



Partnership for Market Readiness

Expression of Interest and Questionnaire on Market Readiness Capacity

By

**Thailand Greenhouse Gas Management Organization
(Public Organization)**

January 25, 2011

**Expression of Interest
and
Questionnaire on Market Readiness Capacity**

Content

Introduction - Capacity building needs assessment: How to get started?	3
List of acronyms	4
A. Expression of interest	5
B. Questionnaire on market readiness capacity	8
(i) Policy, legal frameworks and institutions.....	9
Institutional setting in the government for climate policy.....	9
Integration of climate mitigation issues into overall national policy	10
Administrative relations with the UNFCCC	12
National Communication under the UNFCCC	12
CDM/VER project development capacity	12
Relevant environmental/energy related policies and legislation.....	14
Experiences with environmental (or other) trading schemes to meet policy objectives.....	16
Institutions for ensuring compliance with regulation	18
Previous capacity building activities related to GHG mitigation and market instruments	19
(ii) Measurement, reporting and verification (MRV)	21
National (and sub-national) GHG inventory and GHG accounting.....	21
Analysis of the national (or sub-national) mitigation potential	22
Tools and skills for data management of a domestic trading system (and/or crediting system)	23
Independent verification for a trading (or crediting) system.....	24
Previous or related current capacity-building activities.....	25
(iii) Understanding of the sector(s).....	26
Overall data availability.....	26
Determination of future scenario(s) and mitigation potential.....	27
Organization of the sector.....	28
(iv) Non-governmental actors.....	31
Awareness	31
Data availability	31
Application of quality management systems	32
Technological capacity at source level	32
Capacity of financial institutions	32
Support for compliance with regulation	33
Previous capacity-building activities	33
Annex 1: Market instruments being discussed internationally	34

Introduction - Capacity building needs assessment: How to get started?

This document is meant to provide a framework for countries to express their interest in participating in the Partnership for Market Readiness (PMR)¹. It contains a series of questions designed to help countries make an early assessment of opportunities to use market-based instruments² within their national and/or sectoral mitigation strategies, their existing capacity and what gaps may need to be filled. Capacity is a central element in the overall process to implement market-based instruments, both in the design and implementation phase. The individual needs for additional capacity vary substantially depending on the starting point of a country, the selection of instruments and the scope of the envisaged implementation.

The process is divided in two parts.

A. The **Expression of interest**, which includes an official cover letter and a policy statement, provides an opportunity for a country to formally seek support from the PMR and express its interest in using market instruments as a potential mechanism to achieve climate mitigation actions within its national political context.

B. A **Questionnaire** supports the Expression of Interest. The Questionnaire is used to provide detailed technical information on the country's existing capacity to implement market mechanisms. While it is not required to respond to all the questions, interested countries are encouraged to provide as much information as possible in order to shed light on their domestic contexts and provide an understanding of their respective market readiness capacity. The questionnaire covers five areas:

- *Policy, legal frameworks and institutions*: this section covers the existing policy framework, national policy-making processes, and institutions related to climate change which form an important part of the relevant government capacity – crucial for the effectiveness of any policy instrument, especially market-based instruments. This section looks at regulatory capacity, links to the UNFCCC, experience with the Clean Development Mechanism (CDM), and other environment-related market-based instruments.
- *Measurement, reporting and verification (MRV)*: this section provides an overview of government capacity and existing procedures for data management and MRV of energy use and GHG emissions. This is important both for the use of market instruments, but also for assessing non-market based mitigation actions.
- *Understanding of the sector(s)*: this section is intended to provide a more detailed insight related to individual sectors, particularly with respect to government capacity, data availability and organization of the sector.
- *Non-governmental actors*: while the focus of the capacity needs assessment is clearly on public capacity, to successfully implement mitigation actions, especially market-based instruments, a solid capacity base within non-governmental actors is essential. This section therefore assesses this capacity, to enable a government to evaluate the overall situation and capacity building needs within the country.

¹ The reader should refer to the design document of the Partnership for Market Readiness for a detailed description of the PMR.

² For reference purposes, Annex 1 contains an overview of market instruments being discussed internationally.

List of acronyms

CDM	Clean Development Mechanism
DNA	(CDM) Designated National Authority
DOE	Designated Operational Entity
GHG	Greenhouse gas
ISO	International Organization for Standardization
JI	Joint Implementation
LEDS	Low emissions development strategy
MRV	Measuring, reporting and verification
NAMA	Nationally Appropriate Mitigation Action
PMR	Partnership for Market Readiness
VER	Voluntary Emission Reduction
UNFCCC	United Nations Framework Convention on Climate Change

A. Expression of interest

Partnership for Market Readiness (PMR)

Expression of interest in participating in the PMR

Countries seeking support from the PMR are requested to prepare a cover letter, including a short statement confirming the country's interest in participating in the PMR. The cover letter should be accompanied by an Annex containing the following information:

1. Name of the government agency submitting expression of interest

THAILAND GREENHOUSE GAS MANAGEMENT ORGANIZATION (PUBLIC ORGANIZATION): TGO

2. Name and contact information of designated PMR Government focal point

Mr. Sirithan Pairoj-boriboon, Executive Director of TGO, Tel: (66) 2 141 9801 Fax: (66) 2 143 9801 Email: Sirithan@tgo.or.th

3. Domestic mitigation action: outline what are the purposes and main objectives of your country's mitigation strategy.

- a. Provide an overview of domestic mitigation policies and plans and the status of the implementation - at both the national and sub-national levels.

Thailand's National Strategy for Climate Change Management (NSCCM), adopted in 2008, seeks to prepare Thailand to cope with the impacts of Climate Change and adapt to them. The Strategy comprises six pillars, one of which is GHG Mitigation. The objective of GHG mitigation is to reduce GHG emissions and improve production technology through the adoption of clean technologies in energy and production industries. Plans for implementing the NSCCM are being formulated by the Climate Change Coordination Office of the Office of Natural Resources and Environmental Policy and Planning (ONEP) in conjunction with other Thai Ministries.

The Ministry of Energy (MOEN) has been promoting energy conservation since 1992 based on the Energy Conservation Promotion Act (1992). In 2009, MOEN announced the Fifteen-Year Alternative Energy Development Plan (AEDP), which sets a target to increase the share of alternative energy from 6.4 percent in 2008 to 20 percent in 2022. If the target is achieved, it will help Thailand avoid the addition of 42 MtCO₂e GHG emissions.

- b. Briefly identify the key sectors targeted by the mitigation strategy.

Thailand's National Strategy for Climate Change Management (NSCCM) has identified seven priority areas for GHG emissions reductions through efficiency improvements and other means, including: (1) electricity production and use; (2) transportation; (3) alternative energy sources; (4) improved waste management and disposal practices; (5) industrial processes and efficiency; (6) agriculture; and (7) cleaner production technologies.

4. Market Instruments³: briefly outline experience to date with relevant market instruments as well as future plans.

- a. Provide a brief description of experience to date with market-based instruments, e.g., type of instrument, dates of implementation, scope, and key outcomes.

Clean Development Mechanism (CDM) is the only market-based instruments that have been implemented in Thailand since 2002. The scope of the projects includes projects in energy sector. At present, there are 125 projects received Letter of Approval (LoA).

- b. To the extent that one (or more) specific market instrument is already identified for future implementation, provide a brief overview of the status of development/implementation and its relevance to the country's overall mitigation strategy.

There is no specific market instrument indemnified in the existing policy and strategy for future implementation.

5. Support from the PMR: provide a short summary of your current assessment of the capacity needs and gaps for which support from the PMR is being sought. To the extent that one (or more) specific market instrument is identified, outline the type of support that your country may be seeking from the PMR.

To promote mitigation activities in Thailand, TGO is interested in piloting new market mechanisms. The potentially suitable market mechanisms include:

- 1. Domestic NAMA crediting for Low Carbon City Program and Trading for Corporate Carbon Footprint.*
- 2. Domestic trading schemes for energy efficiency certificate and/or renewable energy certificate.*
- 3. Sectoral crediting/trading in power sector and energy intensive industries such as cement, iron and steel.*

Low Carbon City Program and Corporate Carbon Footprint have been initiated by TGO and they are in the process for formulating modality and procedure including developing the methodologies available for all mitigation activities.

The idea on domestic trading scheme for Energy efficiency certificate has been discussed with Ministry of Energy and expected that it will be the essential instrument to enhance the energy efficiency activities in building and industrial sectors.

Together with Thailand Industrial Estate, TGO has conducted the study to establish the cap and trade scheme for installations in pilot industrial estate focusing on power and energy intensive industries.

In order to promote implement the proposed activities, the support needed include capacity building for all stakeholders including TGO to have better understanding on NAMA crediting/trading,

³ Without prejudging future developments on market instruments, this question refers to instruments providing a price signal that create an incentive to use or invest in climate-friendly technologies and/or processes. Such market instruments can include domestic instruments (e.g., emissions trading and non-GHG based schemes such as renewable energy and energy efficiency trading systems) and international market instruments such as reformed CDM, sectoral, and NAMA crediting.

Sectoral Crediting/Trading, and Domestic Trading, technical assistance in development of baseline and monitoring methodologies as well as validation and verification of emission reduction, technical assistance in cap and trade system including national allocation plan, establishment of national registry and trading platform, training on related issues for relevant stakeholders etc.

6. Institutional setting: how would you plan to coordinate the PMR efforts at the domestic level, i.e., which Ministry would lead and which government agencies would be involved?

Ministry of Natural Resources and Environment through TGO will take a lead in the PMR together with Department of Alternative Energy Development and Efficiency (DEDE) under Ministry of Energy and Industrial Estate Authority of Thailand under Ministry of Industry.

7. Stakeholder participation: are there intentions/plans /processes to engage non-governmental stakeholders (e.g., private sector)? If so, provide brief description.

The proposed activities have been initially discussed with DEDE and Industrial Estate Authority of Thailand, which have the authority with relevant private sectors e.g. installations in Industrial Estate, designated factories and buildings under Ministry of Energy's regulations.

8. Initiatives by other bilateral and multilateral development partners: outline any initiative(s) pursued with other international partners underway in your country that is (are) relevant to market readiness support (e.g., low carbon development strategies, MRV, etc).

The bilateral with EU on MRV has been implemented for the first phase of the project. However, the collaboration for the final phase of the MRV project has not finalized yet.

B. Questionnaire on market readiness capacity

In addition to submitting a cover letter with the Annex outlined in part A (above), countries are strongly encouraged to provide as many responses as possible to the Questionnaire on market readiness capacity. The questionnaire is not a mandatory requirement per se, but is designed to help each country seeking support from the PMR to better outline its particular situation in terms of climate change mitigation actions, its current experience and capacity, and its market readiness capacity needs. (It is not necessary to respond to all questions, as some may not be appropriate or relevant for all countries).

(i) Policy, legal frameworks and institutions

This section should provide a more detailed overview of national policies related to climate change mitigation. Depending on the instrument use, the implementation of GHG emission reduction actions requires strong and well-working government institutions at different levels. It also requires a reliable policy-making process that can cope with the necessary complex decisions. This section should also provide information on existing institutions and the policy-making process.

Institutional setting in the government for climate policy

- 1. Is there a national focal point/institution for cross-governmental coordination and implementation of climate change-related programs?** Yes

Describe the institutional setup of the focal point or other forms of national coordination of climate related activities, if existing.

On June 20, 2007 the Office of the Prime Minister (OPM) appointed the National Committee on Climate Change Policy, which is chaired by the Prime Minister. The secretariat has been set up at the Office of Natural Resources and Environmental Policy (ONEP) within the Ministry of Natural Resources and Environment (MONRE).

- 2. If yes, is the institutional focal point a governmental unit with clear tasks and a separate appointed budget?** Yes

Describe where the unit is located within the government, the mandate, and responsibility of the institution. If possible, provide brief overview of resources allocated for the institution to fulfill this mandate.

ONEP is the national focal point for UNFCCC and secretariat to the National Committee on Climate Change Policy. ONEP is responsible for overall coordination of national climate change policy and planning. ONEP has earned the budget from the government. In 2007, the Thailand Greenhouse Gas Management Organization (TGO) was established as a public organization to be the Designated National Authority (DNA) for Clean Development Mechanism (CDM).

TGO, is an autonomous governmental organization with a specific purpose as an implementing agency on greenhouse gas (GHG) emission reduction in Thailand, promoting low carbon activities; investment and marketing on GHG emission reductions; establishing GHG information centre; reviewing CDM projects for approval; providing capacity development and outreach for CDM stakeholders, and particularly performing its role as the Designated National Authority for CDM (DNA-CDM) office in Thailand. TGO as a public organization also received a budget from the government as well as generate their own income from providing services to the public as a non-profit organization. Prior to the establishment of the TGO, ONEP was the DNA office.

- 3. Are there other governmental institutions/agencies with responsibility for implementation of climate change-related programs?** Yes

Provide an overview.

The relevant departments in all ministries are responsible for the implementation of climate change-related programs.

Integration of climate mitigation issues into overall national policy

- 4. Has the country developed a national climate strategy and/or a low emissions development strategy (LEDS)?** Yes

Provide URL and brief overview of the strategy (e.g. identify general objectives, priorities as well as main components and key pillars of the strategy) and how it links to the national development policy.

Thailand's National Strategy for Climate Change Management (NSCCM), adopted in 2008, seeks to prepare Thailand to cope with the impacts of Climate Change and adapt to them. The Strategy comprises six pillars, one of which is GHG Mitigation. The objective of GHG mitigation is to reduce GHG emissions and improve production technology through the adoption of clean technologies in energy and production industries. Plans for implementing the NSCCM are being formulated by the Climate Change Coordination Office of the Office of Natural Resources and Environmental Policy and Planning (ONEP) in conjunction with other Thai Ministries. NSCCM has identified seven priority areas for GHG emissions reductions through efficiency improvements and other means, including: (1) electricity production and use; (2) transportation; (3) alternative energy sources; (4) improved waste management and disposal practices; (5) industrial processes and efficiency; (6) agriculture; and (7) cleaner production technologies.

The URL is available but the contents in it is not updated: <http://www2.onep.go.th/CDM/en/index.html>.

- 5. If yes, which parts of the government prepared the strategy and which institutions were involved in its preparation?**

The Ministry of Natural Resources and Environment, through its Office of Natural Resources and Environmental Policies and Plans (ONEP), has prepared the first national strategy on Climate Change in October, 2006 (B.E. 2006), with a working group, under the National Environment Board, composed of scholars in relevant fields, proposing their strategic views. Workshops have been organized to mobilize opinions regarding situations and trends related to Climate Change in Thailand. Scholars, qualified personnel, representatives from administrative organizations, politicians, government agencies, private sector organizations, NGOs, members of the press, and members of the general public actively attended these workshops. Subsequently, ONEP organized a brain-storming seminar to gather a wide spectrum of opinions related to the working group strategies from various target groups. These comments will be taken into consideration in order to make the strategy more comprehensive and clear-cut. As Climate Change related operations involve a number of agencies, ONEP has collected more information regarding policies of ministries and concerned agencies, e.g. policies promoting use of renewable energies and energy conservation of the Ministry of Energy; mitigation plans for global warming in relation to the agricultural sector of the Ministry of Agriculture and Co-operatives; Environmental Quality Plan (B.E. 2550-B.E. 2554: A.D. 2007 – A.D. 2011), of MONRE, and strategies for the prevention of, and solution to coastal erosion of the Department of Marine and Coastal Resources (DMCR, part of the MONRE). All this has been carried out in order to achieve a more coherent and integrated set of approaches and measures regarding Climate Change, and to advance towards solving Climate Change related problems in a more effective and efficient manner.

This National Strategy on Climate Change (B.E. 2551 - 2555 or A.D.2008 - 2012) is a revised outcome, incorporating expert advices and additional information from agencies concerned – an improvement of the original version. This new version has been submitted to and approved by the National Committee on Climate Change Policy, and has also been presented to the Cabinet for acknowledgement. The Cabinet acknowledged this national strategy on 22nd January, 2008

(B.E.2551), it has passed directives to have all public agencies concerned and to include it in the policy frameworks for further developments. The national strategy is now under the process of transforming into a National Master Plan for Climate Change and an action plan, and had it presented, in accordance with Section 56 of the Constitution (B.E. 2550 : A.D. 2007), to the public for opinions.

- 6. What, if any, obstacles and challenges were encountered in elaborating the strategy?** Yes

Provide details.

The major challenge in the preparation of the National Climate Change Strategy was seeking cooperation from concerned agencies to ensure full implementation of the National Climate Change Strategy.

- 7 Does the strategy consider market-based instruments as a possible instrument for mitigation action, such as the CDM or other types of market instruments (e.g., domestic emissions trading, or domestic trading schemes for energy efficiency or renewable energy certificates?)** Yes

If yes, provide information on the type and scope of potential use of market instruments.

The strategy considers CDM as the only possible instrument for mitigation action according to Kyoto Protocol. The Alternative Energy Development Plan (AEDP) has strong support for CDM as a mechanism to achieve renewable energy target. The government has set up Thailand Greenhouse Gas Management Organization (Public Organization): TGO, to provide overall support the implementing agency on greenhouse gas (GHG) emission reduction in Thailand as well as providing investment and marketing on GHG emission reductions. Beside the mentioned national strategy, TGO is now exploring the possibility of domestic carbon trade under the Corporate Carbon Footprint scheme as well as domestic trading schemes for energy efficiency and renewable energy certificate.

- 8. If no, are market-based instruments under consideration by the government outside of the climate strategy?**

Provide details and comment.

Fill in here

- 9. Does the national government have full responsibility for implementing climate, energy and environmentally related policies or are responsibilities shared with sub-national (e.g. provincial or state) governments.** shared

Provide details on institutional / jurisdictional setup with respect to responsibilities over climate change and related areas.

The overall framework is drawn by national government, while implementation in local area is responsible by sub-national government. For example, Bangkok Metropolitan Administration has developed its own Action Plan on Global Warming Mitigation 2007-2012 with a target to reduce the city's emission by 15percent or 6.4 MtCO₂e per year.

Administrative relations with the UNFCCC

- 10. Is there a registered UNFCCC focal point in the country?** Yes

Briefly describe the institutional setup of the focal point.

The Office of Natural Resources and Environment (ONEP) is appointed to be a national focal point for UNFCCC in Thailand. ONEP is also the secretariat office of the National Committee on Climate Change Policy, chaired by the Prime Minister.

- 11. Is there a Designated National Authority (DNA) for the CDM (Clean Development Mechanism) registered at UNFCCC?** Yes

Briefly describe the institutional setup of the DNA, including in which ministry it is located.

Thailand Greenhouse Gas Management Organization (TGO) is a public organization set up under the authority of Ministry of Natural Resources and Environment to be the DNA. The cabinet appointed the Chairman of the board of directors to govern the management of TGO. TGO Board is the authority to approve CDM project. There is also a "CDM Project approval sub-committee", chaired by the Permanent Secretary of the Ministry of Natural Resources and Environment. The sub-committee is responsible for CDM project screening and recommend approval for the TGO board of directors. In addition, if the CDM project activity does not require an Environmental Impact Assessment, the project must submit the Initial Environmental Evaluation report and Self assessment report of the sustainable development criteria for safeguard assessment by the TGO. (http://www.tgo.or.th/english/index.php?option=com_content&task=view&id=60&Itemid=52)

National Communication under the UNFCCC

- 12. Is a (or more than one) National Communication under the UNFCCC available?** Yes

Comment.

The first national communication was submitted to UNFCCC (<http://maindb.unfccc.int/public/country.pl?country=TH>). The Second National Communication is under preparation and expected to be completed by this year.

- 13. Which entity prepared the latest available National Communication? Which ministries and agencies were involved?**

The entity responsible the National Communication is ONEP, a part of Ministry of Natural Resources and Environment. Once ONEP received funding for the preparation of NC, ONEP set up a working group within ONEP to provide guidance and direction for the preparation NC. For the second NC, TGO also play a key role on the national GHG Inventory.

CDM/VER project development capacity⁴

- 14. Are the different public agencies (DNA, ministries, and administration) familiar with the CDM and the CDM project cycle?** Yes

Comment on extent of familiarity (e.g., low, medium, high) for different relevant public agencies.

There is a good level of understand of the CDM project cycle by the different public agencies that involve in the CDM approval process, such as DNA, UNFCCC focal point, the Ministry of Energy,

⁴ Please furthermore provide details if your country has capacity related to JI (Joint Implementation).

and Ministry of Industry. However, the knowledge and understanding of CDM project cycle are not well understood by other public agencies.

- 15. How many projects have been approved by the DNA? 118 projects**
How many DNA-approved projects have been registered by the UNFCCC? 31.36percent

Provide details on the status of DNA approved projects in the UNFCCC registry.

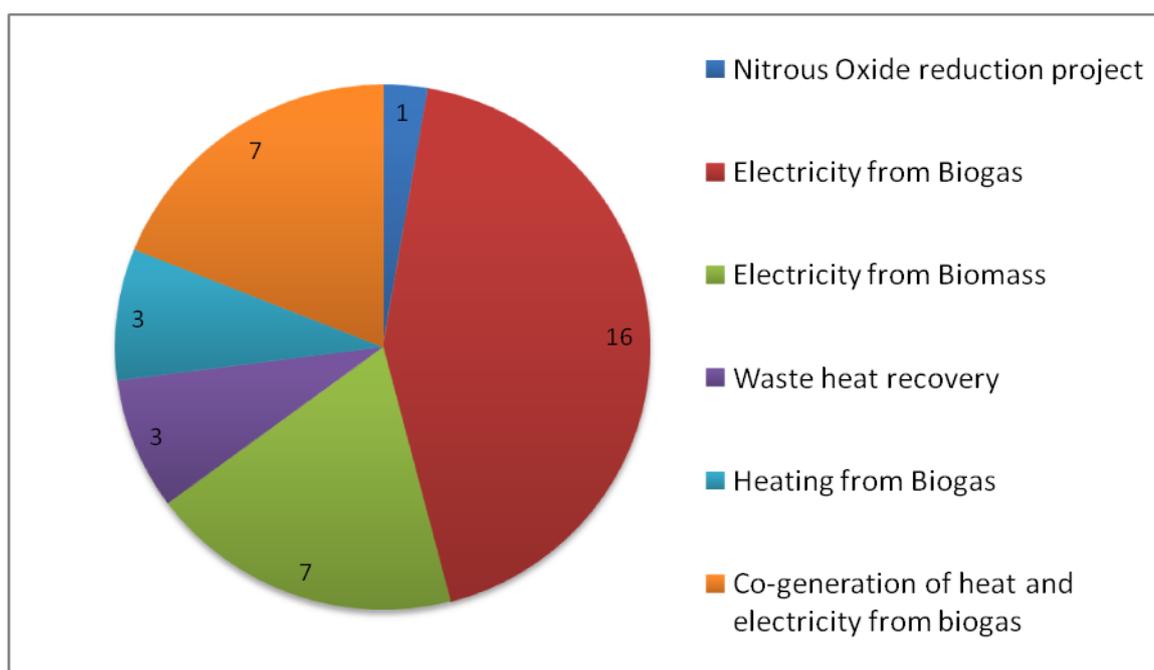
Out of the 118 projects that were approved by the DNA, 37 projects were registered with by the UNFCCC, 1 project requested for registration, 3 projects are being requested for review, 1 project is under corrections, 1 project rejected, and 75 projects under validation. Out of the 37 projects registered, 2 projects were issued CERs. In addition, 220 letters of intent are submitted to the DNA.

(Please see details from http://www.tgo.or.th/english/index.php?option=com_content&task=view&id=17&Itemid=29 and www.unfccc.int accessed on 12 September 2010)

- 16. Which types of projects have been approved by the DNA / registered by the UNFCCC?**

Provide details on the different types of projects.

The details of difference types of projects are separated in the pie chart below.



- 17. How many voluntary market (VER) projects are being implemented in the country? Which types of projects are these?**

Comment.

The DNA acknowledge that there are many voluntary market projects being implemented in the country, however, the information on the number of project and types of projects are not formally available. According to the VCS project database, there are 24 VER-projects in Thailand with estimated annual 654,717 VCU (tCO₂e). There are also another VER projects in Thailand employed other standards, such as Gold Standard, but the number is not available.

- 18. Are there 'lessons learned' emerging from setting up the CDM process in the country and from ongoing activities in this area?** Yes

Provide details on successes, challenges and problems that have been encountered since the initial activities to set up the CDM system.

Initially all CDM projects must be approved by the Cabinet and there was no clear criteria for CDM project approval. The lesson learned was that for the CDM system to be efficient and effective. Moreover, clear sustainable development criteria must be defined and the approval process should be streamline. Hence, the cabinet approved the setting up of TGO to be responsible for CDM project approval. The main challenge and problems encountered delivering the messages about benefits to politicians and decision makers. Understanding of CDM rational and process is needed among the decision makers in the government and the developers.

- 19. Does the government actively engage in the CDM (e.g. , promotion of CDM project development, capacity building, awareness raising, data collection or calculations, etc.)?** Yes

If yes, describe in which form and through which activities.

The government through the Ministry of Natural Resources and Environment, Ministry of Energy and Ministry of Industry are actively involved in promoting CDM project development. There are related publications readily available from these ministries as well as capacity building activities.

Relevant environmental/energy related policies and legislation

- 20. Are there other relevant national (or sub-national) policy frameworks (e.g., energy strategy, waste management strategy, air pollution plans) that are relevant for GHG mitigation?** Yes

Provide details.

The only policy in Thailand that related directly to GHG mitigation, which is the Tenth National Economic and Social Development Plan, 2007-2011, approved by the Government in September 2006. The Plan seeks to cap CO₂ emission per capita to 3.5 tCO₂/person, well below current level.

The Ministry of Energy (MOEN) has been promoting energy conservation since 1992 based on the Energy Conservation Promotion Act (1992). In 2009, MOEN announced the Fifteen-Year Alternative Energy Development Plan (AEDP), which sets a target to increase the share of alternative energy from 6.4 percent in 2008 to 20 percent in 2022. If the target is achieved, it will help Thailand avoid the addition of 42 MtCO₂e GHG emissions.

- 21. What is the general political process for the formulation and implementation of new / amended legislation on environmental and climate issues?**

Provide details on the involved institutions and the overall process and key requirements for approvals.

The process is to receive approval from the National Committee on Climate Change Policy which is chaired by the Prime Minister.

- 22. Are there stakeholder consultations included in the policy making processes?** Yes
- If yes, specify what type of stakeholders (e.g., environmental, business, academia/research, etc.) are involved, in which relevant areas (e.g., climate change policy, energy, industry, and waste management) consultation processes are taking place, if they are voluntary or mandatory, and at which point within the policy making process they take place.

In January 1996 when the Cabinet approved the Rule of the Office of the Prime Minister on Public Consultation by Public Hearings. According to the Rule, if the Minister or Provincial Governor, as the case may be, is of opinion that an implementation of any project under his/her power and duty may cause adverse impact to environment, culture, occupation, safety, way of life of individual, community or society and may cause serious arguments among interested parties, the Minister may organize public hearings. On the other hands, if any interested party is of opinion that an implementation of any government project may cause such adverse impact, he/she may submit written complaint to concerned government agencies. In the case where no response is given or he/she is not satisfied with such response, he/she may ask the Minister or Provincial Governor to organize public hearings on the project. The decision of the Minister or Provincial Governor is deemed final.

It should be noted that public hearings under the Rule may be made during the study for feasibility of the project, the study for alternatives, the study for impacts of the project, or any step prior to the decision on the project is made. Public hearings shall be organized by ad hoc Committee nominated by the Minister or Provincial Governor, as the case may be, from a person who has not interest in the project and one-third of the members shall not be government officer, member of the Parliaments, member of City council, or City administration.

(source: <http://www.thailawforum.com/articles/pubconsult.html>)

- 23. Is there climate-change related legislation in force that requires regular periodic reporting from entities in different sectors?** Yes
- Provide details on key aspects of the legislation and the reporting requirements.

The “State of the Environment” report is published annually by ONEP, MONRE as required by the Enhancement and Conservation of National Environment Quality Act (NEQA) of 1992. Thailand state of environment report 2009 provides an overview of the state of natural resources and environment of the country during the past five years and the present situation in the year that it is published. The report also proposed measures and recommendations of environmental management as implementing guidelines for concerned agencies.

“Thailand Energy Situation” report is published annually by the Department of Alternative Energy Development and Efficiency (DEDE), Ministry of Energy. The report aimed to disseminate data and information to general public and interested people, on statistics of energy production, import, export, transformation, consumption and related details as well as Summary of Energy Situation.

- 24. Are there experiences gained from implementing environmental (or other, such as energy) policies in the past that may be particularly relevant when considering market-based instruments?** no
- Provide details on key relevant achievements, challenges, and problems that were encountered in the process.

Natural resources and environment has been degraded in several areas due to encroachment of various resources. Natural resources utilization without proper control measures has also been a major cause of degradation. Recommendations for management of natural environment include promotion of integrated implementation on natural environment conservation, effective law enforcement, and application of incentive measures to motivate the local authorities to work more effectively.

Law enforcement and environmental management measures must be strictly applied and regularly monitoring and evaluation. In addition, law or management measures need to be revised or amended according to the evaluation in order to have effective enforcement. Local public involvement in following up the enforcement of law or management measures must be encouraged.

The success stories in environmental management in Thailand always need a serious political involvement and a win-win approach.

Experiences with environmental (or other) trading schemes to meet policy objectives

- 25. Are there environment-related trading systems at the national or regional level?** none
This could for example include renewable energy (green) certificate schemes, energy efficiency (white) certificate schemes or SO₂-trading schemes etc.
Provide details.

There is no environmental-related trading system at the national or regional level. However, there are some experiences with environmental labelling schemes such as:

1) Thai Green Label Scheme. *The scheme was initiated by the Thailand Business Council for Sustainable Development (TBCSD), chaired by Mr. Anand Panyarachun in October 1993 as a TBCSD council project. It was formally launched in August 1994 by the Thailand Environment Institute (TEI) in association with the Ministry of Industry. The Green Label is an environmental certification awarded to specific products that are shown to have minimum detrimental impact on the environment in comparison with other products serving the same function. The Thai Green Label Scheme applies to products and services, not including foods, drinks, and pharmaceuticals. Products or services which meet the Thai Green Label criteria can carry the Thai Green Label. Participation in the scheme is voluntary. The symbol signifies environmental conservation.*

(Source: <http://www.tei.or.th/greenlabel/about.html>)

2) Carbon Reduction label. *A carbon label provides a measure, expressed as “carbon dioxide equivalent,” of how much a product contributes to the reduction of greenhouse gas emissions in the production scheme (not across its life cycle). The assessment takes into account of how much GHG reduction can be made via reduction of electricity and fossil fuel used in the production process and reduction of waste. If the GHG reduction is more than 10% compared to their emission in 2002, the label will be granted. The label is certified by TGO. Now more than 70 products are labeled. This program is conducted by TGO together with TEI.*

(Source: http://www.tgo.or.th/english/index.php?option=com_content&task=blogcategory&id=30&Itemid=33)

3) Carbon Footprint. *Thailand Greenhouse Management Organization is promoting the carbon footprint in order to support the Thai industrial sector in implementing the low carbon trend. Already in some developed countries, industries are paying increasing attention to the*

concept of a '**carbon footprint**' for their products. The use of a carbon footprint on Thai products should increase the competitiveness of Thai industries in the world market. The carbon footprint takes into account the quantity of greenhouse gas emissions from each production unit for the whole life cycle (cradle to grave) of a particular product. Carbon footprint thus calculates the carbon dioxide equivalent of the emissions issuing from the extraction of raw materials, transportation and parts for assembly all the way to waste management for end of product life. Now more than 20 products are given their footprint. This program is conducted by TGO together with MTEC (National Center for Metallurgy).

(source:

http://www.tgo.or.th/english/index.php?option=com_content&task=view&id=28&Itemid=35
)

4) CoolMode. Thailand Greenhouse Gas Management Organization (TGO), in cooperation with Thailand Textile Institute (THTI) and Thai garment producers, is developing CoolMode clothing, giving more options for consumers to select clothing which can reduce greenhouse gas emissions while encouraging other producers to develop CoolMode material and sell in the domestic and export market. CoolMode clothing is formal wear especially suited for hot weather, and allows for people to stay comfortable in air conditioning set at 25 degrees Celsius (or higher). It takes part in the effort to reduce global warming both directly and indirectly, for, by wearing it, you are reducing the use of electricity and thus decreasing greenhouse gas emissions.

(source:

http://www.tgo.or.th/english/index.php?option=com_content&task=category§ionid=8&id=31&Itemid=44)

5) Crown Standard. Thailand Greenhouse Gas Management Organization (Public Organization) (TGO) launches its own Crown Standard for Thai CDM Projects. TGO expects the Crown Standard to become an incentive for Thai CDM projects to contribute more to the environment and to society. In addition, the Thai CERs will be internationally recognized and gaining more value added. Since early 2009, TGO has been consulting with the Gold Standard Foundation to increase recognition of the issuance of Crown Standard. The CDM approval process, criteria for the standard, and monitoring program were reviewed. This approach corresponds well with the initiative of the Gold Standard DNA program. Therefore, the Crown Standard will not only receive recognition, but TGO will also be the first DNA to be formally recognized in the Gold Standard's DNA Programme. The project which receives the Crown Standard will have a greater chance of obtaining the Gold Standard in a shorter period of time and probably less approval fee.

(source:

http://www.tgo.or.th/english/index.php?option=com_content&task=category§ionid=8&id=34&Itemid=55)

- 26. If yes, is there a clearly defined national/regional entity responsible for their regulation and supervision?** no
Provide details on institutional setup.
Fill in here
- 27. If yes, are there important experiences emerging from implementing existing trading schemes?** no
Provide details on key outcomes, challenges, and problems that have been encountered in the process.
Fill in here

- 28. If yes, does the country have experience in allocation and/or auctioning of permits/tradable certificates?** no

Provide details.

Fill in here

- 29. What are the steps required in the policy making process to establish and implement a market mechanism?**

Provide details on which institutions need to be involved and what the process is (e.g. approvals and documentation requirements).

The implementation of market mechanism requires the incentives and regulations which need to be approved by the cabinet and the parliament.

- 30. Are there any research studies on the use of market-based mechanisms for GHG mitigation in the country?** none

List key studies, dates and who conducted them and indicate if they are publicly available.

Research studies are only available for CDM, no other research were conducted for other mechanisms.

- 31. Have any tests or pilots for market-based mechanisms for GHG mitigation been undertaken in the country?** none

List and provide details incl. geographic scope, coverage – sectors and instruments scale, stage of implementation, domestic implementation and funding partners, etc.

Fill in here

- 32. Is there any (further) interest in piloting new market instruments? If yes, which type of market instrument and which sector could be considered potentially suitable for implementing a pilot?** Yes

Provide details below.

TGO is interested in piloting new market mechanisms. The potentially suitable market mechanisms include:

- 4. Domestic NAMA crediting for Low Carbon City Program and Trading for Corporate Carbon Footprint.*
- 5. Domestic trading schemes for energy efficiency certificate and/or renewable energy certificate.*
- 6. Sectoral crediting/trading in power sector and energy intensive industries such as cement, iron and steel.*

Institutions for ensuring compliance with regulation

- 33. If a national climate strategy exists, does it include reporting and/or monitoring provisions?** partly

Provide details, e.g., on milestones, evaluation team, success indicators, etc.

Only pollutants defined by laws that have emission/effluent standards will be monitored by concerned authorities/agencies.

- 34. If monitoring provisions exist, which entity is assigned to implement and enforce them?** XXX

Provide details on the institution and the process.

The Dept. of Industrial Works takes care of the monitoring of industrial emission and effluent. The major sources of pollution are required to report their emission/effluent quality to the Dept. and the Dept.'s provincial officials may visit to monitor at sources. The Pollution Control Dept. has authority to issue the standards and monitor the emission/effluent of any sources but industry.

- 35. Do other relevant policy frameworks/strategies (e.g., energy, air pollution) include reporting and/or monitoring provisions?** Yes

Provide details.

The power plants under Independent Power Producer (IPP), Small Power Producer (SPP) and Very Small Power Producer (VSPP) schemes need to monitor and report the data required by Ministry of Energy.

- 36. Do national/sub-national institutions exist to enforce activities such as permitting, validation of reports, verification, supervision for existing regulations, auditing (e.g., air quality or waste)?** Yes

Provide details

Pollution Control Department within MONRE regulates and monitors ambient air quality and water quality in the public waterways. Department of Industrial Works has permitting authority and regulates the air pollution emission and wastewater effluent from industries.

Previous capacity building activities related to GHG mitigation and market instruments

- 37. Have any capacity building activities focusing on institutional setup been undertaken in the past, or are activities ongoing in this area?** Many

List and provide details including scope, coverage, domestic implementation and funding partners, etc.

There are several funding partners involved with CDM capacity building activities in Thailand as follows:

Japan International Cooperation Agency (JICA) April 2009- December 2010

JICA and TGO are cooperating under the capacity enhancement project to increase the individual and institutional capacity of TGO. The name of the project is "Institutional Capacity Development Project on Thailand Greenhouse Gas Mitigation". JICA will provide assistance to TGO staff and key stakeholders for two years under Japan's strong commitment for climate change efforts across the globe, and will hold over 60 training courses in Thailand. The staff of TGO will also have an opportunity to participate training course in Japan in areas such as mitigation policy (mitigation potential and technology), GHG inventory, and national registry. Through such consecutive assistance, JICA expect TGO to raise its capacity to further facilitate CDM and GHG mitigation activities in Thailand.

United Nations Development Programme

Under the cooperation with TGO on the project Barrier Removal to the Cost-Effective Development and Implementation of Energy Efficiency Standards and Labeling Project (BRESL). The program is funded by the Global Environment Facility (GEF). The main objective of the project is to improve energy efficiency of electrical appliances and electronic goods, hence, reduce GHG. The targeted products include air-condition, electric fan, motor, CFLs bulbs and ballard. The activities include policy recommendation for energy efficiency standard and labeling, and carbon footprint project. The project also provides capacity building for government agencies and concerned private sector to implement energy efficiency standard and labeling.

Institute of Global Environment Strategies (IGES) 2005- Present

IGES is promoting CDM activities in Asian countries including Thailand and contributing to global efforts to combat climate change. The CDM Capacity Building - enabling environment for CDM projects Local personnel training will contribute to realising CDM projects through coordination between CDM host country governments and project proponents. The project will propose the reform of CDM rules based on experience from capacity building activities. The activities included supporting institutional framework for CDM, supporting CDM project identification and development, and provide information and raising awareness on CDM.

World Bank

Thailand also participates in the Forest Carbon Partnership Facility (FCPF). FCPF is a global partnership focused on reducing emissions from deforestation and forest degradation, forest carbon stock conservation, sustainable management of forests and enhancement of forest carbon stocks (REDD+). The FCPF assists tropical and subtropical forest countries develop the systems and policies for REDD+ and provides them with performance-based payments for emission reductions. The FCPF complements the UNFCCC negotiations on REDD+ by demonstrating how REDD+ can be applied at the country level.

(ii) Measurement, reporting and verification (MRV)

National (and sub-national) GHG inventory and GHG accounting

- 38. Are historical GHG emissions data available per sector and per gas for recent years?** Yes

Provide details.

Historical GHG emissions data are available for energy sector since 2000 to 2008 in the Annual Thailand Energy Report. The sector includes emission from energy consumed in transport section, power generation, manufacturing, residential and commercial and Agriculture, Construction and mining.

Year	CO2 emission from energy sector (tCO2)
2000	146.56
2001	154.53
2002	163.04
2003	171.37
2004	186.59
2005	190.62
2006	188.66
2007	190.65
2008	181.94

(source: <http://www.dede.go.th/dede/index.php?id=152>)

- 39. Is there a national system in place for the estimation of GHG emissions by sources and removals by sinks?** Yes

Provide details.

During the preparation of INC and SNC, the national GHG inventory was prepared for the year 1994 and 2000.

- 40. If yes, is the national GHG accounting methodology compatible with the 2006 version of the IPCC guidelines for national greenhouse gas inventories?** no

Comment.

The 1994 and 2000 GHG inventory complied with 1996 version of the IPCC guidelines for national greenhouse gas inventories.

41. Are there sub-national (e.g., city, state or province) systems in place for the estimation of GHG emissions (reporting/data collection) by sources and removals by sinks? no

Provide details.

Fill in here

42. What is the frequency of reporting / data collection by the different sectors? XXX

Provide details and comment, including entities responsible for reporting and data collection.

Ministry of energy reported GHG emission from energy sector on a regular basis. However, there is a lack of regular reporting on other sectors.

(source: <http://www.dede.go.th/dede/index.php?id=152>)

43. What are the auditing procedures for the national greenhouse gas inventory (and/or for sub/national GHG data collection if appropriate)? XXX

Provide details and comment.

Fill in here

44. Are there GHG inventories or frameworks (e.g., the GHG Protocol) used by government or private entities to account, quantify and manage their GHG emissions? no/
maybe

If yes, provide details and comments on the entities undertaking such accounting exercises and the tools used.

Fill in here

Analysis of the national (or sub-national) mitigation potential

45. Are there any national (or sub-national) scoping studies on energy consumption, energy efficiency, GHG emission, clean production or mitigation potentials and costs available? If yes, for which sectors are they available? Some

List studies (with dates) and highlight general findings/conclusions.

The national scoping studies on renewable energy, energy efficiency, and GHG emission and mitigation potentials and costs available. The details of the documents are as follows:

Alternative Energy Development Plan (AEDP) identified four areas of alternative energy development to achieve the 20 percent alternative energy share target (equivalent to 19,700 ktoe/year) by the year 2022. The four areas include: (i) Increasing the share of power generation from renewable sources by SPPs and VSPPs (2.4 percent); (ii) Increasing the share of thermal power from renewable sources (7.6 percent); (iii) Promoting the use of bio-fuels including ethanol, biodiesel, and hydrogen for transportation (4.1 percent); and (iv) Promoting the use of natural gas for vehicles (NGV) (6.2 percent). RE, excluding natural gas, represents 14.1 percent of the target. Implementation of this ambitious program could yield total potential annual GHG reduction of 42 million tCO₂e by 2022. Targets for various types of renewable and alternative energy under AEDP are shown in Table 2 below.

CDM in Energy Sector for Thailand by DEDE showed that RE and EE sectors have high potential in GHG reduction. The figure below shows the GHG reduction potential in the energy sector based on availability of resources and GHG reduction cost effectiveness.

A number of other studies and reports have provided analytical underpinning for the GoT in identifying priority actions and areas for reducing GHG emissions, including: (i) —Thailand Country

Study on Climate Change Finance prepared for the US DOE's Country Studies Program (Thailand Environment Institute, 1997); (ii) —Asia Least-Cost Greenhouse Gas Abatement Strategy (ALGAS): Thailand prepared for the ADB (Thailand Environment Institute, 1997); (iii) —CDM Study for Thailand financed by AusAID (IBRD, 2002); (iv) —CDM in Energy Sector for Thailand (DEDE 2005); (v)

—Thailand: Making Transport More Energy Efficient, prepared by the World Bank in collaboration with the Office of National Economic and Social Development Board (NESDB), Office of Transport and Traffic Policy and Planning, and Energy Policy and Planning Office (World Bank, 2008); and (vi) —Strategic Urban Transport Policy Directions for Bangkok prepared by the World Bank under the Urban Transport Development Partnership (2007). This partnership is a cooperation framework joined by the Asian Development Bank, the French Development Agency, the Japan Bank for International Cooperation and the World Bank Group.

- 46. Are expected emission abatement potentials per measure or sector described in the last national communication or in the national climate strategy (or elsewhere)?** partly

Provide details.

The first National Communication does not describe emission abatement potentials. However, TGO has conducted the study on emission reduction potentials for Thailand. It is expected to complete soon. In addition, the Alternative Energy Development Plan has target to reduce GHG about 42 MtCO₂e.

- 47. Are there energy and/or emissions models developed at the national (or sub-national) level by the government or through independent research institutes?** Yes

Provide details, e.g., who conducts such modeling exercises and whether results are publicly available?

There are many research institutes that have the capacity to develop the energy and emission models at national level such as the King Mongkut University of Technology Thonburi, Energy Research Institute, and Sirindhorn International Institute of Technology. In principle, the emissions are forecasted based on the growth of the GDP and population. The GDP of Thailand is expected to increase by 4 percent and the maximum population is expected to be 85 million people.

- 48. If yes, what are the gaps in these analyses?** XXX

Provide details if relevant.

Fill in here

Tools and skills for data management of a domestic trading system (and/or crediting system)

- 49. Are hardware and software available in the country to establish and manage emissions-related databases or other relevant databases (e.g., energy-related)?** Yes

Provide details on the institutions where this is available and details of the available systems.

The software is available at JGSEE of the King Mongkut University of Technology Thonburi, a research institute involves in preparing 2000 GHG inventory. TGO plan to develop the emission database in the near future.

- 50. Are there any systems in place within the country that already allow direct electronic reporting to the government by companies or individuals of any kind of data, i.e., online access, email-forms, etc.?** no
- Provide details on the institutions where this is available and on the systems being used.
Fill in here
- 51. Is there trained staff available to develop, operate emissions databases and to generate reports from the raw data?** Yes
- Describe.
The software is available at JGSEE of the King Mongkut University of Technology Thonburi, a research institute involves in preparing 2000 GHG inventory.
- 52. Are schools / institutions available to train staff in managing and processing the data?** Yes
- Describe.
JGSEE of the King Mongkut University of Technology Thonburi, a research institute involves in preparing 2000 GHG inventory.
- 53. Is there capacity to build up a registry system to track and record transactions?** no
- If yes, provide details on institutional setup.
Fill in here
- 54. Are there gaps/needs in the area of data management and registry systems?** Yes
- Provide details if relevant.
There is the lack of understanding in how to develop registry system including the software used.

Independent verification for a trading (or crediting) system

- 55. Are officially reported data verified by an independent institution?** No
- Provide any examples where data is reported by companies or individuals and where official verification is required.
Fill in here
- 56. Is there government experience with independent verifiers for environmental trading/crediting schemes?** no
- Provide details.
Fill in here
- 57. Is there a national (or sub-national) accreditation entity/process that can accredit verifiers to audit company level emission reports?** no
- Provide details on institutional setup and the accreditation processes in place.
Fill in here
- 58. If no, are there plans or ongoing activities to establish such an entity/process?** no
- Provide details.
Fill in here

59. Are ISO and/or other environmental standards applied in the country? Yes
Provide details on which standards are applied and in which sectors.
ISO or other international environmental standards are applied voluntarily. All activities must be complied with national environmental regulation and standards.

60. If yes, is verification of compliance with these standards conducted by national experts or by international firms? National
Describe how widely these standards are applied within the country and on the verification process, e.g., how many verification companies are operating within the country, if there are/have been obstacles to implementing the standards and the verification process, etc.
They are conducted by both national experts and international firms. The international standards applied mostly to exporting industries who will gain benefit from meeting international standards. These businesses are usually large enterprises.

61. Are there any other verification protocols in use? no
Provide details on institutional setup and the accreditation processes in place.
Fill in here

Previous or related current capacity-building activities

62. Have any capacity building activities that are relevant for - or contribute to - market readiness (e.g., for MRV, LEDS) been undertaken in the past? Or are activities in this area ongoing? Many
List and provide details and funding partners, etc.
The ongoing activities are EC GHG MRV Project for Thailand which is in the process of need assessment, The Project for Capacity building and preparation for being a DOE, MRV training for KVER with KEMCO of the Republic Korea, and JICA training program for TGO staffs.

(iii) Energy Sector: Understanding of the sector(s)

This section is intended to give a more detailed insight into government capacity related to individual sectors. The user of this questionnaire can select the sectors that are relevant and important for GHG mitigation, depending on the national circumstances. While some countries will want to focus on one particular sector, others may choose to look at a number of sectors.

If you choose to evaluate only one sector, just add the name of the sector you have selected in the heading.

Example: '4. Cement sector: understanding of the sector'.

If you choose to evaluate more than one sector, copy the whole section 4 for each sector for which you wish to provide information, and insert it after the original section. Then include the respective names of the sectors you have chosen in the title as below.

Example:

4. Electricity sector: understanding of the sector

4. Transport sector: understanding of the sector

4. Iron and steel sector: understanding of the sector

Overall data availability

SPECIFY SECTOR:

63. Rate each category on a scale from 0 (no data available) to 10 (data from all installations/ complete sector available). Comment, including specifying whether data is available at national level (and/or sub-national) level.

Production/activity data	7/10
Energy consumption	7/10
Energy mix / used fuel types	8/10
GHG emissions	6/10

64. How do you rate the quality of available data? 7/10

Rate on a scale from 0 (very poor) to 10 (excellent).

65. Who provides the data on the sector? What is the frequency of reporting and what is the process for data collection?

Provide details on the active players and the process.

DEDE is the agency who reconcile all of energy related data which are collected and reported by other agencies under Ministry of Energy

- *DEDE: Collect all data and reconcile to produce Thailand Energy Report annually*
- *DOEB: Monthly report the amount of petroleum product (petrol and fuel) which sale by registered companies*
- *DMF: Report the amount of petroleum production from sources monthly*
- *EPPO: Collected fuel usage data (fuel type and amount) from power plants*

66. What are the key challenges/gaps (if any) in the data itself, as well as in the collection process, particularly in the context of market instruments?

Comment.

Thailand data are collected by several agencies and those agencies set up the format and reporting frequency for their own interest.

67. Is data provision (reporting) voluntary or mandatory?

Voluntary

Comment.

The designated buildings and facilities have to conduct energy audit and report to DEDE. However, there is no penalty if they fail to report.

Determination of future scenario(s) and mitigation potential

68. Are scenarios of future *energy consumption* available for this sector (per fuel type)?

Yes

69. If yes, who prepared the scenario(s) and how do you rate the quality?

Good

Provide information on how the scenarios were elaborated and by whom.

Give a rationale for your evaluation of the quality.

Ministry of Energy developed the model for energy scenario using scenario-based planning methodology. The input data quality was good because they were official data, which were verified many times prior to publication.

70. If no, are activities on-going to generate such scenarios?

Provide details and comment.

Fill in here

71. Are scenarios of future *GHG emissions* by this sector available (per gas)?

Yes

72. If yes, who prepared the scenario(s) and how do you rate the quality? Provide information on how the scenarios were elaborated and by whom. Give a rationale for your evaluation of the quality.

Good/
medium

TGO have conducted the study on GHG emission scenario based on Power Development Plan (PDP), Alternative Energy Development Plan (AEDP) and possible emission reduction potential. The scenario-based model has been developed covering the GHG emissions for all sectors. The official data are used as the input for the model. The data quality is good only for energy sector.

73. If no, are activities on-going to generate such scenarios?

Yes /no

Provide details and comment.

Fill in here

74. Is an analysis of energy savings and/or GHG mitigation potentials (technical/economic) and associated costs available for this sector? partly

Provide details.

TGO have conducted the study on emission reduction potentials. However, due to the lack of data, the technical feasibility and cost-benefit analysis have been conducted for some measures in some sectors. The input data quality is satisfaction. However, more research and study is necessary to have the precise analysis.

75. Are initiatives to reduce GHG emissions or energy use being implemented in the sector? Many

Provide overview.

There are many initiatives to promote renewable energy.

Ministry of Energy identifies a set of concrete targets to reduce energy-related GHG emissions as following:

- *Bio-fuel development*
- *Renewable energy supply*
- *Renewable thermal energy (process steam)*
- *Compressed natural gas for transport.*

The policy identifies 7 mechanisms/actions to support the achievement of these targets:

1. *Establishing and operating an energy database and data center that provides information on RE R&D, demonstration projects and the RE potential operated by the Department for Alternative Energy (DEDE) within the Min. of Energy.*
2. *Investment subsidies/grants for certain RE project categories (operated by DEDE and the Energy Policy and Planning Office (EPPO)).*
3. *Soft loans for certain RE project categories operated by DEDE.*
4. *ESCO Venture Capital Fund operated by DEDE (support provided by implementation partners).*
5. *Differentiated Feed-in-Tariff operated by EPPO and implemented through the Provincial Electric Authority.*
6. *Board of Investment Incentives (tax exemptions)*
7. *Clean Development Mechanism.*

Organization of the sector

76. Is there a defined national public entity responsible for this sector? Yes

If yes, provide details on the entity and overview of its mandate.

The national public entities for role and responsibility are clearly defined.

Office of Permanent Secretary

The main role of the office is to overlook and co-ordinate the activities of the agencies and to ensure coherence and a compatibility with the national policies.

Department of Alternative Energy Development and Efficiency

This department is the main implementing agency of the RE and EE policies. The department undertakes development of specific targets and strategies and proposes policy measures to implement the policies. DEDE operates a series of programmes supported by the ENCON Fund, including the Compulsory Programme for energy efficiency improvement in large industries and buildings, a solar rural electrification program as well as a range of demonstration and other projects.

DEDE is particularly well-versed with the sustainable energy technologies on the supply as well as on the demand side. On the other hand, energy policy and planning activities are relatively new to DEDE.

Energy Policy and Planning Office (EPPO)

EPPO is in charge of macro-economic energy planning, overlooking the entire energy sector, doing forecasts and overall policy analysis. In addition, EPPO is serving as the electricity sector regulator, overlooking the power sector including prices and grid connection regulation. The agency also overlooks the oil and gas sector, monitoring prices, etc.

Department of Mineral Fuels

DMF has the duty to promote and accelerate domestic petroleum exploration and production, and also to encourage collaboration with neighboring countries. DMF is divided into divisional level as follows:

- Office of the Secretary*
- Bureau of Petroleum Operations and Coordination*
- Mineral Fuels Technical Bureau*
- Petroleum Planning Division*
- International Petroleum Operations Division*

Department of Energy Business

The Department of Energy Business has the responsibilities as follow:

- Develop and specify quality and safety of energy business.*
- Superintend energy business in the aspect of commerce, safety and environment, quality, and stockpiling for protection shortage situation.*
- Knowledge in energy side to consumer and concerning party.*

All entities have sufficient staff and budget to perform the existing mandate. However, it is expected that with new and additional tasks the further support may be needed.

77. What is the political process to establish new policies or adjust existing policies for the sector?

Provide an overview of the general process necessary to implement new regulation in the sector.

To implement the new regulation, the responsible agency has to prepare the draft policy or regulation, submit to the National Energy Committee for approval, and submit to the cabinet for information. However, if the implementation requires the funding support other than government budget. It needs to be approved by the authority of the funding first.

78. Is there a business association representing the sector?

Yes

Provide name of the existing organization(s).

The Federation of Thai Industries and Thai Chamber of Commerce represent business associations in this sector.

79. If yes, is the business association involved in the areas of energy use, energy efficiency or GHG emissions?

Yes

Provide details.

Both of the organizations involve in the area of energy use, energy efficiency and GHG emissions.

80. If yes, does the business association engage in data gathering activities?

Yes

Provide details.

The installations, which are the member of Federation of Thai Industries, report voluntary and mandatory their energy use and production statistic.

81. Are there sector-specific barriers to GHG reporting, monitoring or GHG data collection?

Many

Provide details on key barriers and order according to severity. Identify key gaps.

The data collection and reporting regarding GHG emission is not mandatory of Thai government agencies. The top-down policy is needed in order to get the report. The collected data are not applicable with the standard template and format. The knowledge of the staff regarding GHG emission report is inadequate.

(iv) Non-governmental actors

The primary focus of this questionnaire is on public, i.e. government, and capacity. However, the expertise of relevant non-governmental actors is essential to enable effective and efficient implementation of GHG mitigation activities, especially of market based instruments. This section therefore supports the evaluation of this capacity to allow governments to assess the overall situation and capacity building needs within their country.

Awareness

82. How do you assess non-governmental actors' awareness of climate change and GHG mitigation?

medium

Provide details.

Private and NGO are aware of climate change and GHG mitigation. They know that climate change and mitigation measures will have the impacts on their lives. However, the capacity building is required to enable the effective implementation of GHG mitigation activities.

83. If relevant, what is being done and/or would be needed to raise awareness?

The seminar and training curriculum would be needed to raise the awareness of the concerned stakeholders.

Data availability

84. Is there a system for GHG accounting or monitoring at source/company level available in the different sectors?

no

Provide details

Fill in here

85. Have handbooks, templates, toolkits, spreadsheets or other guiding documents on GHG data been produced?

partly

Provide details on the type and coverage of the documents/tools as well as publishing institution.

TGO together with other agencies develop the Guideline for Thailand's Carbon Footprint of Product. Please see detail in

http://www.tgo.or.th/download/carbonfootprint/CFP_Guideline.pdf

86. Are other systems for company level emission monitoring in place, e.g., on air quality?

Yes

Provide details on the type, and geographical and sectoral coverage of the systems.

Department of Industrial Work announced the notice to regulate large installations in power sector and industrial sector located in industrial estates in northeast area such as Maphaput Industrial Estate etc. to install emission monitoring system.

- 87. If yes, are they voluntary or mandatory? Do they cover whole sectors? Are they related to companies as a whole or to individual installations?** partly

Provide details on how binding the systems are and how enforcement is secured, in case they are mandatory.

It is mandatory for the installations with size and type defines in the notice. However, it is not mandatory for other area.

- 88. Are industries participating in voluntary international programmes for reporting GHG emissions (e.g., WBCSD/WRI GHG Protocols, Cement Sustainability Initiative, World steel, etc)?** some

Provide details on programmers' and usage.

Some Thai companies use GHG protocol to measure and report emissions.

Application of quality management systems

- 89. Does industry apply quality management systems, such as ISO 9001 and 14001?** Yes

Comment, including specifying which industries.

Many of Thai industries have been certified to those standards.

Technological capacity at source level

- 90. Is measurement equipment (e.g., scales, flow meters) available for measuring of necessary data (emissions, energy)?** Yes

Describe the situation of average companies in the sector.

There is measurement equipment available in the market. Most medium and large installations install the equipment.

- 91. Are schools/institutions available to train staff in operating measurement equipment and in processing the data?** Yes

Describe.

There are many institutions such as Chiang Mai university, Khon Kan university, Chulalongkong university available to train the staff in operating measurement equipment and in processing the data.

Capacity of financial institutions

- 92. Are there local/sub-national facilities to finance efficiency and GHG reduction projects?** Many

Provide details.

There are many commercial banks financed energy efficiency and GHG reduction projects including ESCO fund established by DEDE.

- 93. How do you rate the accessibility of their services?** Good
Comment.
Fill in here

Support for compliance with regulation

- 94. Do sectoral associations have capacity to support the sector regarding compliance activities (e.g., achieving performance standards, monitoring of activities and reporting)? Rate on a scale from 0 (very poor) to 10 (excellent).** 5/10
Provide details on the activities in this area and a rationale for your evaluation. The overall evaluation should represent an average across relevant sectors. Mention here, if there are large deviations in individual sectors.
There is no commitment for all sectors to mitigate greenhouse gases. At present the mitigation activities have been conducted in voluntary manner. It is not required to meet the performance standard or have to monitor and report the activities. Taking into account the existing activities related to performance standard including monitoring and reporting, the associations have fair capacity to support those activities.

- 95. Is there other national or international support available?** 3/10
Rate on a scale from 0 (very poor) to 10 (excellent). Provide details.
The national support through fiscal budget for TGO is very few and insufficient to execute the operation.

Previous capacity-building activities

- 96. Have any capacity building activities related to non-government actor expertise been undertaken in the past or are activities in this area ongoing?** none
List and provide details including scope, scale, coverage, domestic implementation and funding partners, etc.
Fill in here

Annex 1: Market instruments being discussed internationally

The market instruments listed below include proposals that have been put forward so far by countries and organizations as a potential way to scale-up mitigation efforts beyond the scope of the CDM in its current form. This is an indicative list and is not intended to be exhaustive, nor does it prejudge any further development of the instruments or discussions under the UNFCCC. As yet there is no international agreement on the design and use of these instruments. The definitions provided below have also not been agreed internationally. Hence this list is also not intended to be prescriptive in terms of the types of market instruments countries could choose to pursue through piloting supported by the Partnership.

Offsetting Mechanism

Reformed CDM – e.g., introducing standardized baselines to create consistent performance thresholds that can be applied across multiple projects of the same project type.

Crediting Mechanisms

Sectoral Crediting – a baseline and (ex-post) credit mechanism where a government is responsible for surpassing its sector specific crediting baseline. If the crediting baseline is set below the BAU level of emissions, then the difference between the two represents the country's domestic abatement effort ('own action'). Any abatement beyond the agreed baseline would be eligible for crediting, with the credits equal to the reductions being issued at the end of the crediting period. The government would need to agree its sectoral emissions baseline at the outset, and then use a portfolio of domestic policy instruments to reduce its actual emissions below the baseline. The government could choose to devolve the target across firms or specific installations. Sectoral crediting is sometimes also referred to as a 'sector no lose target', where the "target" could be expressed in the form of absolute reductions or emissions intensity.

Technology based approach – a technology diffusion goal would be established for a specific sector, such as share of the physical capacity of a sector to be fitted with technology X by a specific date or increasing the capacity of technology Y by a specified amount or rate. Countries would then receive emission credits for technology performance beyond the initial goal.

NAMA crediting – credits would be issued for the verifiable emission reductions from the nationally appropriate mitigation actions (NAMAs) undertaken by developing countries. Eligible NAMAs would be supported through full or discounted crediting in the carbon market for activities beyond the baseline or NAMA level.

Allocation Mechanisms

Sectoral Trading – a cap and trade mechanism where a government is responsible for meeting an agreed sector specific emissions target. Emissions allowances would be allocated to the government ex-ante, up to the level of the target. The government would then need to make installations in the sector limit their emissions to the level of this cap during the specified period. Sectoral Trading would involve carbon units (allowances) being issued at the start of the period, and the government ultimately purchasing extra carbon units from abroad if the sector is unable to meet the target domestically.

Domestic Emissions Trading – a cap is set on emissions and allowances are provided ex-ante, either through allocation or auction, to emitters covered by the cap. These emitters are required to submit

allowances equal to the amount of greenhouse gases emitted over a predetermined period. The difference between expected emissions and the cap creates a price for the allowances. Emitters who can reduce emissions for less than the price of an allowance will do so. If, however, abatement costs more than the price of an allowance, it makes sense to purchase additional allowances from other emitters with surplus allowances. The relative difficulty of abatement or scarcity of allowances sets the price of carbon. In theory, those that can reduce emissions most cheaply will do so, achieving the reductions at the lowest possible overall cost to the country.

Sources: Information is drawn from: Global Carbon Trading: a Framework for Reducing Emissions - Mark Lazarowicz & Office of Climate Change (2009), and submissions to the UNFCCC.