

MOEJ/GEC Feasibility Study (FS) Programme for New Mechanisms

-Outline of 1st year's findings-

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Main Objectives of New Mechanism FS Programme in FY2010

- Investigation of current practices, existing and future policies/strategies in a host country
 - ➔ To make sure that the projects/activities meets host country's needs
- Collection of necessary data
 - Identification and acquisition of necessary data in case of the data are not systematically archived.
- Proposal on how to set up **Reference scenario**, BaU scenario, and other alternative baseline scenario(s)
- Consideration of **how to calculate and monitor GHG emission reductions**
- Survey for **MRV methods and criteria on GHG emission reductions**
- Outreach to help international negotiation on New Mechanisms deepen

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Outline of New Mechanism FS in FY2010

NAMA in Waste & Wastewater Management Sector in Thailand

- Seven Steps for NAMA Planning
- Introduce Japanese waste/wastewater management technologies to support GHG emission reduction

Transportation NAMA in Lao PDR

- Estimate GHG reduction with respect to the comprehensive transport master plan (Road Network Development, Public Transport Development and Traffic Management) in Vientiane city

NAMA for Sustainable Peatland Management in Indonesia

- Re-wet dried peat soils by water gates management to prevent aerobic decomposition of peat, which enable dual or double cropping by raising water level.

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1st year's findings from NAMA FS

- Various approaches can be taken for New Mechanisms, including NAMAs. New Mechanisms may possibly widen the applicability of GHG mitigation projects, and can co-exist with Kyoto mechanisms such as CDM.
 - Clusters of projects/activities, even based on comprehensive policy/strategy would be considered under New Mechanisms.
 - It is important to take into account the host country's specific circumstances, in order to realise projects/activities.
 - Lack of necessary data systematically archived is seen, which is a big barrier of the exact calculation of emissions of reference level/scenario.
→ Sufficient data is prerequisite to establish the trustable but reasonable MRV methods.
- 3 FS tried to estimate potential volume of GHG mitigation effects, but they found out that more intensive studies/additional data collections are needed.

In FY2011, MOEJ and GEC continue the programme to support New Mechanism FS, and expand the programme, in quantity and quality of FS.

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Summarised outcomes of NAMA FS 2010 is distributed here in Bonn.



Available online!

http://gec.jp/main.nsf/en/Activities-Climate_Change_Mitigation-nmfsrepDB-List

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Each report of NAMA FS 2010 is available on GEC website!

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Home > Activities > Climate Change Mitigation

FS on New Mechanisms Projects/Activities - FS Reports Database

English Reports of Feasibility Studies on New Mechanisms Projects/Activities are to be available here.

Note:

(1) Feasibility Studies below were carried out under the current situation that the definitions and institutional setting are not yet clearly identified.

(2) It does not denote that the projects/activities investigated under the Feasibility Studies should be qualified under new mechanisms.

(3) The numbers and values described in the FS reports (such as emissions, scenarios, and emissions reduction effects) are the results of the surveys undertaken by FS entities. It does not mean that those numbers and values should be internationally approved in the future.

FY	Title of Feasibility Studies	Host Country (Location of site(s))	Scheme	Category
FY2010	Feasibility Study for Sustainable Pesticide Management in Indonesia under NAMAs	Indonesia (Jambi, Sumatra Province)	NAMA	Others
	Feasibility Study on NAMA in the Transport Sector of Laos	Laos PDR (Vientiane)	NAMA	Transportation
	Feasibility Study for NAMA in Waste and Wastewater Management Sector in Thailand	Thailand	NAMA	Waste & Wastewater Management
FY2009	Feasibility Study for "Haitian" REDD Project	Brazil (Mato Grosso State)	REDD	REDD

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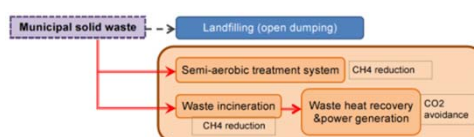
For Reference:
Summary of FS in FY2010

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FS for NAMA in Waste & Wastewater Management Sector in Thailand

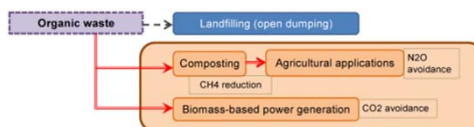
1. MSW management:

Current: Sanitary landfilling (open dumping)
 NAMA: to introduce **Semi-aerobic treatment** systems
 → CH₄ emission reductions (cut half)



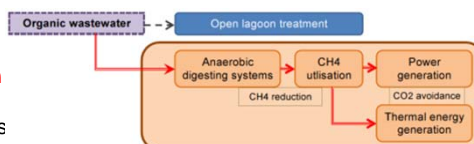
2. Organic waste management:

Current: landfilling (open dumping)
 NAMA: to introduce **composting technology**
 → CH₄ emission reductions



3. Organic wastewater treatment:

Current: Open lagoon treatment
 NAMA: to introduce closed **anaerobic digestion** and **CH₄-based power generation** systems
 → CH₄ emission avoidance (+ CO₂ reductions through displacement of electricity from grids)



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NAMA FS: Waste & Wastewater Management Sector in Thailand

Proposed methodology for developing NAMA Plans and selecting Priority NAMA Projects:

“Seven Steps for NAMA Planning”

Step 1: Review related policies/plans and the progress in NAMA sector

Step 2: Set reference scenarios in the NAMA sector

Step 3: Set ‘NAMA Targets’ in the NAMA Sector

Step 4: Develop Priority NAMA Projects in the NAMA Sector

Step 5: Establish MRV methodologies for NAMA Plans

NAMA Plan

Step 6: Identify possible financial resources for implementing NAMA plans

Step 7: Consider possible schedule for implementing NAMA plans

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Seven Steps for NAMA Planning

- based on proposal from Waste Management NAMA FS in Thailand -

Step 1: Review related policies/plans and the progress in NAMA sector

- Existing policy: 10th National Economic & Social Dev. Plan 2007-2011, etc.
- Targets: Limit of waste production in urban area – less than 1kg/person/day
- Policy progress: more than 1kg/person/day in urban area; 53% of MSW with improper disposal

Step 2: Set reference scenarios in the NAMA sector

- Identified barriers: Insufficient sanitary landfills, especially those offering full disposal operations, etc.
- Predicted condition of barriers: Barriers will exist in long term due to difficulties to reuse and recycle food wastes, and many conflicts of interest among stakeholders, etc.
- Reference scenario: MSW amount increases; Capacity of landfill sites will be overflowed.
- Countermeasures: Introduce sanitary landfill sites with semi-aerobic treatment systems

Step 3: Set ‘NAMA Targets’ in the NAMA Sector

- Identified GHG sources: CH₄ emissions from landfill
- Practical GHG mitigation measures: Introduction and newly construction of semi-aerobic system in sanitary landfill sites
- GHG reduction potential (rough estimation): 2.8MtCO₂/yr (nationwide, including BMA)
- NAMA target: By 2020, 20 semi-aerobic system in existing sites, 30 (s/m cities) and 5 (BMA) new semi-aerobic landfill constructions → Targeted ER to be estimated

Step 4: Develop Priority NAMA Projects

- Priority NAMA project candidates: Introduction and newly construction of semi-aerobic systems in Bangkok, Chon Buri, and etc...

Step 5: Establish MRV

methodologies for NAMA Plans

- MRV meth.: CDM meth – NM0333, ACM0001, AMS-III.G; and IPCC

NAMA FS: Transportation in Lao PDR

- Based on Vientiane Urban Transport Master Plan:

- Road Network Development (e.g. expansion of road width)
- Public Transport Development (e.g. introduction of BRT system)
- Traffic Management & Safety (e.g. construction of traffic lights)

→ **reduce total traffic volume and GHG emissions**

- Estimate existing and future traffic volume through simulation with models

$$\rightarrow G = \sum_{m=n}^{m=1} A_m * I_m$$

G: GHG emissions (tCO₂)

A_m: Transport Activities (vehicle # * km)

I_m: GHG emission factor (tCO₂/km)

m: transport mode

GHG reduction estimation: 440,000t-CO₂ in total (2012-2020)

→ **However, difficulty for direct measurement of traffic volume/GHG emissions**

→ **Alternatively input data such as GDP and population into models to estimate traffic volume (=Measurement)**

→ **to be Verified**

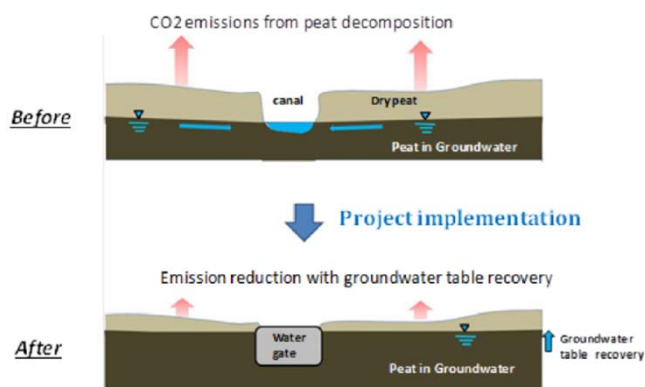


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NAMA FS: Peatland Management in Indonesia

Water gates to allow tidal zone river water onto the site to raise and keep water table there at a certain level.

Raising water table will inhibit aerobic decomposition of peat by microorganisms, thereby enabling peat CO₂ emissions to be reduced.



GHG reduction estimation: 227,500t-CO₂/yr

* standard default factor: 91t-CO₂/ha/yr per meter of drainage depth in peatland (PEAT-CO₂, Hooijer et al., 2006) → More conservative rate of its half **45.5t-CO₂/ha/yr** is adopted in this FS.

- project site: 10,000 ha

- raising of groundwater level (by water table control through water gate operation): 50cm

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THANK YOU!

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