VIET NAM

1. GOALS FOR EFFICIENCY IMPROVEMENT

1.1. Overall Energy Efficiency Improvement Goals

In 2005, the Vietnamese Government (Ministry of Industry and Tradeð MOIT) released the National Strategic Program on Energy Savings and Effective Use (Vietnam National Energy Efficiency Program, VNEEP) for the period 2006ï 2015, which was approved and enforced on 14 April 2006 by the Prime Minister (Decision No.79/2006/QD-TTG). The VNEEP calls for coordinated efforts for improving energy efficiency, reducing energy losses, and implementing extensive measures for conservation of energy.

The VNEEP is the first-ever long-term comprehensive plan to institute measures for improving energy efficiency and conservation in all sectors of the economy in Viet Nam. Phase 1 (2006ï 2010) aims to actively start up all components of the program, and Phase 2 (2011ï 2015) aims to expand each component, based on the lessons learned from Phase 1.

The overall objectives of the program are as follows:

- The program is a set of activities to encourage, promote, and disseminate energy efficiency and conservation (EE&C) in the public sphere; in science and technology research activities and in management measures needed to carry out synchronous activities on energy efficiency and conservation throughout society
- The programôs energy savings goal is 3%-5% of total energy consumption (compared to the BAU case) in the period 2006ï 10; 5%ï 8% of the total energy consumption in the period 2011ï 15.

1.2. Sectoral Energy Efficiency Improvement Goals

Viet Nam currently has no sectoral quantitative targets.

1.3. Action Plans for Promoting Energy Efficiency

Vietnam National Energy Efficiency Program (VNEEP) is the comprehensive program of work to promote energy efficiency in Viet Nam. According to the VNEEP framework, there are six components focusing on the entire field of energy efficiency with specific actions, including 11 large projects for promoting energy efficiency.

a) Objectives

The VNEEP aims to reach a certain target of energy saving, which will result in lower investment requirements for the energy supply system and social economic benefits. At the same time, it will contribute to environmental protection and rational extraction of energy resources, moving towards social and economic sustainable development.

b) Applicable sectors

Phase one of the VNEEP was implemented in the period 2006ï 10. It contains a comprehensive set of measures that cover six sectors: government (institutions, education, and information), industry, equipment and appliances (for the residential and commercial sectors), buildings and transport. However, this phase focuses on the development and completion of the legal documents, education, information, and capacity building, such as the Energy Efficiency Law, Decree on Punishment and Reward for Energy Efficiency, organising training courses, workshops, dissemination to the community, etc. Phase 2 of the VNEEP will start from 2011 with a deeper and larger focus in each sector.

c) Outline

The VNEEP consists of six component packages with 11 projects (actions). The actions and

achievements to date are listed below[1]:

Component 1: State Management on Energy Efficiency and Conservation

Project 1: Complete the legislative framework on EE&C in industrial production, construction site management, domestic activities, and energy consumed equipment

Achievements (2007-2008)

- Completed the draft Law on Energy Conservation and Efficient Use
- Issued Joint Circular No. 142/2007/TTLT/BTC-BCT of 30 November 2007, guiding the management and use of non-business funds for the implementation of the target program on economical and efficient use of energy
- Directed and guided all localities to carry out the energy efficiency activities
- Set-up the EE&C Centres in Hanoi and Tien Giang to coordinate program activities in the whole economy
- Organised workshops, seminars, and training on energy efficiency laws, policies, institutional issues, and technology and solutions
- Developed VNEEP websites: www.tietkiemnangluong.com.vn
- Published the leaflets, handbooks, and technical guidelines on energy efficiency.

Component 2: Education and Information Dissemination

Project 2: Public awareness enhancement on EE&C

Project 3: Integrate EE&C in to the education system

Project 4: Develop pilot models for óEE&C in the householdô movement

Achievements (2007-2008)

- Broadcast EE&C news and released on television and radio
- Developed documentary films on energy efficient technologies
- Printed EE&C information on various newspapers and electronic media
- Organised contest on energy efficient buildings
- Provided guidelines to disseminate EE&C information at all levels of the education system.

Component 3: High Energy Efficiency Equipment

Project 5: Develop standards and provide energy efficiency labels for selected products

Project 6: Technical assistance to domestic producers on energy efficiency compliance

Achievements (2007-2008)

- Completed demonstration model for solar water heater and industrial biogas
- Carried out labelling program for three appliances, i.e., FTL T8-36W, T5-32W, and electronic ballasts
- Collaborated with Vietnam Standard Centre to develop and issue three sets of standards on energy efficiency and testing methods for refrigerators, air conditioners, and electric fans
- Conducted pilot EE&C information for households by Vietnam Woman Union in six provinces and cities
- Implemented two programs to support lighting manufacturers in the technology transition from incandescent lamps to compact fluorescent lamps.

[1] Decision 79 /2006/QD-TTg (2006); APEC EWG (2009).

Component 4: EE&C in Industrial Enterprises

Project 7: Develop EE&C management models in enterprises

Project 8: Support industrial enterprises in improving, upgrading, and optimising technology aiming at energy savings and efficiency

Achievements (2007-2008)

- Completed a survey in 2008 on the energy consumption of more than 500 large enterprises to identify the potential of energy savings and set the energy consumption rates in the industrial sectors that consume a lot of energy

Component 5: EE&C in Buildings

Project 9: Improving capacity in EE&C and conducting EE&C in building design and management

Project 10: Develop pilot models and disseminate EE&C management activities in building operation

Achievements (2007-2008)

- Implemented various dissemination activities led by the Ministry of Construction (MOC)

Component 6: EE&C in Transportation

Project 11: Make optimal use of transportation facilities and equipment, minimise the amount of fuel consumed, and reduce discharge of exhausted gases to environment

The major actions that have been taken by 2008 are as follows:

Achievements (2007-2008)

- Conducted research activities on the enhancement of public passenger transportation in cities, and creation of fuel consumption measurement equipment to serve the management and exploitation of diesel-powered ships for fuel-saving purposes

The VNEEP has provided a platform for implementing a variety of EE&C in all sectors. However, the first two years of VNEEP implementation have been focused mostly on education, capacity building, and study, and there is much more work to be done. With the introduction of several enabling efforts and capacity building, VNEEP now is a good position to review its objectives and targets, and develop an overall strategy and detailed implementation plan to achieve them. This will aid the government in determining appropriate levels of funding for various initiatives, allow for increased competition and accountability among implementing partners, and the appropriate roles of private sector participation and leverage.

d) Financial resources and budget allocation

In 2007, VND 30 billion (about USD 2 million) of the state budget was allocated for 28 projects registered under VNEEP. About a third of these funds were allocated to support two energy efficiency lighting manufacturers. In 2008, VND 36 billion (about USD 2.25 million) were allocated for 48 projects, many of which were initiated in 2007. Of this, about one third was used to set up an energy efficiency laboratory for air conditioners and refrigerators.

e) Method for monitoring and measuring effects of action plans

Surveys, statistic compilation, end-use information, reporting, and trend analysis are all being undertaken and databases are being developed to assist in program evaluation and policy formation. However, these activities are very limited because there has been no official agency until now that is responsible for energy data collection and analysis. Most of the past and ongoing energy data monitoring and evaluation were undertaken as part of individual projects or energy audits of customers. In addition, the capability of human resources and government budget shortages are also another impediment in this area.

Energy Efficiency and Conservation Office (EECO) at MOIT is the only agency that has a duty regarding energy efficiency monitoring and reporting so far.

f) Expected results

Reducing total final consumption by more than 5%-8% compared to the BAU case

g) Future tasks

Tasks include completing the Law of Energy Conservation and Efficient Use and related legal documents, establishing the official energy database to be included energy efficiency data, developing human resources, and so on.

1.4. Institutional Structure

a) Name of organisation

MOIT plays the role of focal coordinator on EE&C and is authorised to administer the implementation of the VNEEP. As part of this enforcement, the Energy Efficiency and Conservation Office within the Ministry of Industry and Trade was established on 7 April 2006 (Ministerial Decision No.919/QD-BCN). The main work of the Energy Efficiency and Conservation Office is to develop organisations and systems related to improving energy efficiency and conservation on government levels from the central government to local governments.

The National Steering Committee chaired by MOIT was established for inter-ministerial coordination in monitoring implementation of the VNEEP. Members of the Steering Committee include representatives from the Ministry of Construction, Ministry of Transport, Ministry of Education and Training, Ministry of Culture and Information (renamed the Ministry of Culture, Sports and Tourism in August 2007), Ministry of Science and Technology, Ministry of Planning and Investment, Ministry of Justice, Ministry of Finance, and the Union of Vietnam Associations of Science and Technology.

The National Steering Committee and Energy Efficiency and Conservation Office (EECO) were established in 2006 to manage the EE activities and VNEEP in Viet Nam. Since then, EECO has completed preparatory tasks including the formulation of the action plans and detailed programs needed to launch and implement the VNEEP successfully in cooperation with other governmental organisations. The EECO currently has a 15-member staff.

At the level of implementing agencies, the following main agencies have been carrying out energy efficiency programs or related energy efficiency programs:

- Institute of Energy (IE)
- Energy Efficiency Centres in some big cities such as Hanoi, Tiengiang, HCM City, Phu tho, Dongthap, Haiphong, Danang
- Vietnam Standards and Quality Centre (VSQC)ð STAMEQ (MOCT)
- Electricity of Vietnam (EVN)
- Other agencies under different ministries.

b) Status of organisation

All agencies report implementation of EE programs to the EECO and MOIT.

c) Roles and responsibilities

Vary across agencies

d) Covered sectors

All sectors of the economy are covered

e) Established date

Since 2002 (only for EE&C centres)

f) Number of staff

25 staff members (only for EE&C centres)

1.5. Information Dissemination, Awareness-raising and Capacity-building

a) Information collection and dissemination

General information on VNEEP is readily available to Vietnamese energy consumers. For example, the EE&C website developed under the VNEEP framework is a public source of information on energy efficiency. There are also a number of other websites containing information energy efficiency improvement from EEC HCM Centre, EE Hanoi Centre, etc.

b) Awareness-raising

The purpose of the dissemination program in Component 2 is to increase the public awareness of the definition of EE&C and support the penetration of energy efficient appliances into the domestic retail market. In recent years, the EE&C promotion and dissemination program has been appearing frequently in the media.

Four projects were carried out in 2007 and six projects were implemented in 2008-2009. The projects are mainly focused on communication via public media, radio, television, newspapers, and other public relations activities.

Almost all projects in Component 2 have completed the proposed tasks, including Viet Nam television and radio, the contest for energy efficient buildings, and provision of EE&C information to the school education system at all levels.

c) Capacity-building

A range of training courses, workshops, publishing of technical documents for energy efficiency knowledge and assessment addressing all six components are being developed and implemented under the VNEEP. These include: training courses on energy auditing, publishing a guidebook on energy efficiency, capacity building for EE&C centres, and so on. Generally, most of these activities are scheduled to be completed in the first phase of the program. Training courses in construction and design of energy efficient buildings, enhancing capacity for facility management on energy efficiency of local industry department leaders and energy managers are also being developed under the VNEEP.
EECO outlines annual plans on implementation of energy efficiency program by 2010, in which there are several activities for the development of human resource to ensure that Viet Nam will have the skills and knowledge required to reach energy efficiency goals under VNEEP.

1.6. Research and Development in Energy Efficiency and Conservation

Viet Nam has no specific policy on research and development (R&D) in energy efficiency and conservation. However, there are a number of measures that encourage research and development in energy efficiency incorporated in the energy policy and other related legal framework documents. In this regard, the decision on ñThe National Energy Development Strategy of Vietnam for the period up to 2020 with outlook to 2050ò pointed out in Item d of Article 4: ñThe policy on encouraging energy conservation and energy efficiency needs to define concrete requirements on energy saving in intensive energy use sectors; encouraging application of energy efficient equipment and technologiesò[2]. The important role R&D in energy efficiency improvement is also spelled out in the Decree on Energy Conservation and Energy Efficiency (102/2003/ND-CP). The decree stipulates that R&D should be a main tool for improvement of energy efficiency in various sectors in Viet Nam. The decree also

[2] Decision 1855/QD-TTg (2007).

mandates various organisations in the government at central and local levels to put reasonable efforts into R&D for energy efficiency improvement. The contents of energy efficiency R&D in the decree are: development of suitable energy efficiency and conservation technologies in the industrial sector; promotion of those technologies developed from R&D efforts and improvement of energy efficiency in production activities of Vietnamese people especially in the rural and remote areas. The decree also calls the government to allocate a suitable budget for R&D work in energy efficiency improvements from the Science-Technology Research and Development Fund. Until now, Viet Namôs R&D is under the purview of the Ministry of Science and Technology (MOST). MOST is also responsible for setting up long- and medium-term R&D programs and budget allocations. In this regard, there are no any specific action plans or programs developed in accordance to the measures stipulated in the above documents on the R&D for energy efficiency improvements so far.

2. MEASURES FOR ENERGY EFFICIENCY IMPROVEMENTS

2.1. Government Laws, Decrees, Acts

In 2003 a first Decree on Energy Efficiency and Conservation (Decree No.102/2003/ND-CP) was issued (see below). In addition, in July 2004 the Ministry of Industry issued a circular providing guidance for the implementation of energy conservation in the industry sector (Circular No. 01/2004/TT/BCN on Energy Efficiency and Conservation). Now this decree has been replaced by the Law on Energy Efficiency and Conservation which was passed by the 12th National Assembly in June 2010 and enforced since 01 January 2011.

In 2005 the MOIT released the National Strategic Program on Energy Savings and Effective Use (Vietnam Energy Efficiency Programð VNEEP)) for the period 2006-2015, which was approved and enforced on 14 April 2006 by the Prime Ministerôs Decision (Decision No.79/2006/QD-TTG). The VNEEP calls for coordinated efforts for improving energy efficiency, reducing energy losses, and implementing extensive measures for conservation of energy. In addition, in November 2006 MOIT issued a Guideline for Energy Efficiency Standard and Labelling in order to assist on the implementation of energy efficiency standards and labelling in appliances (Circular No.08/2006/TT/BCN).

Other related regulations are the Electricity Law approved and enforced in July 2005, comprising sections that specify electricity efficiency in the generation, transmission, distribution and use processes. This was followed by the ñElectricity Saving Program for the period 2006ï 2010ò approved by the Prime Minister in April 2006. Furthermore, the Building Code which aims to reduce energy losses and improve living conditions in buildings was issued in November 2005 (Energy Efficient Commercial Building Code No.40/2005/QD-BXD).

a) Name

Law on Energy Conservation and Energy Efficiency (50/2010/QH12)

b) Purpose

The decree aims to promote the energy conservation and energy efficiency for meeting the increasing energy demand as well as environmental protection, reasonable energy resource exploitation, and sustainable socio-economic development.

c) Applicable sectors

The decree applies to all large energy users across all sectors. This mainly covers the industry, construction (buildings), transport sectors and energy consuming equipments.

d) Outline

The Law regulates all designated energy consumers to be defined by the Government. It also confirmed that the government carries out the state management on energy efficiency and

conservation and the Ministry of Industry and Trade, as its duty to government, is responsible for implementing the state management on energy efficiency and conservation. Apart from that, other related ministries such as Ministry of Science and Technology, Ministry of Construction, Ministry of Transport and the General Statistics Office, Peopleôs Committees at provincial level etc. are responsible for coordinating with the Ministry of Industry and Trade (now called MOIT) in implementing the state management duty on energy efficiency and conservation in provinces and sectors.

e) Financial resources and budget allocation

The Law also indicated that the energy efficiency projects could be considered for financial support from National Target Programs on Energy Efficiency and Conservation. Financial resources and budget allocation will be identified clearly in the regulations and guidelines of this Law.

f) Expected results

No information available

2.2. Regulatory Measures

2.2.1. Minimum Energy Performance Standards and Labelling

Mandatory measures are expecting to be gradually applied after The Law of Energy Conservation and Effective Use is fully enforced. Viet Nam is now preparing the road map for implementation of energy efficiency standard and labelling programs for equipment and appliances in line with Phase 2 of VNEEP (2010ï 2015).

2.2.2. Building Energy Codes

a) Name

Vietnam Energy Efficiency Building Codes (No. 40/2005/QD-BXD)

b) Purpose

This code introduces minimal requirements that need compliance in design and construction to improve the energy efficiency of existing extensions and new buildings and to minimise loss of energy used in all types of buildings, and improve thermal comfort and visual conditions.

c) Applicable sectors

Residential, commercial, and public buildings

d) Outline

Energy efficiency provisions for buildings were first introduced in 2000 based on research results of the fourth component of the Demand Side Managementð DSMð project with the cooperation of Vietnamese Ministries of Industry and Construction and an international consulting company, The Deringer Group (US). Regulations in this code are applied to the building envelope, systems of outdoor and indoor lighting, air conditioning and ventilation together with other power-consuming and energy-managing equipments. The provisions varied according to the size of the buildingsð small buildings (gross floor area from 300 m^2 to 2499 m^2), medium-sized buildings (gross floor area from 2500 m^2 to 9999 m^2), and large buildings (minimum gross floor area of 10 000 m^2).

e) Financial resources and budget allocation

No information available

f) Expected results

No information available

2.3. Voluntary Measures

Labelling is currently voluntary for the following electrical products in Viet Nam:

- Refrigerators
- Fans
- Water heaters
- Lighting equipment: CFLs, TFLs, electronic ballast
- Air conditioners
- Three-phase electric motors.

2.4. Financial Measures Taken by the Government

In order to implement energy efficiency programs within the framework of the VNEEP, MOIT together with MOF (Ministry of Finance) issued Circular No. 142/2007/TTLT/BTC-BTC to guide the management and use of non-business funds for the implementation of the target program on economical and efficient use of energy (unfortunately, no detailed information identified in this circular is currently available). The total VNEEP budget in 2007 and 2008 was nearly VND 70 billion (equal to USD 5 million) of which VND 10 billion to support for two EE lighting manufacturers and VND 4 billion was invested to set up an energy efficiency laboratory for air conditioners and refrigerators.

2.4.1. Tax Scheme

No information available

2.4.2. Low-Interest Loans

No information available

2.4.3. Subsidies and Budgetary Measures

Apart from the VNEEP, there are a number of subsidies and budgetary measures for energy efficiency improvement programs at the central government levels. One example is provided below.

a) Name

The Pilot Commercial Energy Efficiency Program (CEEP)

b) Purpose

The Pilot Commercial Energy Efficiency Program aims to enhance capacity building in EE&C activities for agencies and provide financial support to enterprises.

c) Applicable sectors

Residential, commercial, and industrial sectors

d) Outline

For this project the Government of Vietnam has received a grant from the Global Environment Facility (GEF) through the International Bank for Reconstruction and Development (World Bankð WB). The implementation period of the Program is the four years from 2004ï 2009.

The pilot program has three components:

- Training of Project Agents in all aspects of energy-efficient commercial business services and customised technical assistance follow-up to support their development and completion of energy efficiency investment projects (Annex 5 summarises the training plan)

- Energy audit and efficiency investment grants (at decreasing levels over four years) to enable individual business efficiency investment transactions to overcome initial barriers to adopting energy efficient business services (to be administered by a commercial bank to work as an administrative unit)
- Program marketing to promote energy efficiency as both a good business service and a good investment for end users, together with program administration to ensure success of the overall project strategy.

e) Financial resources and budget allocation

This has been funded by the state budget, World Bank, and Global Environmental Facility.

f) Expected results

Upon implementation, the total electricity consumption will be reduced by 1540 GWh.

2.4.4. Other Incentives

No information available

2.5. Energy Pricing

The pricing mechanism for some kinds of energy fuels (coal for power generation, several kinds of petroleum products) and electricity tariff in Viet Nam is controlled by the government.

2.6. Other Efforts for Energy Efficiency Improvements

2.6.1. Cooperation with Non-Government Organisations

The Vietnamese Government cooperates with non-government organisations to stimulate energy efficiency improvements.

2.6.2. Cooperation through Bilateral, Regional and Multilateral Schemes

The Vietnamese Government cooperates with other economies through the Promotion of energy efficiency in ASEAN economies (PROMEC Programsð funded by Japan), Promotion of energy efficiency in Small and Medium Enterprises (PECSME Programð in cooperation with UNDP), and other programs and initiatives.

2.6.3. Other Cooperation/Efforts for Energy Efficiency Improvements

As there is a wide variety of donor activities, coordination of donor support in the future months and years will be crucial. In October 2008, the MOIT and the World Bank co-chaired an Energy Efficiency Donor Coordination Meeting, which included presentations of each donor on their programs and planned activities as well as a roundtable discussion on ideas for coordinating efforts and further sharing of information. The following summarises major donors and their activities in the field of energy efficiency in Viet Nam:

- Supporting implementation of the Energy Efficiency program (ADB)
- Load management and demand side management (Agence Francaise de Developmentð AFD)
- Technical training and certification program for energy efficiency (Danish International Development Agencyð DANIDA)
- Study on National Energy Efficiency Master Plan (Japan International Cooperation Agencyð JICA)
- Demand Side Management and Energy Efficiency Project (The World Bank Groupð WB).

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