

# Current Status and Next Step for Thailand's Nationally Appropriate Mitigation Actions (NAMAs), BUR and MRV



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(Public Organization)  
Thawatchai Somnam



# Presentation outline

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## I. Implications of “Nationally Appropriate Mitigation Actions” (NAMAs)

NAMAs/Pledge

NAMAs Implementation

## II. NAMAs/Pledge by other developing countries

## III. Preparation for Thailand’s NAMAs

## IV. BURs preparation

### ▶ GHG Reporting

## V. MRV institutional arrangement

## VI. Barriers/Challenge & Opportunity on NAMAs and MRV and Expectations for International Supports

# I. “Nationally Appropriate Mitigation Actions” (NAMAs)

## **COP 13 in Bali, Indonesia**

Decision 1/CP.13 *Para. 1 b(ii)* Nationally appropriate mitigation actions (NAMAs) **by developing country Parties** in the context of sustainable development, **supported and enabled** by technology, financing and capacity building, **in a measurable, reportable and verifiable manner**;

## **COP 16 in Cancun, Mexico**

Decision 1/CP.16 *Para. 48* **Agrees** that developing countries **will take Nationally Appropriate Mitigation Actions** in the context of sustainable development, **supported & enabled** by technology, financing and capacity building, **aimed at achieving a deviation in emissions relative to business as usual emissions in 2020.**

Decision 1/CP.16 *Para. 50* **Invites** developing countries **that wish to voluntarily inform the COP of their intention to implement NAMAs** in association with this decision to submit information on those actions to the secretariat;

NAMAs/Pledge

# COP : Inviting developing country Parties to inform the COP of their intention to implement NAMAs... still continued

2010

## COP 16 in Cancun, Mexico

Decision 1/CP.16 *Para. 50* **Invites** developing countries **that wish to voluntarily inform the COP of their intention** to implement NAMAs in association with this decision to submit information on those actions to the secretariat;

NAMAs/Pledge

2011

## COP 17 in Durban, South Africa

Decision 2/CP.17 *Para. 32* **Encourages** developing country Parties **that are yet to submit information** on NAMAs pursuant to decision 1/CP.16, para. 50, to do so,...

NAMAs/Pledge

2012

## COP 18 in Doha, Qatar

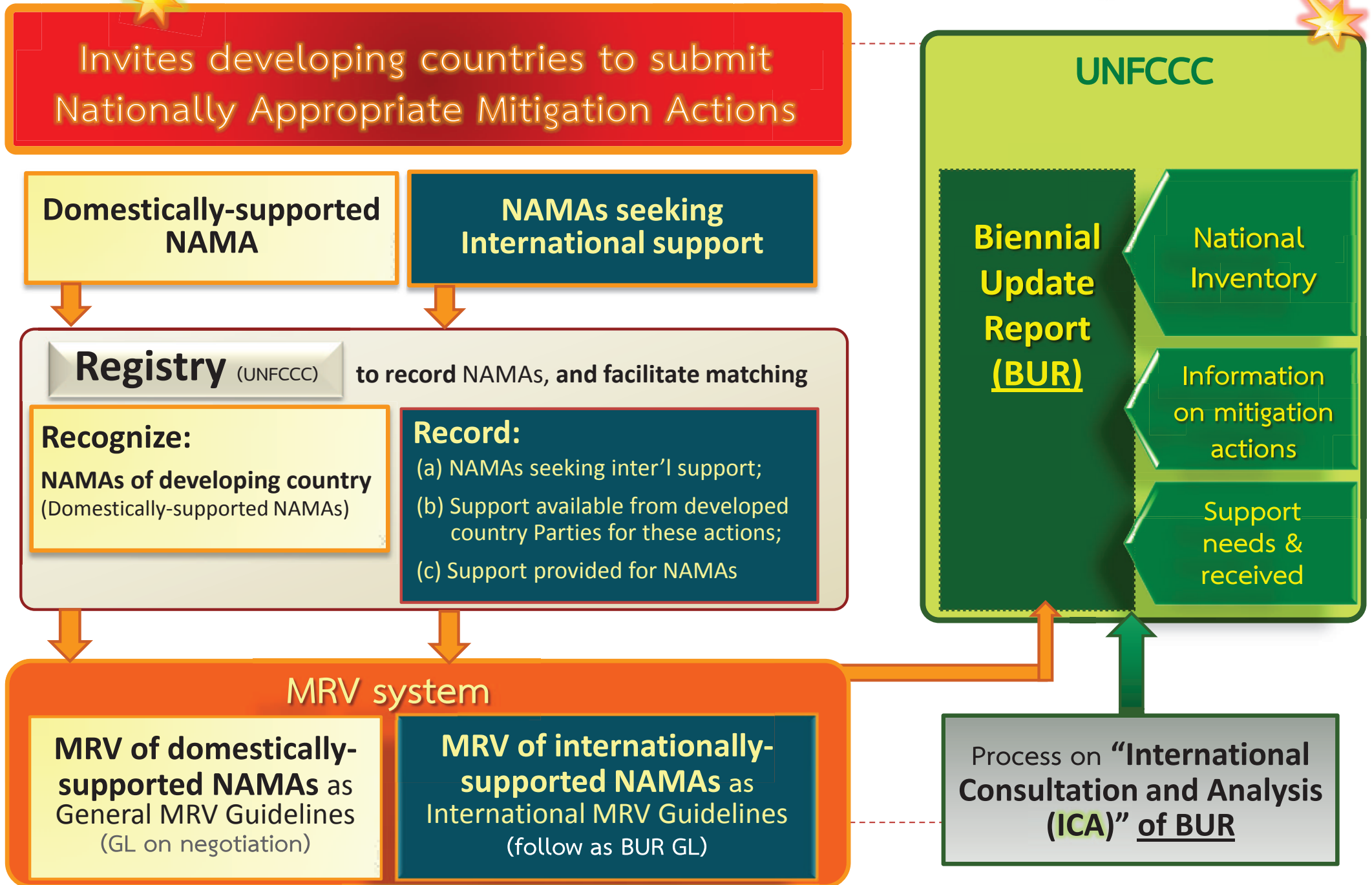
Draft Decision -/CP.18 *Para. 16* **Reiterates** its invitation to developing country Parties **that wish to voluntarily inform the COP of their intention to implement NAMAs** in association with decision 1/CP.16, para. 50, to submit information on those actions to the secretariat;

NAMAs/Pledge



# NAMAs Negotiation

## Enhance mitigation and Enhance reporting



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## II. “NAMA/Pledges” by other developing countries

### ▶ Pledge Formation ◀



# NAMA/Pledges by other developing countries

- ▶ **55 developing countries\*** have voluntarily informed/submitted their information on NAMAs to UNFCCC secretariat (as of 2013)
- ▶ **NAMAs/Pledge and its description are various in forms**  
**For example** Mitigation goals; Strategies/ Plan; Policy/ Program/ Project

\*Source : UNFCCC

- FCCC/AWGLCA/2011/INF.1
- FCCC/AWGLCA/2012/MISC.2
- FCCC/AWGLCA/2012/INF.2

## NAMAs by some developing countries

Country	NAMAs/Pledges
China	Lower CO <sub>2</sub> emissions per unit of GDP by 40 - 45% by 2020 compared to the 2005 level
India	Reduce the emissions intensity of its GDP by 20-25% by 2020 in comparison to the 2005 level
Brazil	Reduce emissions by 36.1% - 38.9% <u>below BAU</u> by 2020
Mexico	Reduce emissions by 30% <u>below BAU</u> in 2020.
Korea	Reduce emissions by 30% <u>below BAU</u> by 2020
South Africa	Reduce emissions by 34% <u>below BAU</u> by 2020
Chile	Achieve a 20% deviation <u>below BAU</u> emission growth trajectory by 2020





## NAMAs by ASEAN countries

Country	NAMAs/Pledge
Indonesia	Reduce emissions by 26% by 2020
Cambodia	Cambodia has been implementing a pilot project <b>within the framework of Reducing Emissions from Deforestation and Forest Degradation in Developing countries (REDD) since 2009</b> , as part of its responsibility in tackling climate change
Singapore	Reduce emissions by 16% below BAU by 2020
Brunei Laos Malaysia Myanmar Philippines Thailand Viet Nam	<b><u>Not yet submitted NAMA</u></b>

## NAMAs by Least developed countries

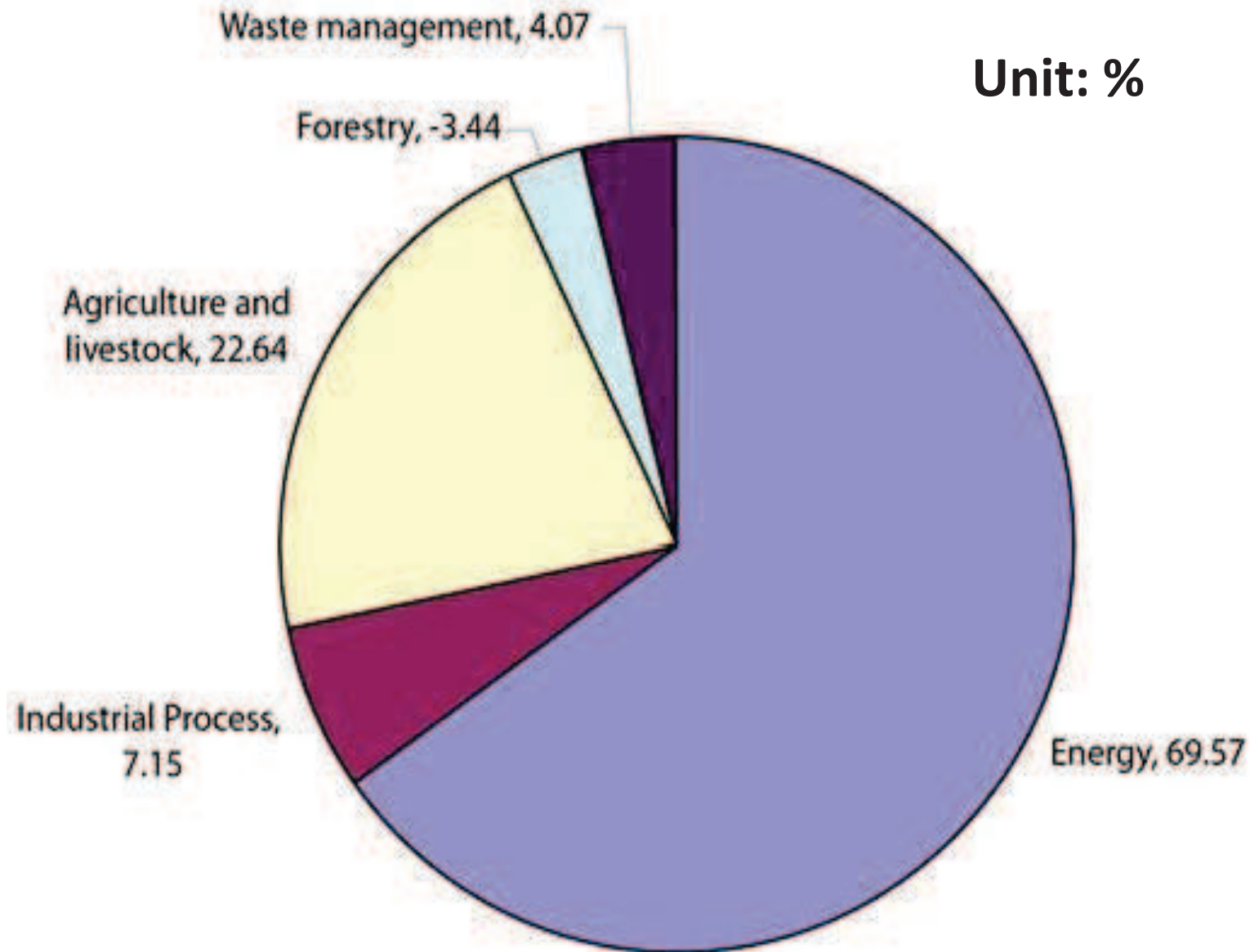
Country	NAMAs/ Pledge
Maldives	Achieve <b>carbon neutrality</b> <u>as a country</u> by 2020.
Afghanistan	<ul style="list-style-type: none"> <li>● Preparation of the <b>Initial National Communication</b>, which will include <b>specific mitigation strategies and activities</b> appropriate for the national context;</li> <li>● Compilation of <b>National GHG Inventory</b></li> </ul>
Ethiopia	Plans to implement the following NAMAs by 2020:

# III. Preparation for Thailand's NAMAs/Pledge



# GHG MITIGATION IN THAILAND

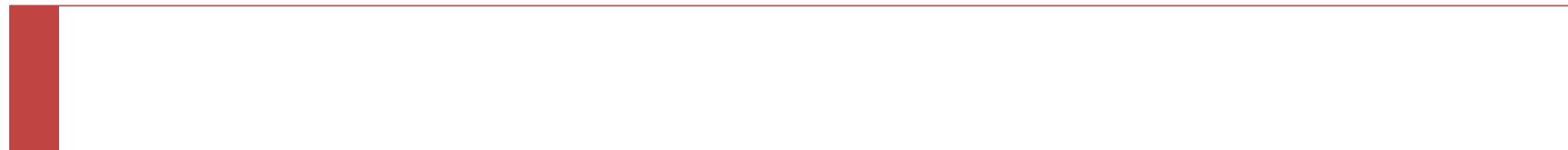
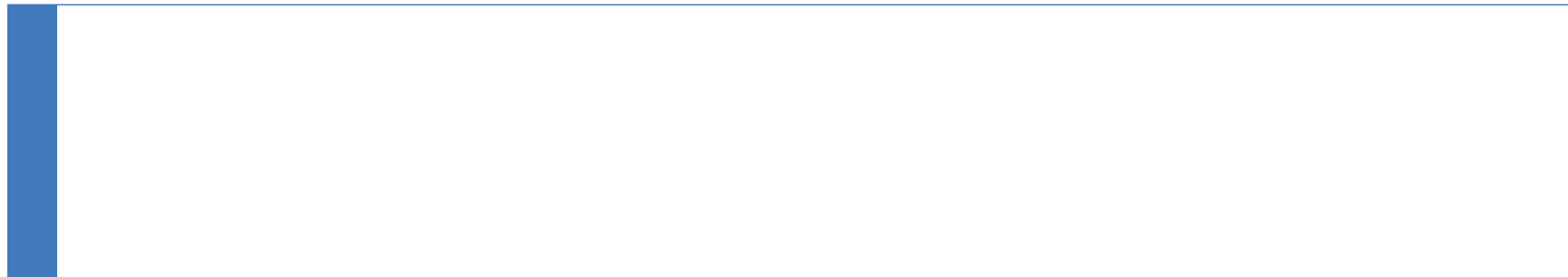
## Thailand's GHG emissions by sources in 2000



# ENERGY POLICY IN THAILAND

## Energy Policy related to GHG Mitigation in Thailand

1. Energy Security
2. RE Strategies
3. EE Strategies



# CRITERIA FOR DOMESTIC AND INTERNATIONALLY SUPPORTED NAMAS

## Criterion to CO<sub>2</sub> countermeasures

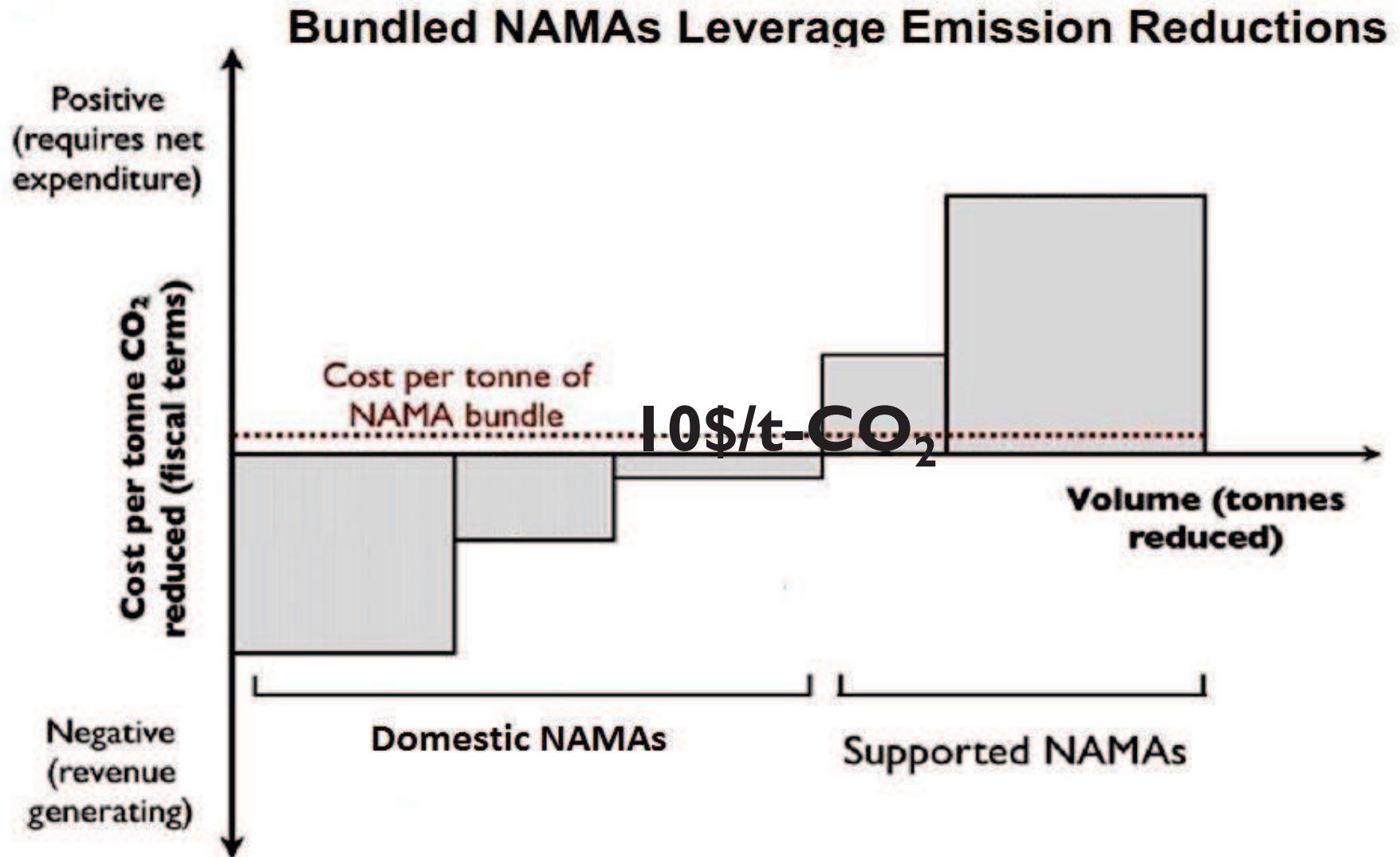
**Marginal Abatement Cost (MAC)**

or

**Incremental Abatement Cost (IAC)**



# Domestic vs. Internationally Supported NAMAs



## **NAMA Analysis Tool**

- ▶ Optimization tool for GHG mitigation options

**AIM/EndUse** (academic/research) or

**MARKAL** (commercial)

## **AIM = Asia-pacific Integrated Model**

**AIM/EndUse** has been developed by **National Institute for Environmental Studies (NIES)**, JAPAN for analyses of energy and environment issues.

**Outputs: Final Energy, Economics-MAC, Environment-CO<sub>2</sub>**

# CRITERIA FOR DOMESTIC AND INTERNATIONALLY SUPPORTED NAMAs

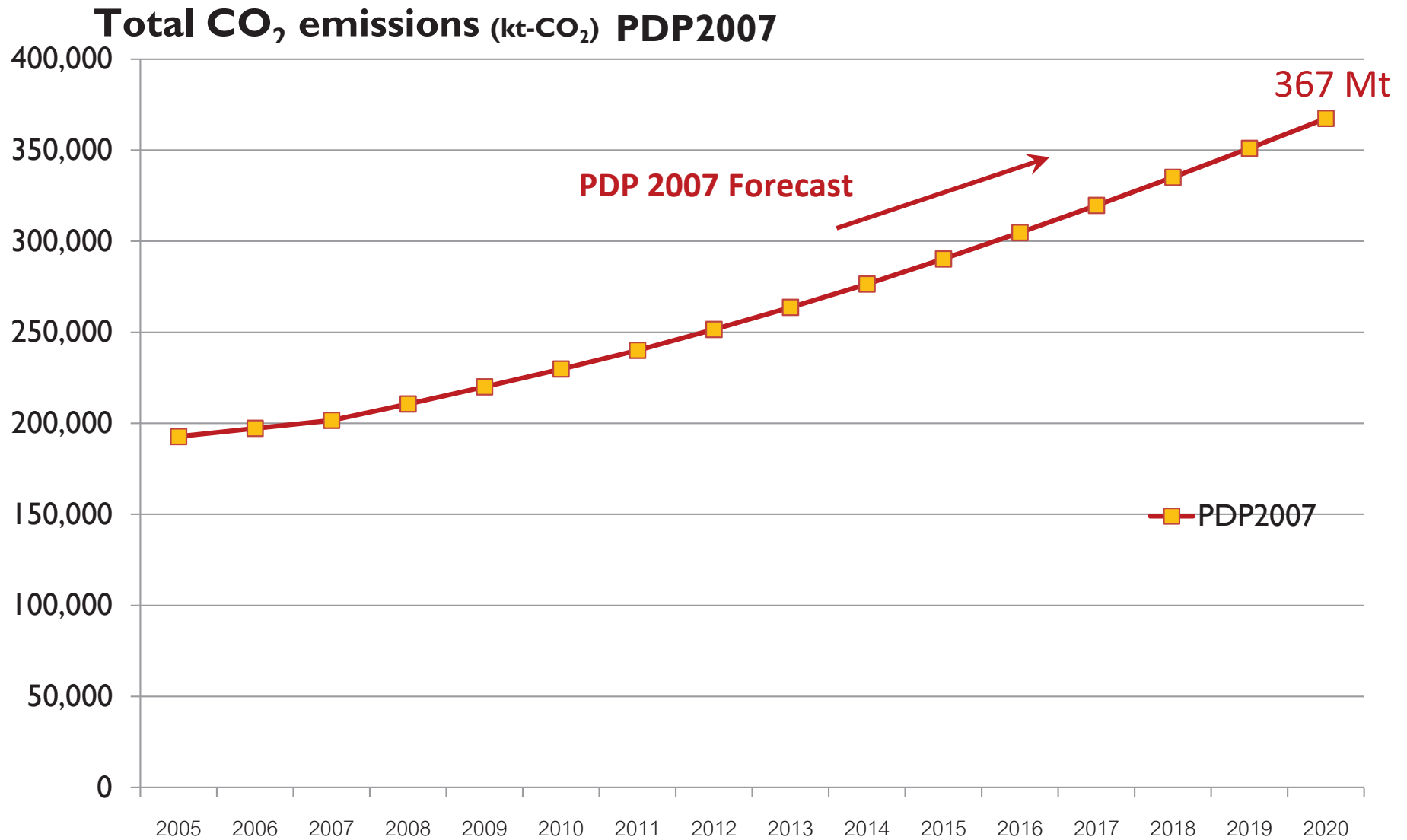
## Domestic NAMAs

- Energy efficiency and other low-cost mitigation activities
- Policies to overcome barriers
- Limited needs for external finance and technology

## Internationally Supported NAMAs

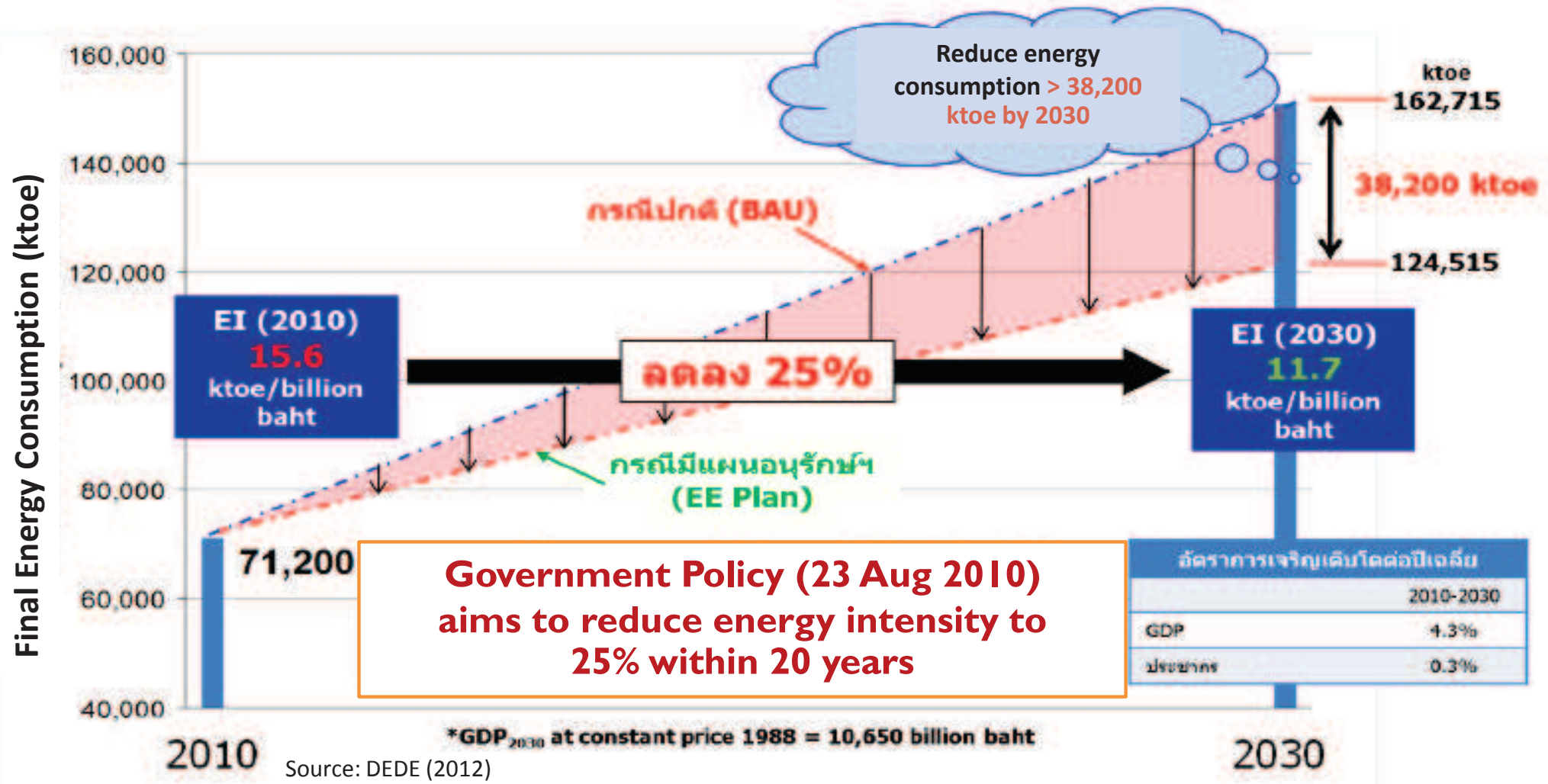
- Finance and/or technology support from Annex I countries
- Need MRV

# CO<sub>2</sub> Emissions in the BAU 2020



# Energy policies in Thailand : EE

## Energy Efficiency Plan 2010-2030 (20 Years Plan)





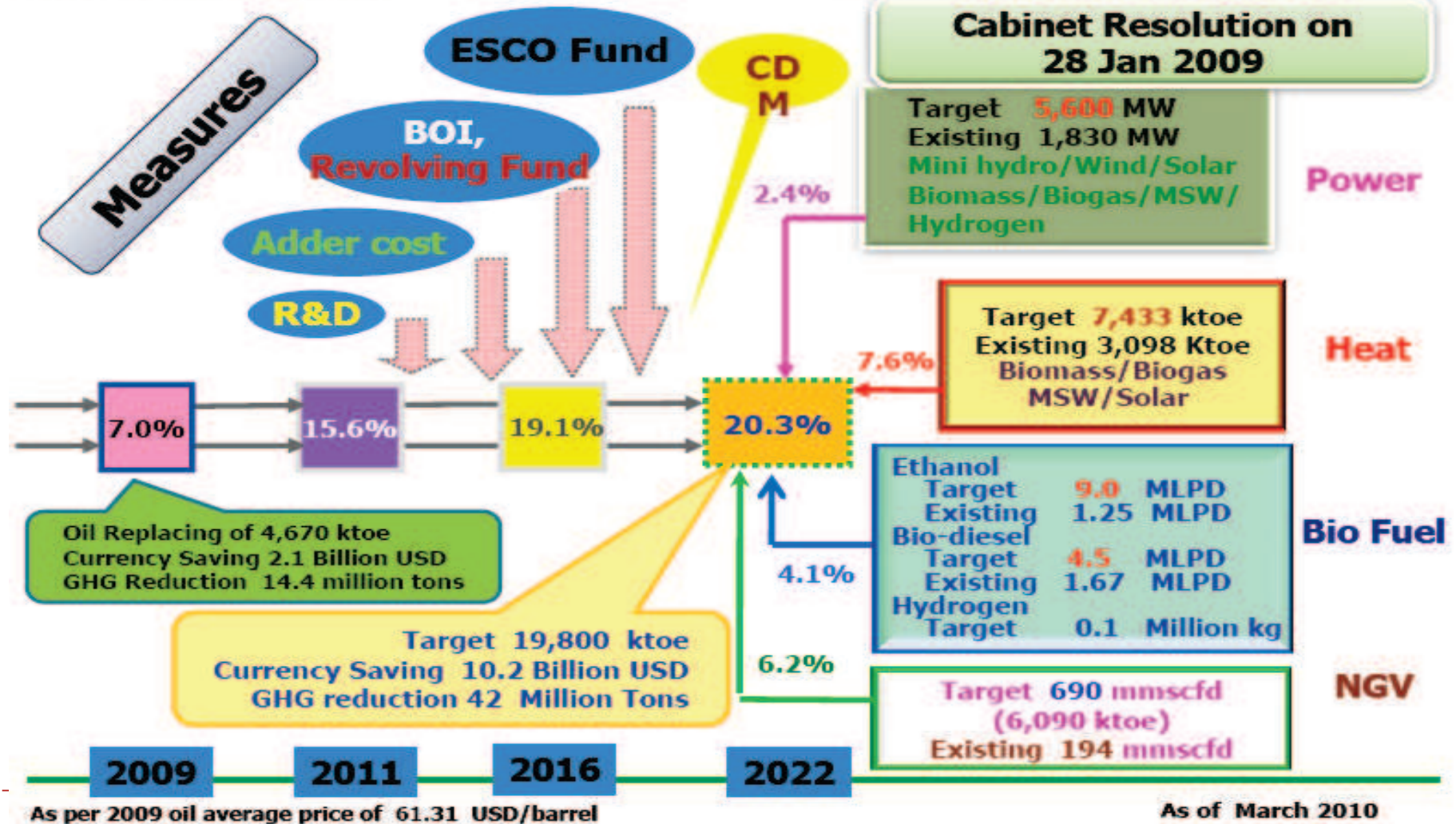
# Energy policies in Thailand : RE

## Renewable Energy Development Plan 2008-2022

Department of Alternative Energy Development and Efficiency  
MINISTRY OF ENERGY

### Alternative Energy Development Plan 2008-2022

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# **Potential of CO<sub>2</sub> Mitigation in NAMAs**

(แผนแม่บทฯ สนข คมนาคม)

## **Environmental Sustainable Transportation by Office of Transport and Traffic Policy Planning**

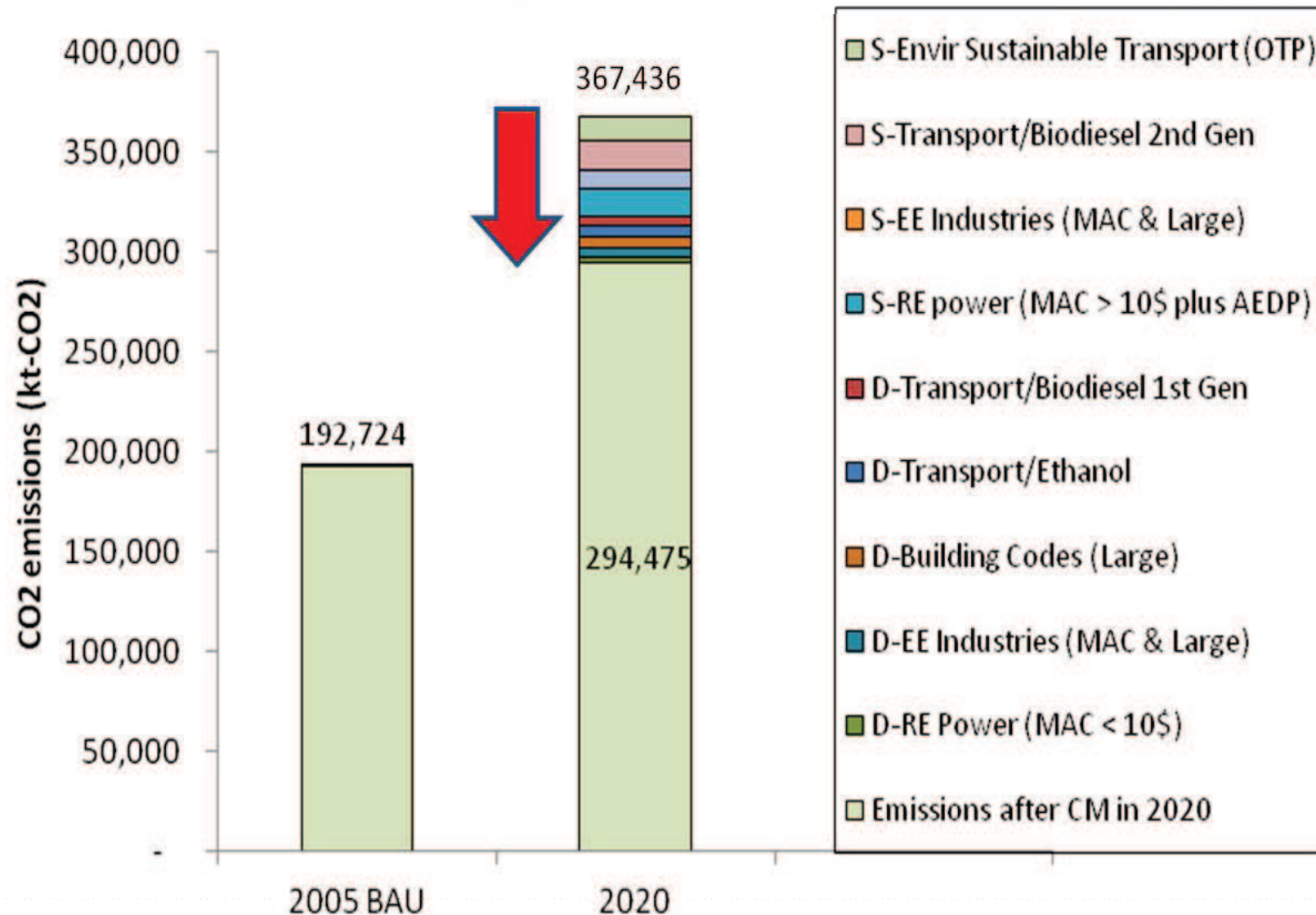
- Modal shift
- Fuel economy improvement
- Sustainable transport system
- etc

## Potential of CO<sub>2</sub> mitigation in 2020 Transport sector

NAMAs	CO <sub>2</sub> Countermeasures	CO <sub>2</sub> reduction in 2020 (kt-CO <sub>2</sub> )
Supported NAMAs	Envir Sustainable Transport	12,000
	<i>Sub-total</i>	<i>12.0 Mt-CO<sub>2</sub></i>
<b>Total Supported NAMAs</b>		<b>12.0 Mt-CO<sub>2</sub></b>

# Scenarios of CO<sub>2</sub> Mitigation in Thailand NAMAs

success rates: 100% D-NAMA & 100% S-NAMA



# Next Step

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## Q: NAMAs/Pledge ?

- ▶ Pledge/NAMAs
  - ▶ Economy-wide (across all sectors) eq. China, India
  - ▶ Sector-based; National-programme-based eq. Indonesia, Brazil
  - ▶ Hybrid

## Q: NAMAs/Pledge benefits?

- ▶ Financial, Technological, and Capacity Building Supports including creating market opportunity for CDM projects



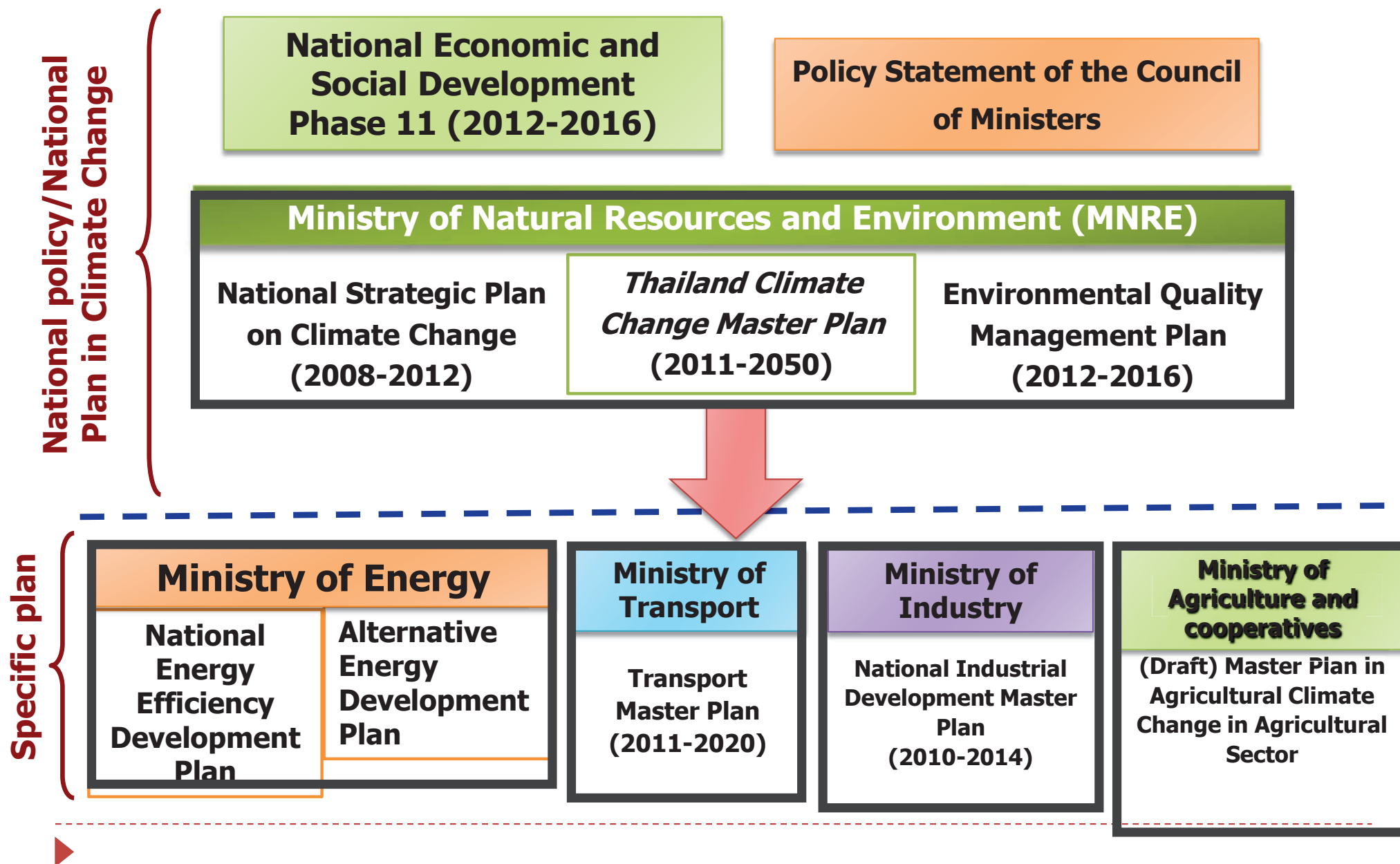
# VI : BUR Preparation

## ▶ GHG Reporting :

- ▶ National Inventory on (2014)
- ▶ Information on Mitigation actions
- ▶ Support needs & received



# V: MRV institutional arrangement



# Elements and governance of MRV

Authorization of Ministry of Natural Resources and Environment (MNRE)



Ministry of Natural Resources and Environment



**Office of Natural Resources and Environmental Policy and Planning (ONEP)**

Office of Climate Change Coordination

- ONEP has been appointed as the national focal point for UNFCCC and the Kyoto Protocol

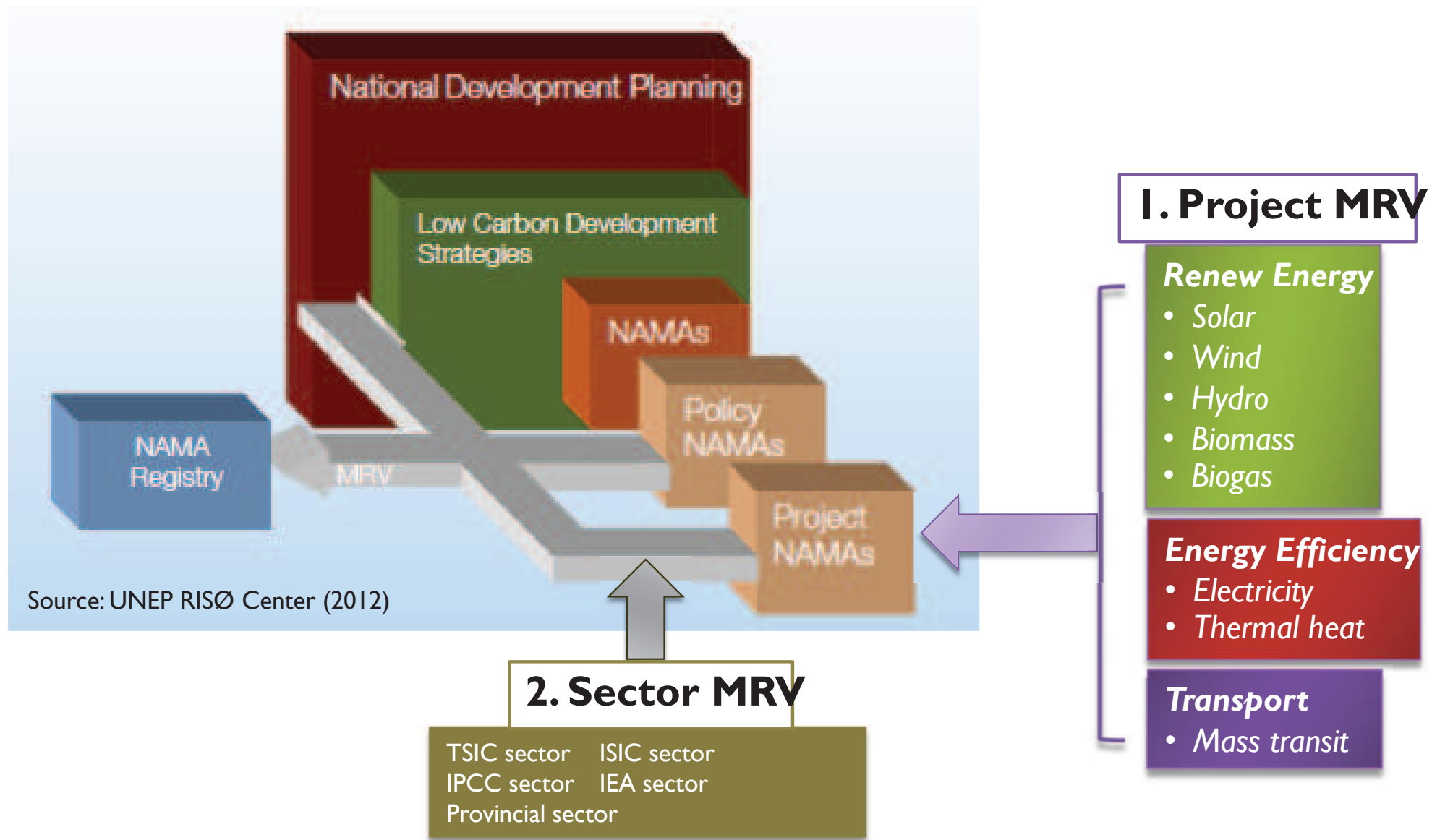


**Thailand Greenhouse Gas Management Organization (Public organization) (TGO)**  
**DNA-CDM office**

- Analyzing and screening the CDM projects for issuance of the Letter of Approval and monitoring the projects;
- Promoting CDM projects and the CER Market;
- Greenhouse Gas Information Centre;
- Managing information regarding the approved CDM projects;
- Providing capacity building for government and private sectors on GHG management;
- Promoting and supporting all activities related to climate change mitigation.

# Level of MRV

TGO is now developing 2 levels of MRV :  
1. Project level; and  
2. Sector level



# Level of MRV

## - MRV at National Level

MRV to the GHG Inventory, or MRV to the national plan (e.g. National energy efficiency plan) which may directly impact to legal and institutional framework structure.

## - MRV at Sector level (Sector-based MRV)

Sector based MRV is very important and directly related to GHG emission reduction in sector. Baseline and sectoral data gathering would be key issue in sectoral level (e.g. MRV in cement industry sector, transport sector)

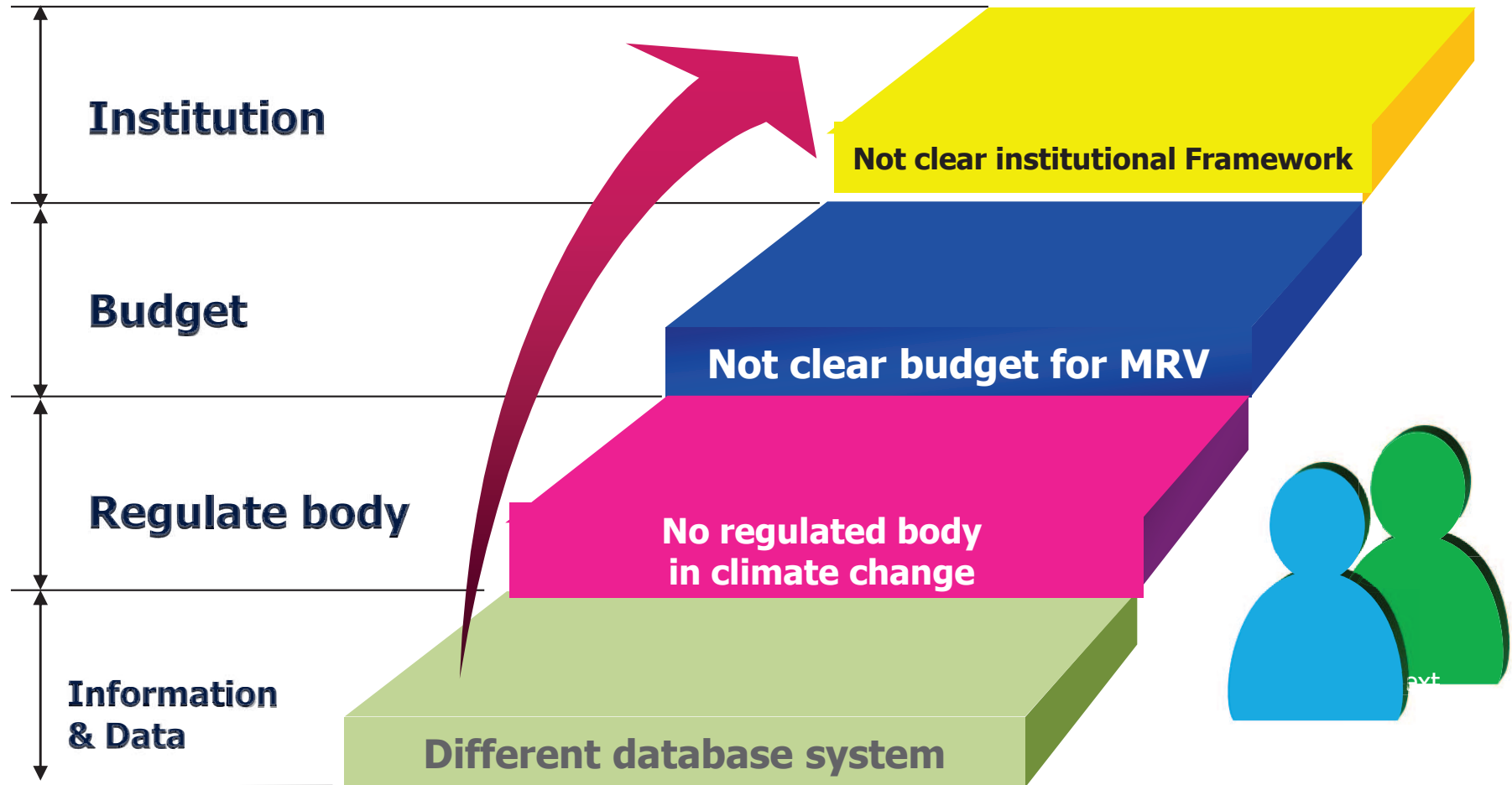
## - MRV at project level (Project-Based MRV)

To measure, report and verify the GHG emission reduction in each individual project;

- Renewable energy project; e.g. biomass power plant
- Energy efficiency improvement project; e.g. retrofit the lighting system.



# Problems for Sector-based MRV





## *MRV– Project based*

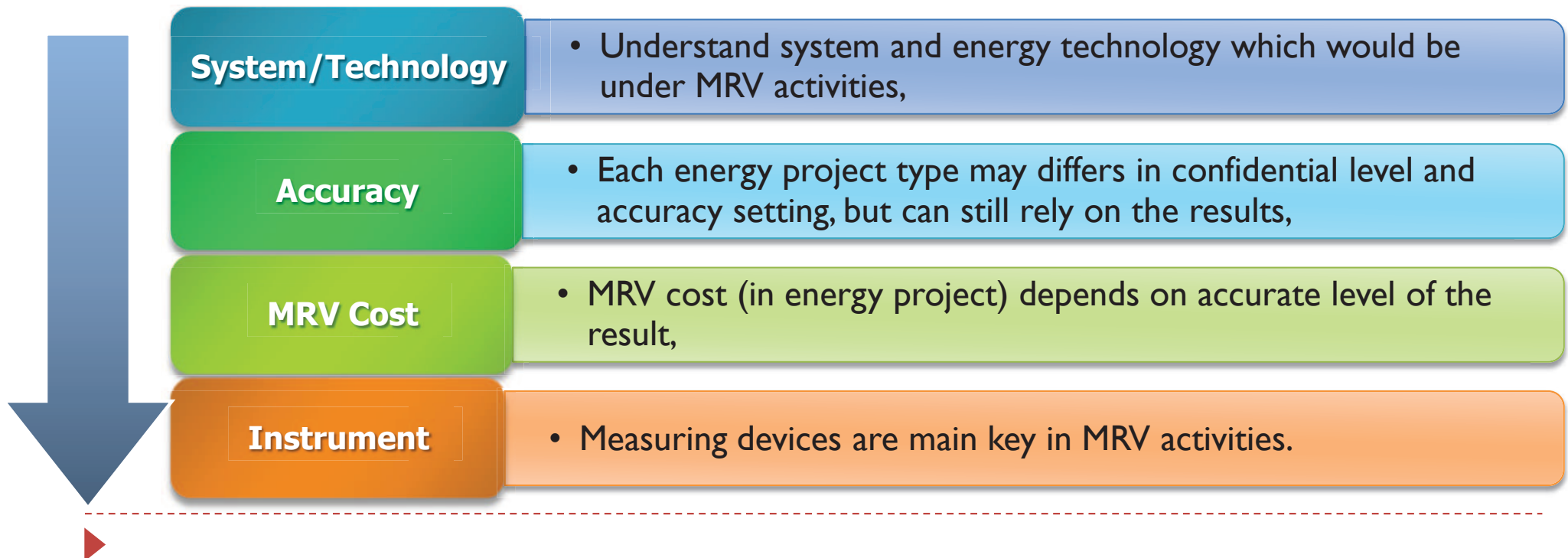
- **Principles**
- **Comparison of International Standards**
- **Guidelines for MRV**
  - **Renewable energy projects**
  - **Energy efficiency project**
  - **Transport project**

# Basic Concept of Project based MRV

**Developing the project based MRV has main steps as follows:**

1. Review and analyze Thailand and International experiences in MRV system in energy sector,
2. Study and compare major international measuring and verification standard,
3. Define the principles and draft the national MRV guidelines, consists of two main parts as follows; (i) Measuring and Reporting part, and (ii) Verification part

**Developing Project based MRV must considers in these following issues.**



# Guidelines to Project based MRV

In this study, five main principles/concept of MRV was implemented

## Transparency

- Adequate and appropriate information,
- Ensures sufficient and clear documentation of the methods, and others data used in the project

## Accuracy

- Reduce the uncertainty during the MRV processes
- Maintain high accuracy.

## Comparability

- Estimate of project is reported in such a way that it allows to be compared with estimate of other countries
- Reflects the amount of GHG sources.

## Consistency

- Consistency is essential if the estimates for different years, gases and categories reflect the real differences in emissions.

## Completeness

- All sources in the boundary with complete information
- Estimates of emissions and removals are reported for all relevant categories of sources and sinks, and gases

## Conclusions on developing MRV

- TGO is now studying on the MRV in energy sector, in both sector based and project based,
- Renewable energy technologies and energy efficiency projects would be considered,
- There still have many unclear issues in internationally supported MRV and still have no “General MRV Guidelines”,
- The sector based MRV in energy context are now in developing phase,
- MRV finance for energy activities in Thailand is still in question.



# VI. Barriers/Challenge & Opportunity on NAMAs and MRV and Expectations for International Supports

## 1. Identify barriers/challenges

**Lack of clarity and common procedure for developing NAMA and its MRV** makes developing countries struggling in learning to design NAMA and MRV system from scratch - under limited resources, data and knowledge.

**Lack of clarity on financial/technology/capacity building supports available and its deployment rule for implementation**, in conjunction with the missing of MRV Guidelines, have placed a limitation to the progress in NAMA development & Supporting figure in developing countries.

**Developing MRV system for Sectoral MA** requires strong cooperation and supportive data supply from private sector – who highly concerns on the confidentiality and business sensitivity of the their information given.

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## 1. Identify barriers/challenges (continued)

In most developing countries, **the majority of GHG-related data scatters among relevant authorities, while a GHG reporting system may not exist within those authorities**

**Knowledge and understanding** of stakeholders on NAMA, MRV and Reporting **are limited.**

## 2. Identify opportunities

**Missing of a common procedure leaves rooms for developing countries to design NAMA that enhances the context of their national circumstances** (however the process may be time consuming regarding many constraints).

It is an opportunity for **developing countries to seek cooperation and support from developed country Parties** in order to enhance needed capacities assisting them to design, develop, prepare and implement NAMA & MRV.

Significant rooms are available for **advancing in knowledge and experience on GHG reporting system and institutional arrangement.**

NAMA does its part in stimulating developing countries to **focus on developing a Roadmap of mitigation actions** more thoroughly.

### 3. Expectations for International Supports

**International supports on technology and financing** – These supports should lead to an increase in investment, development and transfer of low carbon technology in developing countries, and result in the technology becoming common practice due to reduced abatement costs which allows wide domestic investment by private sector with less government subsidies.

**International supports on capacity building** – Capacity building can enhance performance in many areas including (1) Preparation & implementation of NAMA; (2) Development of MRV system; and (3) Biennial Update Report.

**Flexibility in the process** – Supports to be provided for developing countries should be flexible, less complicated and delivered within reasonable timeline, while maintaining transparency and equality.

# Thank you

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