

NAMA and MRV: In Market Mechanisms

New Market Mechanism and MRV Workshop
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NAMAs are Mitigation Actions

- ◆ It has been discussed under the UNFCCC since 2007 (COP13)
- ◆ It refers to the **mitigation actions** under the convention with **MRV component**

1. *Decides* to launch a comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, in order to reach an agreed outcome and adopt a decision at its fifteenth session, by addressing, inter alia:

- (b) Enhanced national/international action on mitigation of climate change, including, inter alia, consideration of:
 - (ii) Nationally appropriate mitigation actions 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;

NAMAs can be supported by Market Mechanisms

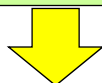
80. *Decides* to consider the establishment, at its seventeenth session, of one or more market-based mechanisms to enhance the cost-effectiveness of, and to promote, mitigation actions, taking into account the following:

- (a) Ensuring voluntary participation of Parties, supported by the promotion of fair and equitable access for all Parties;
- (b) Complementing other means of support for nationally appropriate mitigation actions by developing country Parties;
- (c) Stimulating mitigation across broad segments of the economy;
- (d) Safeguarding environmental integrity;
- (e) Ensuring a net decrease and/or avoidance of global greenhouse gas emissions;
- (f) Assisting developed country Parties to meet part of their mitigation targets, while ensuring that the use of such mechanism or mechanisms is supplemental to domestic mitigation efforts;
- (g) Ensuring good governance and robust market functioning and regulation;

Cancun Agreement (FCCC/AWGLCA/2010/L.7) **3**

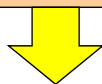
NAMAs can be Based on the National Policy for Climate Change

◆ National Development Plan



◆ Climate Change Policy

- ✓ Low Carbon Development Strategy
- ✓ Mitigation Strategy



◆ Mitigation Options

- ✓ Government Program
- ✓ Market Mechanisms (e.g. Emission Trading, Domestic offset scheme)

MRV of NAMAs can be Regional and Sector basis

	Scope	Methodology Data
◆ National Inventory	National Level	IPCC Guideline National Data
◆ NAMAs ✓ Government Program ✓ Market Mechanisms (e.g. emission trading, domestic offset scheme)	Regional Sector Program Project	IPCC+CDM +α Regional/ Sector Data
◆ CDM	Project Specific	CDM Methodology Project Specific Data

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Calculation of NAMAs Requires Emission Reductions like CDM

◆ National Inventory

$$\text{Emissions} = \text{Activity}_{\text{Actual}} * \text{CO}_2 \text{ EF}$$

◆ NAMAs

$$\text{Emissions Reductions} = \text{BAU}(\text{Activity}_{\text{estimated}} * \text{CO}_2 \text{ EF}) - \text{Project}(\text{Activity}_{\text{Actual}} * \text{CO}_2 \text{ EF})$$

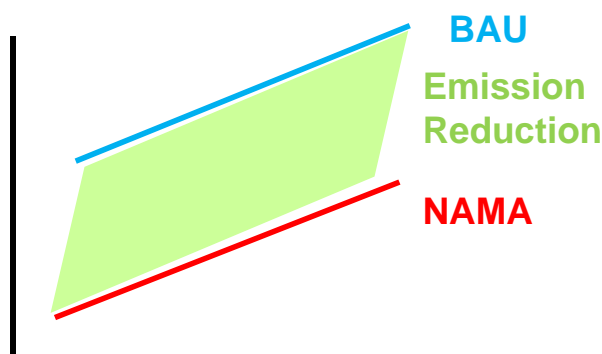
◆ CDM

$$\text{ER} = \text{Baseline Emission} - \text{Project Emission}$$

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ER = Comparing with BAU

- ◆ When calculating **emission reductions**, most important part is to estimate **emissions from BAU**
- ◆ BAU can be estimated based on:
 - ✓ CDM methodology
 - ✓ IPCC inventory guideline
 - ✓ New methodology developed



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What is the Guideline for MRV?

CDM < MRV Guideline < ISO14064+65

CDM-PDD

- A. General description
- B. Baseline/Monitoring
- C. Crediting period
- D. Environmental impacts
- E. Stakeholder

MRV Guideline

- Boundary
- Category (NAMA, Sectoral, etc)
- Reference scenario/emission
- Monitoring

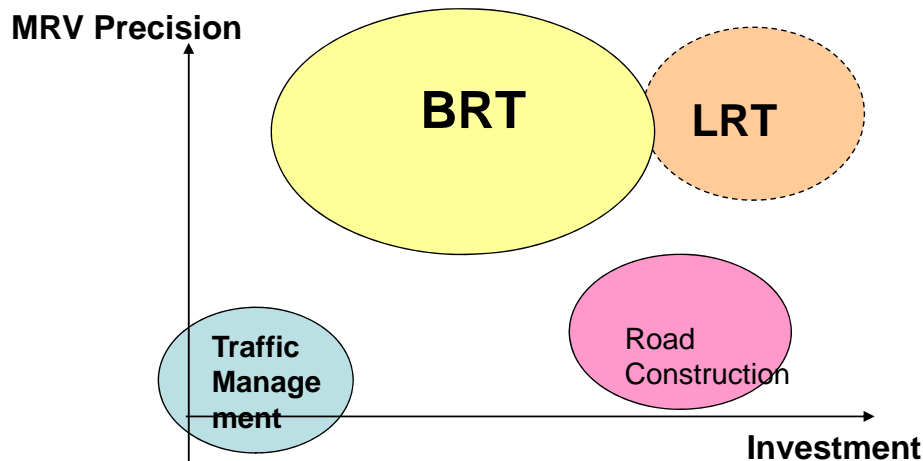
ISO14064+65

- Boundary
- GHG source
- Baseline scenario
- ER calculation
- Monitoring
- Reporting
- Verification

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Case Study from Transport NAMA

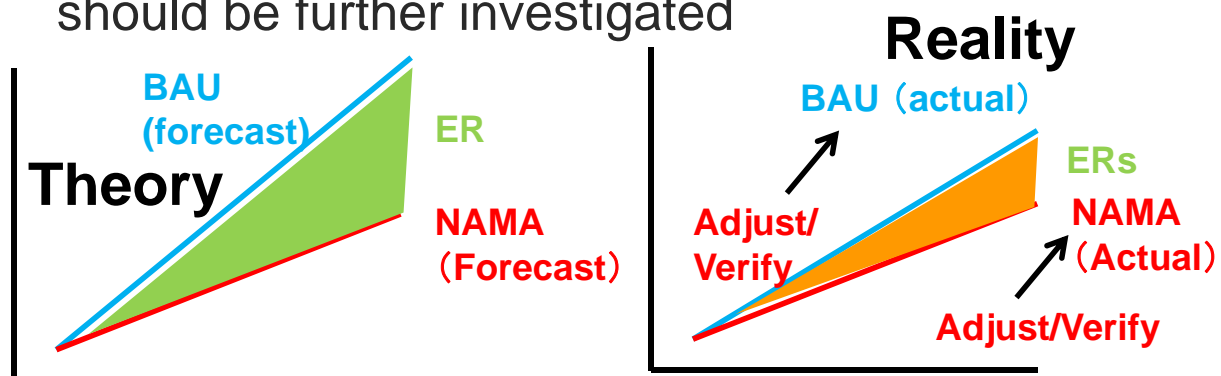
- ◆ Coverage of NAMA is based on the Vientian's urban transport master plan
- ◆ BRT (Bus Rapid Transit) and LRT (Light Rail Transit) can be applicable to CDM, but to do so traffic management and road construction is necessary.



Based on the figure made by Mitsubishi UFJ Morgan Stanley

Verification is important

- ◆ It would be possible based on certain economic condition where actual BAU emission could be larger or smaller.
- ◆ Lao's transport NAMA F/S introduced the verification system for the BAU during monitoring
- ◆ Verification frequency (every year to several years) should be further investigated



Key for MRV is Verification on Data

(Case for Lao PDR)

Monitoring Subject

- ◆ Input values for traffic demand model
- ◆ Implementation
- ◆ Road construction
- ◆ Distance by vehicle
- ◆ Share of vehicle
- ◆ Ave. Speed
- ◆ Passengers/public vehicle
- ◆ Emission factor for vehicle

Social economic data

Population • social economic data • vehicle per household

Traffic Volume data

Distance, share of vehicle, Ave. speed

Emission Factor data

Emission factor by vehicle in Lao PDR

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Support for the next

① Development of MRV methodology

☞ Both Forecast and verification

☞ Practical for use

② Test of MRV; can be implemented?

☞ Existing data can be used?

☞ There will be case where MRV is impossible

③ MRV institutional framework

☞ Monitoring, reporting and verification system

☞ Training of verifier in host country

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