opportunities	1,8 (primary role) 2,4,7 (supportive role)
Energy Efficiency service providers (EESP)	Provide services to SMEs on energy auditing, preparation of investment proposals, technical support for implementation of investments.	2,4,7
Banks	Evaluate application for loans from SMEs Provide loans where appropriate and where relevant using available loan guarantee and other support arrangements. Under take monitoring of loan performance	6,7,8
EECO (MOIT/DOIT/MOC /DOC)	The program managers Issue call for proposals, provide information on suitable EESPs to SMEs, provide training on development of investment proposals and technology operation, evaluate and approve proposals, liaise with banks where relevant and provide technical evaluation reports, transfer grant funds where relevant, supervise implementation, monitor and undertake project completion and evaluation reporting. In addition the program will support the development of provincial policies, the launching of awareness campaigns and the provision of support to loan guarantee schemes where relevant.	All
Provincial People's Committee /DOIT	To provide policy support for the implementation of the program at local level	
Steering Committee	Approval the process design and adjust as necessary	

The flowchart and definition of roles of each stakeholder are developed based on the experiences of PECSME project. The main difference is that greater attention will be paid to the role of the SME associations and the programme will be managed by the public sector rather than through an independent project. These changes may face some difficulties as listed below:

- The public sector might be less flexible and less responsive than a project to the relatively quick time scale required for SME decision making.
- The human resources within EECO (MoIT/DoIT/MoC/DoC) are limited and it is not as easy to expand this capacity as it would be in a project. Incentives for public staff are considerably less than for project based staff so productivity may be lower than previously.
- The complicated administrative procedures of public sector may slow down the progress of each step, leading to the overall delay of the program

Other considerations based on earlier experience include.

- Highly competent and responsive EESPs are not easy available in Vietnam as the market for their services is not yet well developed – in the past PECSME was able to provide project personnel to fill in this gap.
- Vested interests may lead to poor quality energy auditing and project preparation leading to a wrong decision in selection of projects to be funded - in the past PECSME had a loyal and independent cadre of project employees who were not as susceptible to vested interests.
- SME associations are not entirely independent or governed purely by the SME members. In many cases the associations consist of retired civil servants which may limit the dynamism, technology awareness and independence of the associations - in the past PECSME was able to undertake many of the functions of the associations.
- The financial procedures for obtaining loans from bank may prove to be too complicated for many SMEs - in the past PECSME was able to provide intensive liaison between the SME and the banks.

To overcome these challenges, the project will ensure that:

- Dedicated program management in EECO is provided to follow up on the program
- The steering committee will actively monitor the results every 6 months
- Extensive training will be provided to EESPs
- MoIT/MoST will provide list of most reliable service providers to the SMEs
- Capacity building will be provided to the SME associations at central and local levels
- Clear financing arrangements will be made with financing institutions
- The grant arrangements will be available for projects that have a high demonstration value and will not only be limited to state owned enterprises.