Thailand’s Proposal on Policy Analysis Activities

Thailand Greenhouse Gas Management Organization (Public Organization): TGO

PMR Partnership Assembly March 2017
OUTLINE OF PRESENTATION

Thailand’s Policies on Climate Change

Policies and Plans on Carbon Pricing

Scope of Work and Proposed Activities

Budget, Timeline and Outputs

Expected Outcomes
Overview of Thailand’s Policies on Climate Change

**National Policy Framework**

- The 12th National Economic and Social Development Plan 2017-2021
- Government Policy of the Prime Minister General Prayut Chan-o-cha

**Ministry of Natural Resources and Environment**

- Climate Change Master Plan 2015 – 2050
- National Environmental Quality Management Plan 2017-2021

**National Plans on Environment & Climate Change**

**Ministry of Energy**
- Energy Efficiency Plan 2015-2036
- Alternative Energy Development Plan 2015-2036
- Power Development Plan
- Thailand Smart Grid Development Master Plan 2015-2036

**Ministry of Transport**
- Sustainable Transport System and Mitigation of Climate Change Impacts Master Plan 2013-2030

**Ministry of Industry**
- National Industrial Development Master Plan 2012-2031

**Ministry of Agriculture and Cooperative**
- Agricultural Climate Change Strategy and Action Plan

**National Sectoral Plans**

- Ministry of Energy
- Ministry of Transport
- Ministry of Industry
- Ministry of Agriculture and Cooperative
The baseline emission is projected from BAU scenario from reference year 2005 in the absence of major climate change policies which is **555** MtCO$_2$e.

The assumptions align with social and economic development direction.

The projected Thai GDP growth during 2014-2036 expected to grow on the average of 3.94 percent annually and population growth rate (data of 2014) is 0.03 percent annually.
“On Thailand’s part, we reaffirm our commitment under the INDCs to reducing our greenhouse gas emissions between 20 and 25* percent by the year 2030”

Statement by H.E. General Prayut Chan-o-cha (Ret.)
Prime Minister of the Kingdom of Thailand
at General Debate 70th Session of the United Nations General Assembly in New York, 29 September 2015

Thailand communicated its INDC to the UNFCCC on October 1st, 2015.

*Subject to adequate and enhanced access to technology development and transfer, financial resources and capacity building support through a balanced and ambitious global agreement under the UNFCCC.
Thailand recognizes the important role of market-based mechanisms to enhance the cost effectiveness of mitigation actions, and therefore will continue to explore the potentials of bilateral, regional and international market mechanisms as well as various approaches.

The time frame of INDC implementation is 2021-2030.

Coverage: Economy-wide (Inclusion of land use, land-use change and forestry will be decided later)
The Office of Natural Resources and Environmental Policy and Planning (ONEP) which is Thailand’s national focal point to the UNFCCC, has been developing the NDC roadmap since 2016 in parallel with the study on mitigation potential in agriculture.

The draft NDC roadmap had been approved by the National Committee on Climate Change Policy (NCCC) on February 10, 2017.

Source: ONEP, 2017
NDC Roadmap

Source: ONEP, 2017
The NDC roadmap covers three sectors including energy and transport, waste and IPPU.

The plans to meet mitigation in NDC covers:
- Power Development Plan, 2015-2036
- Thailand Smart Grid Development Master Plan, 2015-2036
- Energy Efficiency Plan, 2015-2036
- Alternative Energy Development Plan, 2015-2036
- Master Plan for Sustainable Transport System and Mitigation of Climate Change Impacts, 2013-2030
- National Industrial Development Master Plan, 2012-2031
- Waste Management Master Plan, 2016 – 2021
- Environmental Quality Management Plan, 2017 – 2021
- Montreal Protocol Implementation
- RAC NAMA Project

Source: ONEP, 2017
Mitigation Potential under the NDC roadmap

**Energy and Transport Sectors**

- Renewable energy in households
- Increase energy efficiency in households
- Renewable energy generation
- Increase power generation efficiency
- Increase energy efficiency in transport
- Promote biofuels
- Increase energy efficiency in buildings
- Renewable energy in industry
- Increase industrial energy efficiency

**Waste Sector**

- Solid waste management
- Industrial wastewater management
- Municipal wastewater management

**IPPU**

- Clinker substitution
- Replacement of refrigerants

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Reduction Potential

- **Energy and Transport Sectors**: 113 MtCO₂e
- **Waste Sector**: 2 MtCO₂e
- **IPPU**: 0.6 MtCO₂e
Overview of Thailand’s Policies on Climate Change

The 12th National Economic and Social Development Plan 2017-2021

Government Policy of the Prime Minister General Prayut Chan-o-cha

Climate Change Master Plan 2015 – 2050

Ministry of Natural Resources and Environment

National Plans on Environment & Climate Change

National Policy Framework

Ministry of Energy
- Energy Efficiency Plan (EEP)2015-2036
- Alternative Energy Development Plan (AEDP) 2015-2036
- Power Development Plan (PDP2015) 2015-2036

Ministry of Transport
- Environmentally Sustainable Transport System Plan 2013-2020

Ministry of Industry
- National Industrial Development Master Plan 2012-2031

Ministry of Agriculture and Cooperative
- Agricultural Climate Change Strategy and Action Plan

Ministry of Natural Resources and Environment
- National Environmental Quality Management Plan

Ministry of Industry
- National Industrial Development Master Plan 2012-2031

Ministry of Agriculture and Cooperative
- Agricultural Climate Change Strategy and Action Plan
The policy decision and national direction on supporting the activities relating to carbon pricing instruments can be seen in the National Economic and Social Development Plans (NESDP) and Climate Change Master Plan (CCMP).

• The 12th NESDP (2017-2021) focuses on development of GHG mitigation mechanisms/measures to reduce GHG emissions in all sectors, promoting the establishment of financial mechanisms to support climate change implementation which will be benefit to both public and private sector such as market-based mechanisms and carbon tax and the revision of law/legislation and city infrastructure development to move towards the environmentally friendly and low carbon city.
Thailand’s Climate Change Master Plan (2015-2050) focuses on the development of climate change implementation supporting mechanism
1) Climate change adaptation supporting mechanism
2) Low carbon development mechanism
3) Relevant agencies driving mechanism.

Activities which will be implemented for low carbon development mechanism:

- The study of cost effectiveness on different GHG mitigation measures including carbon tax, financial and tax incentives, carbon fund establishment and carbon market development which can link with international market, cap-and-trade system, technology-based standard setting etc.
- Development of GHG mitigation mechanisms/measures/instruments to reduce GHG emissions in the country effectively.
- Promotion of low carbon and green investment in the industrial sector by offers a range of incentives.
Thailand recognizes the important role of market-based mechanisms to enhance the cost effectiveness of mitigation actions, and therefore will continue to explore the potentials of bilateral, regional and international market mechanisms as well as various approaches.

- The growing attention to use market-based instruments and economic incentives to achieve emission reduction objectives as well as to move further on the path of green low-carbon growth are evident in strategic document and measures already adopted.

- The countries have employed implicit carbon pricing instruments such as Feed-in tariff (FiT) to promote renewable energy deployment and vehicle taxes based on the vehicle’s emission performance.
Readiness gap on carbon pricing design and implementation

1. Technical and knowledge/data gap

- There is no study directly related to the assessment of readiness gaps for INDC/NDC implementation and carbon pricing instruments.

- Thailand Greenhouse Gas Management Organization (TGO) has conducted a study to examine economic impacts of applying the cap-and-trade system to Thai economy, compared to those of alternative schemes which comprise of imposing only the cap on the highly GHG emitting sectors and carbon tax. The Dynamic Computable General Equilibrium model has been constructed and utilized as the main methodology.

- However, the model conducted previously was primarily focused on economic impact. Other policy questions remain to be addressed to inform decision makers and stakeholders at both national and sectoral level especially in terms of policy linkages/integrations and sectoral impact.
Readiness gap on carbon pricing design and implementation

2. Readiness of stakeholders in the public and private sector

Carbon pricing is considered a new initiative in Thailand, and stakeholders are not familiar with how the instruments will work, potential costs and benefits, and how/who the policies will impact.
**Scope of Work and Proposed Activities**

“Impact of carbon pricing instruments on national economy and contribution to NDC”

**Objective**

To provide policy recommendations on the suitable policy option on carbon pricing instrument to support country in achieving Thailand’s NDC mitigation goals and policy impacts on stakeholders.

**The activities proposed for PMR additional support comprises of 3 activities;**

(i) **Economic Modeling** of carbon pricing instruments including carbon tax, ETS and crediting mechanism to contribute to Thailand’s NDC mitigation goal;

(ii) **Modeling and Analytical Work** aimed at identifying an interaction between the carbon pricing policy and existing national and sector policies and;

(iii) **Capacity Building and Dissemination** of the knowledge and understanding of the effectiveness of the carbon pricing instruments for the mitigation goal achievements.
**Activity 1: Economic modeling and scenario analysis of carbon pricing instruments**

**Key questions and issues expected to be answered from the study:**

- How carbon pricing contribute to the achievement of Thailand’s NDC mitigation goals?

- What’s the role of carbon pricing instruments among other national and sector policy options? Is it a priority?

- If carbon pricing has a key role to play, what’s the most appropriate policy instrument? Assessing between ETS and Carbon tax, other implicit carbon pricing policies to look at?

- What are the negative impacts of the carbon pricing instruments on Thai economy and industrial competitiveness and others and how to mitigate or remove such negative impacts? How can the effect of carbon pricing instruments be transformed and sustainable?
Scope of Work and Proposed Activities

Activity 1: Economic modeling and scenario analysis of carbon pricing instruments

Elements to include in modeling/analytical works:

- **Scenario analysis** (including the political economy analysis) of carbon pricing instruments including carbon tax, ETS and crediting mechanism

- **Measuring cost-effectiveness** of carbon pricing instruments (USD/tonne of CO₂)

- **Modeling the impact** of the use of carbon pricing on:
  - Macro-economic impact including key indicators
    (e.g. GDP growth, competitiveness, employment, social welfare)
  - Competitiveness of industrial sector
  - Fiscal impact (e.g. tax revenue)

- **Quantifying co-benefits**
Scope of Work and Proposed Activities

Activity 1: Economic modeling and scenario analysis of carbon pricing instruments

Policy recommendations should include:

- Potential quantity of emission reduction from carbon pricing instruments and contribution to NDC
- What are the proper carbon pricing instruments for Thailand? Or which instruments are suitable for which sector?
- Priority sectors to focus on to meet the NDC mitigation targets
- Economic and political impact of using carbon pricing instrument and how negative impacts (if any) will be removed or mitigated
- Measuring cost-effectiveness of carbon pricing instruments and compare with other policy options to highlight the priority of carbon pricing
- Quantified co-benefits of carbon pricing instruments recommended
- Roadmap to carbon pricing (prioritization and timing, readiness of high-priority sectors)

Outputs: (i) Economic model; (ii) Analytical report including analysis and recommendations
Scope of Work and Proposed Activities

Activity 2: Interaction and consistency between the country’s ETS/carbon tax and national existing policies and regulations

Key questions and issues expected to be answered from the study:

- What are the impact/implications of carbon pricing instruments on energy, waste, IPPU and agriculture sector policies?

- How to apply the proposed carbon pricing instrument from Activity 1 in these sectors to keep consistency with existing plan/policies and regulations and contribute to the achievement of such sector goals?

Output: Analysis report
Activity 3: Support to cross-sectoral, inclusive policy development and dialogue for the carbon pricing instruments

Technical capacity building

Aim to enhance technical capacity and knowledge of government’s technical staff in employing modeling to improve mitigation planning and linking the carbon pricing instruments with other policies.

Policy development consultation

- Inform technical policy discussion with regards to the suitability of carbon pricing in the Thai context.
- Focus on government’s agencies and stakeholders directly involved in carbon pricing.

Support broad evidence-based policy discussion

Support evidence-based policy dialogue with stakeholders such as private sector (power producers, industries, etc.) and civil society to build broad-based support for carbon pricing instruments.

Output: Trainings, workshops, dissemination materials, understanding of relevant ministries and key stakeholders on role of carbon pricing instruments in supporting NDC achievement.
The proposal was considered and approved by the PMR Steering Committee which comprises of the representatives of relevant ministries and agencies including:

- Department of Alternative Energy Development and Efficiency, Ministry of Energy
- Department of Industrial Works, Ministry of Industry
- Department of Local Administration, Ministry of Interior
- Fiscal Policy Office, Ministry of Finance
- Department of Public Debt Management Office, Ministry of Finance
- Office of Natural Resources and Environmental Policy and Planning, Ministry of Natural Resources and Environment
- National Municipal League of Thailand
- The Federation of Thai Industries
- Thailand Greenhouse Gas Management Organization

The proposed activities will be conducted jointly with the Office of the National Economic and Social Development Board which is national planning agency, the Office of Natural Resources and Environmental Policy and Planning and TGO.
How PMR support will be helpful?

- Thailand intends to reduce greenhouse gas emissions economy-wide by 20 percent from the projected business-as-usual (BAU) level by 2030.

- Carbon pricing has the potential to play an important role however in-depth and comprehensive study which can address technical, economic, financial and political concern will be critical to inform the government on the exact role of carbon pricing in the NDC mitigation goals and in supplementing sectoral measures that have been laid out in the NDC Roadmap.

- The results from the study will enable us to propose political option to policy makers through the National Committee on Climate Change Policy (NCCC) which chaired by the Prime Minister for deciding the suitable carbon pricing instrument in order to support the NDC mitigation target after 2020.
# Budget, Timeline and Outputs

<table>
<thead>
<tr>
<th>Activity</th>
<th>Output(s)</th>
<th>Time required for completion</th>
<th>Estimated completion date</th>
<th>Overall budget (in USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activity 1: Economic modeling and scenario analysis of carbon pricing instruments</strong></td>
<td>Policy recommendations on the suitable policy option on carbon pricing instrument to support country in achieving NDC and policy impacts on stakeholders.</td>
<td>6 months</td>
<td>December 2017 (July -December 2017)</td>
<td>250,000</td>
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<tr>
<td><strong>Activity 2: Interaction and consistency between the country’s ETS/carbon tax and national existing policies and regulations</strong></td>
<td>Analysis report on interaction and consistency between the country’s ETS/carbon tax and national existing policies and regulations</td>
<td>5 months</td>
<td>March 2018 (November 2017-March 2018)</td>
<td>180,000</td>
</tr>
</tbody>
</table>
| **Activity 3: Support to cross-sectoral, inclusive policy development and dialogue for the carbon pricing instruments** | - Understanding of relevant ministries and key stakeholders on role of carbon pricing instruments in supporting NDC achievement.  
- Capacity of relevant staff on modeling capacity and application of modeling.  
- Policy development consultation  
- Support broad evidence-based policy discussion | 9 months                    | December 2018 (April-December 2018)           | 70,000                  |

**Total estimated budget (in USD)**: 500,000
### Activity 1: Economic modeling and scenario analysis of carbon pricing instruments

- **2017**: July, August, September, October, November, December
- **2018**: January, February, March, April, May, June, July, August, September, October, November, December

### Activity 2: Interaction and consistency between the country’s ETS/carbon tax and national existing policies and regulations

- **2017**: July, August, September, October, November, December
- **2018**: January, February, March, April, May, June, July, August, September, October, November, December

### Activity 3: Support to cross-sectoral, inclusive policy development and dialogue for the carbon pricing instruments

- **2017**: July, August, September, October, November, December
- **2018**: January, February, March, April, May, June, July, August, September, October, November, December
Expected Outcomes

- The NCCC’s decision on the carbon pricing instrument suitable to Thailand based on the policy recommendations on the suitable policy option on carbon pricing instrument.

- Inclusive carbon pricing policy development with participation from stakeholders.

- Policy makers are informed about the contribution of carbon pricing instruments to Thailand’s NDC mitigation goals and its economic impact.

- Increased technical capacity and better understanding on modeling and carbon pricing.
Thank you | Kob-Koon-ka

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