



Organizing Framework for Scoping of PMR activities

Country: Thailand

Responsible official:

Thailand Greenhouse Gas Management Organization (Public Organization)

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1. Policy context: Domestic mitigation objectives and role of market instrument(s) (1/4)

1.1 Policy context, objectives and envisioned role for new market instruments

National Economic & Social Development Plan (NESDP)

The 10th NESDP 2007-2011

- Support **CDM as “Market Instrument”**
- Promote RE, EE and pollution control

(Draft) The 11th NESDP 2012-2016

Currently under national consultations with proactive discussion on **setting up** :

- GHG mitigation target
- **“Carbon Market” & more instruments**
- National Registry & MRV system

MITIGATION OBJECTIVES : to achieve green growth, low carbon development and low carbon society

★ **Key national policies support :**

- ✓ Mitigation
- ✓ Market Instruments & CDM
- ✓ Carbon Trading & Carbon Market

Specific Plan: National Strategic Plan on Climate Change 2008-2012

STRATEGY 2: Promote GHG Mitigation Activities based on Sustainable Development

- GHG mitigation in all sectors
- **CDM as “Market Instrument”**
- **Carbon Trading** process & rules set up

Specific Plan: National Renewable Energy Development Plan 2008-2022

- Set targets to reduce Energy Intensity 8%, 15% and 25% from base year 2005 in 2015, 2020 and 2030 respectively.
- **CDM as “Market Instrument”**, Private-led investment, and Government funding

1. Policy context: Domestic mitigation objectives and role of market instrument(s) (2/4)

1.1 Policy context, objectives and envisioned role for new market instruments

CURRENT POLICY ON EXISTING MARKET INSTRUMENT

- **Thailand's Implementation on CDM** "Thailand Greenhouse Gas Management Organization" was established in 2008 to accomplish the country's active mitigation performance in order **to promote CDM, Carbon Market, and other GHG mitigation actions in Thailand.** *As of May 2011, Thailand approved 131 LoAs, and anticipates average annual CERs of 8.16 million tons CO₂e/yr from 46 registered CDM projects.*

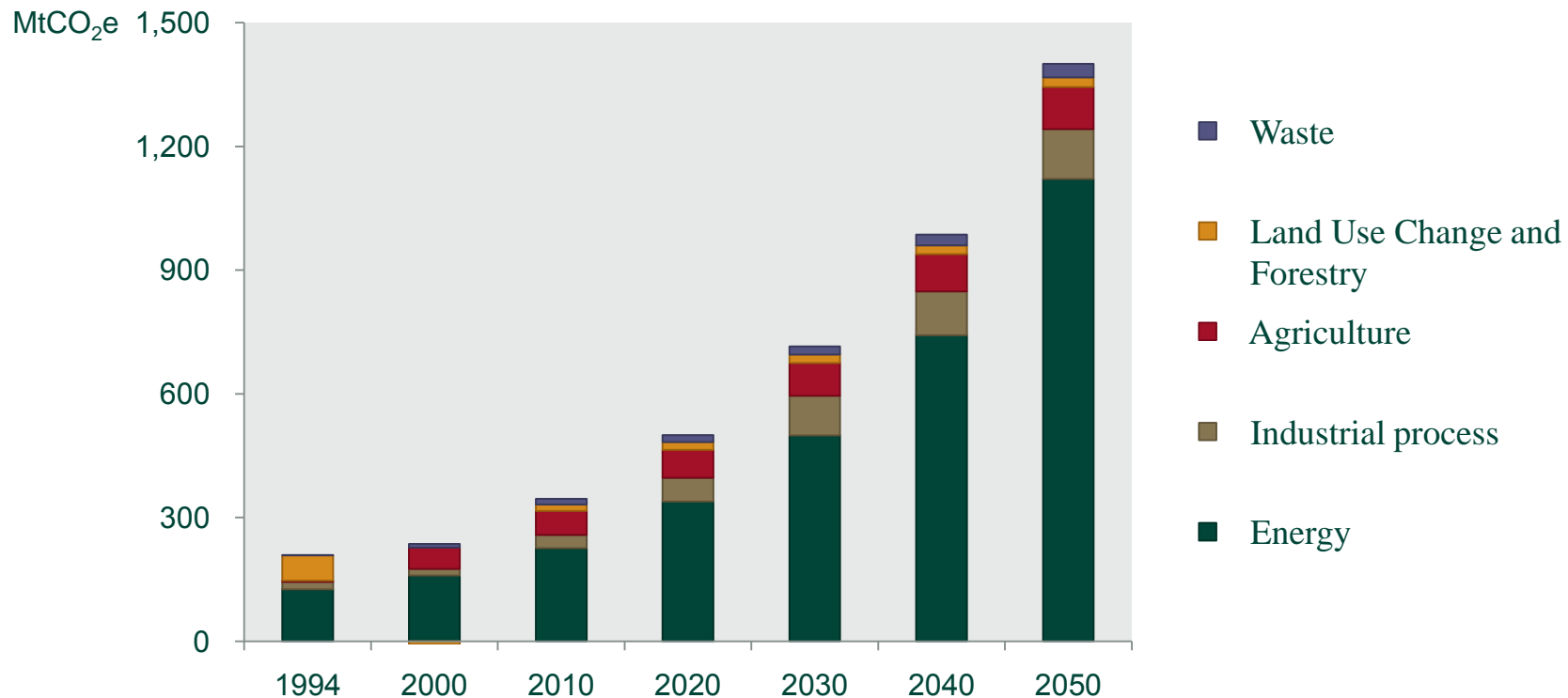
LAWS AND REGULATIONS

- **Office of the Prime Minister's Regulation on Climate Change 2008**
Established the **"National Committee on Climate Change", chaired by the Prime Minister,** to consider national agenda and issues in tackling climate change.
- **The Royal Decree on Establishment of Thailand Greenhouse Gas Management Organization (TGO) 2008**
Established TGO that **has been performing its role as the Thai DNA-CDM.**
- **The Energy Conservation Promotion Act (no.2) 2007**
focused on promoting energy conservation and energy efficiency, **mainly in industrial and building sectors.**

1. Policy context: Domestic mitigation objectives and role of market instrument(s) (3/4)

1.2 Overview of country's GHG emissions

Past and Future trends of Emission in Thailand during 1994 - 2050



Source :

- 1 Office of Environmental Policy and Planning, Ministry of Science Technology and Environment, 2000, Thailand's Initial National Communication under the United Nations Framework Convention on Climate Change, Bangkok, Thailand.
- 2 Office of Natural Resources and Environmental Policy and Planning, 2010, Ministry of Natural Resources and Environment, The Second National Communication (SNC) of Thailand, Bangkok, Thailand.
- 3 Thailand Greenhouse Gas Management Organization (Public Organization), 2010, Thailand Directive on Development of Emission Inventory Data and Model, Bangkok, Thailand.

1. Policy context: Domestic mitigation objectives and role of market instrument(s) (4/4)

1.3 Interest in market-based instruments

Besides CDM, a mandatory market instrument, that is successfully implemented in Thailand, implementation of other voluntary market instruments will increase more GHG mitigation. Thus, domestic market instruments that Thailand selects and requires support from PMR are domestic VER crediting and voluntary emission trading. The market instruments are planned to implement in chosen sector ranked in order of priority as follows:

1. Domestic VER crediting : the instrument will be implemented in voluntary cities and carbon intensive factories throughout Thailand in order to promote CSR and sustainable development.
2. Domestic emission trading : the instrument will be implemented in factories in industrial estate's areas.

2. Organization and consultations (1/2)

2.1 PMR contact point

Thailand Greenhouse Gas Management Organization (Public Organization), or TGO, is an organization under Ministry of Natural Resources and Environment 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 center; reviewing CDM projects for approval; providing capacity development and outreach for CDM stakeholders and promote low carbon activities, and particularly performing its role as the Designated National Authority for CDM (DNA-CDM) office in Thailand. TGO is also assigned to be co-secretariat of National Committee on Climate Change (NCCC). NCCC is chaired by the Prime Minister, and responsible for consideration of national agenda and issues in tackling climate change.

2. Organization and consultations (2/2)

2.2 Partners in the formulation and implementation of the country's Market Readiness Proposal

TGO has conducted several consultation meetings, capacity buildings and/or project activities about CDM, voluntary market mechanism, carbon footprint and GHG mitigation with below key partners. Market Readiness Proposal will be developed in close cooperation with these partners and other relevant entities.

- Department of Alternative Energy Development and Efficiency (DEDE), Ministry of Energy : responsible for promoting renewable energy and energy efficiency project
- Department of Industrial Works (DIW), Ministry of Industry : responsible for permission and auditing operation of industrial factory
- Industrial Estate Authority of Thailand (IEAT), Ministry of Industry : responsible for establishing and managing industrial estate
- National Metal and Materials Technology Center, Thailand (MTEC), Ministry of Science and Technology : responsible for calculation of carbon footprint and provide LCA database
- Iron and Steel Institute of Thailand (ISIT), an independent body established by the Ministry of Industry : responsible for promotion of competitiveness of the industry
- The National Municipal League of Thailand (NMT), an association of local government agencies including municipality, Pattaya City and Bangkok Metropolitan Administration under patronage of Ministry of Interior

3. Technical building blocks of market-readiness (1/6)

3.1 Taking stock of relevant sectors

Domestic emission trading is target in factories in industrial estate's areas, whereas, domestic VER crediting will be implemented in potential cities and carbon intensive industries. During the preparation phase, the potential cities and industries will be explored for the possibility and appropriateness of Thailand's circumstances. The selected cities and industrial sectors for implementation phase will be specified in the proposal.

Scoping activities that PMR support has been sought in the preparation phase including;

1. Setting up technical, policy, institutional/ legal frameworks of the mechanisms : to assign responsible agency and draft regulation,
2. Assessment and development : to design and development offsetting and trading system and linking/ unifying with other system, national registry system, data collecting system and emission reporting format and develop baseline methodology and validation and verification guidelines and assess potential of interested sectors
3. Stakeholder consultation : to conduct meetings to introduce the program to relevant entities and stakeholder across Thailand where appropriate throughout the project and to provide opportunities for key stakeholders to ask questions and provide feedback, comments, recommendation and relevant data. Stakeholder consultation will also help the selection of appropriate target to implement the pilot project.

3. Technical building blocks of market-readiness (2/6)

3.2 Assessment of readiness of Low carbon city (LCC) for Domestic VER crediting (1/3)

- Low carbon economy is part of the strategy of the Eleventh National Economic and Social Development Plan (2012-2016). GHG mitigation activities will be undertaken by relevant ministries and municipalities.
- Recently, low carbon city pilot projects were conducted at 3 cities e.g. Khonkaen (Khonkaen province), Klang (Rayong province) and Samui (Surat Thani province). Bangkok Metropolitan Administration (BMA) promotes utilization of municipal waste management for energy or fertilizer, etc. Thus, there is potential for institutional policies and action plans to push forward on developing low-carbon activities.
- Key barriers to implementation of domestic VER crediting in low carbon cities are lack of understanding, baseline of GHG emission data, methodology for quantifying the emission reduction as well as capital to investment and access to technology.
- Carbon credits obtained from the low carbon city program are planned to be a new target supply for the domestic carbon offset market. Carbon credit revenue will increase the capacity of the cities to reduce emission.

3. Technical building blocks of market-readiness (3/6)

3.2 Assessment of readiness of sample industry : Iron and steel industry for Domestic VER crediting (2/3)

- During year 2000 - 2004, GHG emission from Iron and Steel Production (2C1) is 6.65 – 16.73 Gg. Share of country's total emissions is very low since there is no upstream industry in Thailand. However, the introduction of smelting industry in 2009 following by other upstream processes which intensively consume electricity and fuel increases CO₂ emission from the industry.
- TGO has many attempts to prepare the readiness for the industry to reduce GHG emission and has close cooperation with Iron and Steel Institute of Thailand (ISIT) and National Metal and Materials Technology Center, Thailand (MTEC). In year 2010, carbon intensity of the iron & steel industry (tCO₂/t product) during year 2004-2008 and potential mitigation measures were studied and presented to stakeholders. TGO in cooperation with Korean Energy Management Corporation (KEMCO) has conducted a project named "Dissemination of Korea Voluntary Emission Reduction Program (KVER) to Thailand" for Sahaviriya Steel Industries Public Co., Ltd. to prepare the readiness of the industry to implement GHG mitigation measures. The project will train the staff how to prepare Project Design Document, validate the document, prepare monitoring report and verify the report.
- Key barriers to implementation domestic VER crediting in industrial sector are lack of understanding, baseline of GHG emission data, methodology for quantifying the emission reduction as well as capital and incentive to investment.

3. Technical building blocks of market-readiness (4/6)

3.2 Assessment of readiness of Industrial estate's areas for Domestic emission trading scheme (3/3)

- In year 2000, industrial process emitted 16.4 MtCO₂ which was 7.2% of country's total emissions.
- TGO has close cooperation with Industrial Estate Authority of Thailand (IEAT). Consultation meeting on possibilities to establish voluntary ETS with factories in the Map Ta Phut Industrial Estate, the biggest petrochemical/ petroleum complex in Thailand, was launched on November 22, 2010. No objection was found. Recommendations from the consultation are about the possibility of creating banking system to record the surplus allowances that each factory obtain from implementing mitigation action for future use and subsidies shall be granted to pilot factories since if there is no buyer, there will be no revenue from trading the allowances.
- ETS is a new concept for factories in the industrial estates, thus, lack of understanding and GHG emission data are key barriers for establishing baseline and setting up target/ cap and allowances.

3. Technical building blocks of market-readiness (5/6)

3.3 System for domestic measurement, reporting and verification (MRV)

Thailand plans to develop domestic and international MRV system. Domestic MRV system shall be designed in consideration of harmonization with international standards and meet the international requirements. Data from the MRV system is designed to link to the national GHG inventory database for continual updating the database.

Financial support for MRV will be granted by EU for setting up the institutional/ legal framework, designing data collection system, standardizing emission measurement, reporting, verification procedure and designing multi-level MRV system (national, city, corporate, project and product) covering different mechanisms (i.e. CDM, domestic VER crediting, emissions trading system) and capacity building to involved ministries, agencies and stakeholders.

3. Technical building blocks of market-readiness (6/6)

3.4 Institutional/legal components

- Currently, Thailand has no institutional/legal components for implementing other market mechanisms besides CDM. Major agencies responsible for collecting emissions data which must be taken into account are TGO which is in charge of national greenhouse gas inventory, Department of Alternative Energy Development and Efficiency (DEDE), Ministry of Energy which is in charge of reporting fuel consumption and electricity use and Electricity Generating Authority of Thailand (EGAT) which is in charge of generating electricity for the whole country.
- PMR support will be used for setting up institutional/legal components for architecture/design implementation of the mechanism, data collection, GHG and performance verification and issuance of assets. TGO which is the secretariat of National Committee on Climate Change will be the responsible authority of the program with support and cooperation from experts, relevant agencies and stakeholder. In the beginning, TGO will be expected to be the accreditor of verifiers, the accreditation panel will comprise of multiple relevant agencies and MASCI, Management System Certification Institute (Thailand), established by Ministry of Industry will be the first verifier.

4. Organization of work and estimated timeline (1/5)

4.1 Overview of organization of work/tasks envisioned for Preparation Phase to conduct the scoping of market readiness activities (1/4)

During the preparation phase, major activities that will be performed includes setting up technical, policy, institutional/ legal frameworks, assessment and development to design and develop necessary system, methodology, guidelines and assess potential of the interested sectors and stakeholder consultation throughout the project especially at the beginning and the end of the phase.

The designed framework, outcome of the assessment and development and comments from relevant entities and stakeholder will be used for selecting the appropriate market instruments and sectors that will be proposed for implementation in PMR proposal. The details of each activity are listed in the following Table. Market Readiness Proposal will be drafted before the last stakeholder consultation process and the complete proposal will be finished after the event.

4. Organization of work and estimated timeline (2/5)

4.1 Overview of organization of work/tasks envisioned for Preparation Phase to conduct the scoping of market readiness activities (2/4)

Activity	Domestic VER crediting	Domestic emission trading
Setting up technical, policy, institutional/legal frameworks	<ul style="list-style-type: none">• Review the existing legislation• Analyse gaps from policy planning to designing and implementation <ul style="list-style-type: none">• Assign responsible agencies and draft rules and regulations for the following building blocks :<ul style="list-style-type: none">- collecting emission data- <u>issuing credit</u>- verifying GHG reduction- accrediting the verifier- overseeing trading of <u>credit</u> and defining accounting rules and tax treatment for trading units	<ul style="list-style-type: none">• Assign responsible agencies and set up rules and regulations for the following building blocks :<ul style="list-style-type: none">- collecting emission data- <u>allocating or auctioning allowances</u>- verifying GHG reduction- accrediting the verifier- overseeing trading of <u>allowances</u> and defining accounting rules and tax treatment for trading units

4. Organization of work and estimated timeline (3/5)

4.1 Overview of organization of work/tasks envisioned for Preparation Phase to conduct the scoping of market readiness activities (3/4)

Activity	Domestic VER crediting	Domestic emission trading
Assessment and development	<ul style="list-style-type: none"> • Design and development of <ul style="list-style-type: none"> - offsetting system and linking/ unifying with other system - national registry system - data collecting system - emission reporting format - baseline methodology - validation and verification guidelines • Collect data to identify historical emissions and project future emissions • Assess mitigation potential, cost and domestic policy instruments • Set up baseline 	<ul style="list-style-type: none"> • Decide on the target/ cap of the potential industries • Design method of allocating and issuing allowances • Identify length of trading periods, price control measures, rules for new entrants and closure of installations, penalties in case of non-compliance and incentive policies and measure for participants.

4. Organization of work and estimated timeline (4/5)

4.1 Overview of organization of work/tasks envisioned for Preparation Phase to conduct the scoping of market readiness activities (4/4)

Activity	Domestic VER crediting	Domestic emission trading
conducting stakeholder consultation	<ul style="list-style-type: none">• Introduce the program to relevant entities and stakeholder across Thailand where appropriate throughout the project• receive feedbacks, comments, recommendation and relevant data	

5. Conclusions – Summary of market readiness priority areas for PMR support

The market instrument seeking for PMR support is ranked in order of priority as follows:

1. Domestic VER crediting
2. Domestic emission trading

PMR support are highly required in assessment and development step since the implementation of market instruments is impossible if there are no supporting system, methodology, guidelines. Data collection, which is necessary in this step, needs a lot of resources. If all proposed activities can be done in parallel, the possibility and appropriateness of each market instrument to Thailand's circumstances will be explored effectively.