Low Carbon Development and Nationally Appropriate Mitigation Action" - Status and the Development of Wind and Waste NAMA

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Presentation outline

NAMA-readiness projects in Vietnam

Wind NAMA project
(MOIT)

Waste NAMA project
(MONRE)

NAMA-readiness projects in Vietnam

Pilot programme for supporting up-scaled mitigation action in Vietnam's cement sector under the Nordic Partnership Initiative

Vietnam-Japan Capacity-building Cooperation and Joint Study Project for NAMAs in waste sector in a MRV manner

Technical guideline on: Nationally Appropriate Mitigation Actions (NAMAs) development

Facilitating Implementation and Readiness for Mitigation (FIRM project)

Support for NTP on climate change with a focus on energy and transport

Strengthening planning capacity for low carbon growth in developing Asia

Pilot programme for supporting up-scaled mitigation action in Vietnam's cement sector

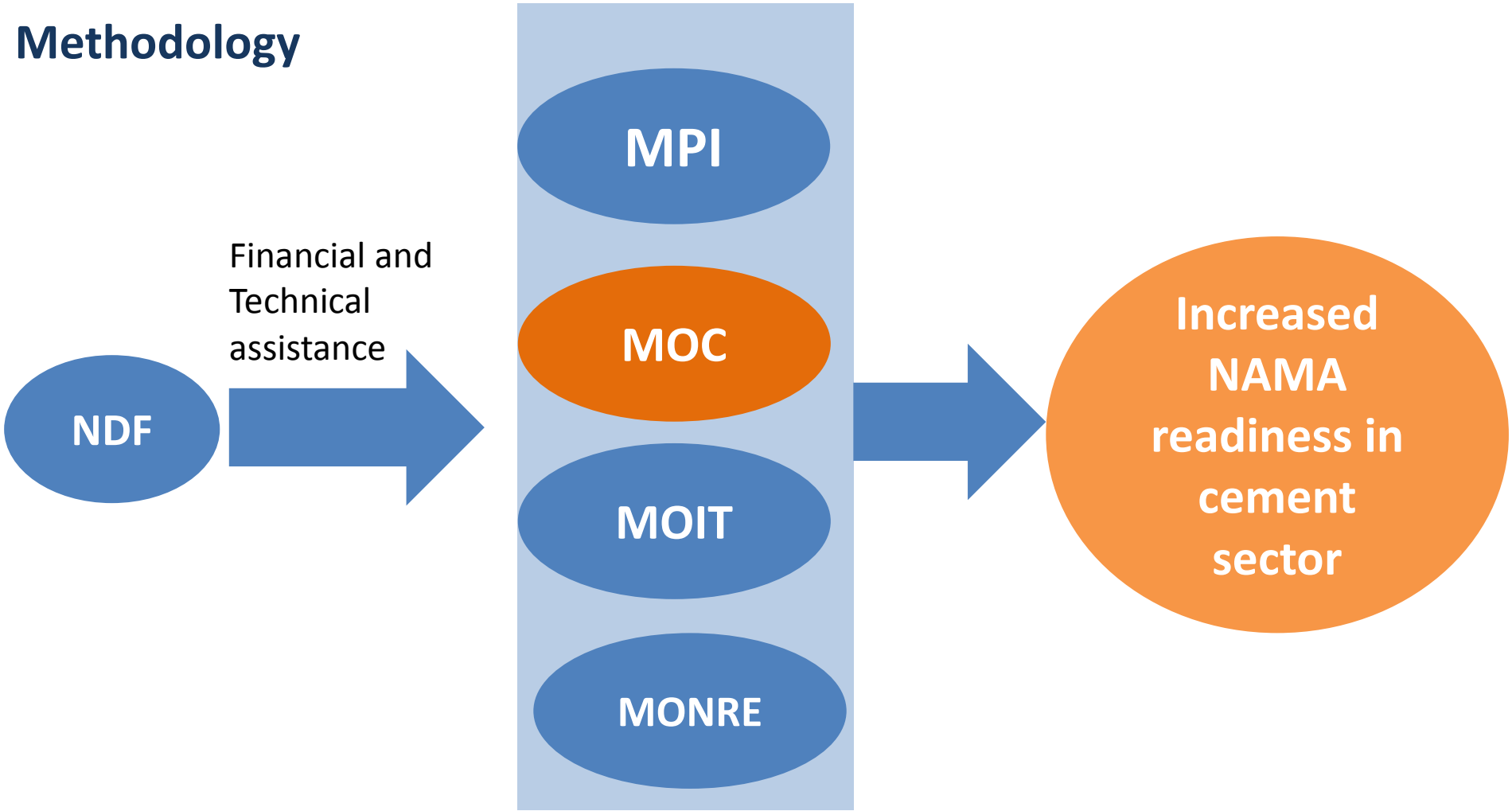
(sponsored by the Nordic Partnership Initiative)

- **Period**: June 2012 – June 2014
- **Cost**: up to EUR 1.52 million
- **Implementing agency:** Ministry of Construction
- **Overall objective:** to strengthen Vietnam's ability to prepare, propose and implement a full-scale scheme of clearly specified NAMAs in the cement sector

Pilot programme for supporting up-scaled mitigation action in Vietnam's cement sector

(sponsored by the Nordic Partnership Initiative)

Methodology



Pilot programme for supporting up-scaled mitigation action in Vietnam's cement sector

(sponsored by the Nordic Partnership Initiative)

- **Key readiness activities:**

✓Collection of up-to-date data on emission reduction potential;

✓Capacity to develop baseline emission projections;

✓Capacity to estimate (emission reduction) impact of mitigation actions;

✓MRV system of international standard;

✓Identification of barriers to mitigation action, and proposals for addressing them;

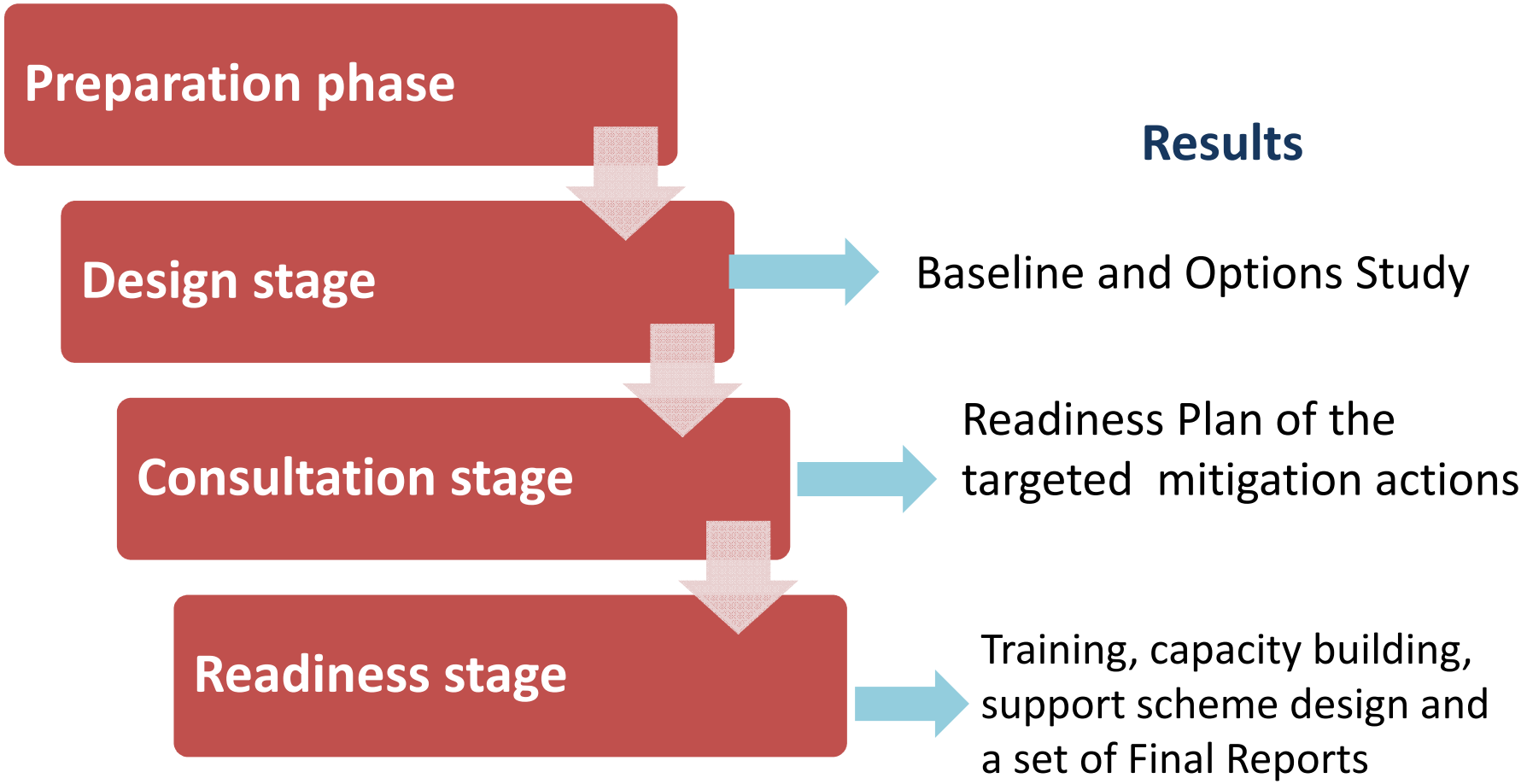
✓Identification of appropriate support instruments for mitigation action, including identification of potential sources of financing for support, mechanism for funding, criteria for support, and MRV needs; and

✓Relevant institutional arrangements, capacity building and training for all of the above.

Pilot programme for supporting up-scaled mitigation action in Vietnam's cement sector

(sponsored by the Nordic Partnership Initiative)

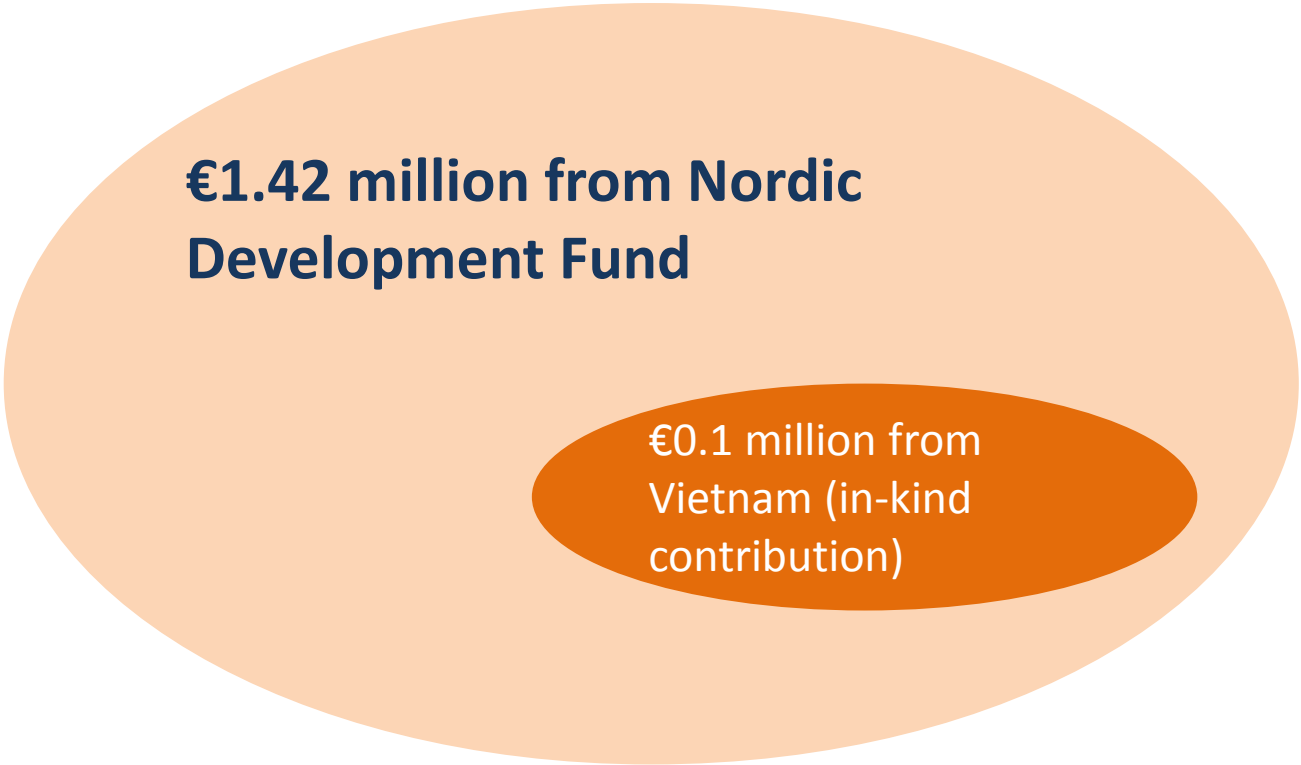
One preparation phase and three stages



Pilot programme for supporting up-scaled mitigation action in Vietnam's cement sector

(sponsored by the Nordic Partnership Initiative)

Cost and Financing



Vietnam-Japan Capacity-building Cooperation and Joint Study Project for NAMA in waste sector in a MRV manner

(sponsored by MOEJ)

- **Period**: July 2012 – February 2013
- **Cost**: 5.5 million Yen (equivalent to about 1.4 billion VND)
- **Implementing agencies:**

✓ Institute of Meteorology, Hydrology and Environment (Coordinator);

✓ Vietnam Environmental Agency (VEA);

✓ International Cooperation Department (ICD);

✓ Department of Meteorology, Hydrology and Climate Change (DMHCC)

- **Overall objective:** to enhance the capacity of Viet Nam in the preparation, proposing and implementation of NAMAs in waste sector in order to attract the international aids through the carbon market and other assistance mechanisms

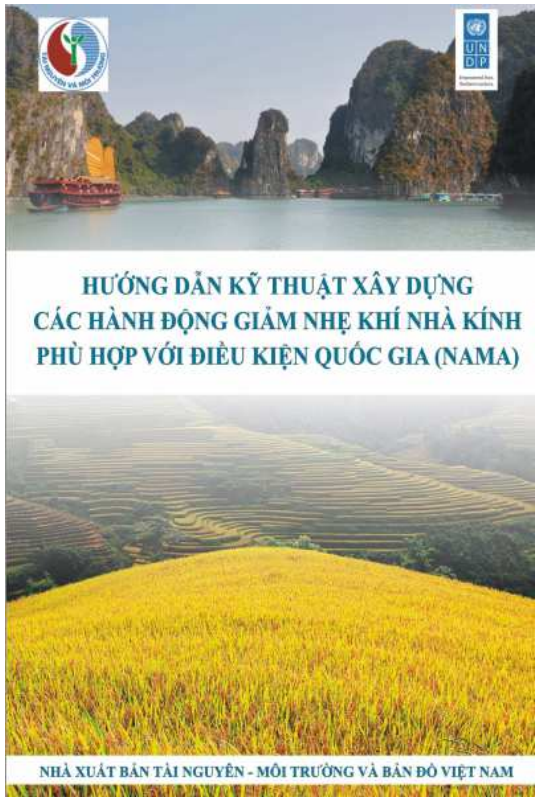
Technical guideline on NAMA development

(sponsored by UNDP)

- **Period**: Aug 2012 – Nov 2012
- **Implementing agency:** Institute of Meteorology, Hydrology and Environment
- **Overall objective:** to develop a guideline on easy-to-use methods and tools and list of activities for NAMA development in a MRV manner

Publication

(available on the website of CBCC project)



Facilitating Implementation and Readiness for Mitigation (FIRM)

(sponsored by DANIDA)

- **Funding**: DANIDA (Danish International Development Agency), 7.5 million USD
- **Period**: Oct 2011 – Dec 2013
- **Implementing agency:** UNEP in cooperation with the UNEP Risoe Centre based in Denmark
- **Participating countries:** 7 countries (Costa Rica, Ethiopia, Ghana, Indonesia, Morocco, Senegal and Vietnam), plus modelling work in South Africa and Mexico
- **Overall objective:** to develop a guideline on easy-to-use methods and tools and list of activities for NAMA development in a MRV manner

FIRM - Objectives

- Work with countries to:

- Catalyze concrete actions that support sustainable development while keeping GHG emissions low;
- Fully participate and contribute to the implementation of the UNFCCC.

- Contributing to

- Develop the conceptual basis and practical understanding of low carbon development
- Analytical and methodological approaches to NAMA development and MRV framework

- Identification and elaboration of priority NAMAs, building on existing analysis of mitigation options, such as outcomes of the TNA exercise
- Support implementation of components related to removal of non-financial barriers to implementation of priority NAMAs
- Fostering South-South cooperation and mutual learning

Key project milestones

Activities and deliverables	Year	2012		2013	
	Months	Jan to June	July to Dec	Jan to June	July to Dec
Finalizing implementation arrangements and organizing National Inception Workshop					
Low Carbon Development (LCD) Framework					
Development of LCD framework					
National workshop to share LCD Framework and finalize the outcome					
NAMA development and demonstration					
Identification and prioritization of NAMAs					
Preparation and finalization of implementation plans for two priority NAMAs and National workshop					
Identification and implementation of non-financial barriers to create enabling framework two priority NAMA					
Project Finalization: National Workshop to present the project outcomes, Potitical endorsement and Final report					

Progress update - Publications

Published:

- TNA mitigation technologies for key sectors: transport, building and agriculture;
- Guidebook ‘Overcoming barriers to the Transfer and Diffusion of Climate Technologies”;
- Access International Financing for Climate Change Mitigation – A Guidebook for Developing countries;
- Primer on NAMA Monitoring, Reporting and Verification;
- Low Carbon Development Strategies – Primer on Framing NAMAs in Developing Countries;

Planned:

- More guidance materials;
- Selection and prioritization tools;
- Country specific studies and assessment

Progress update

- FIRM project website: draft design finished
- UNEP Risoe NAMA Pipeline: www.namapipeline.org has been put online since Sept 2011, which tracks the NAMAs submitted to UNFCCC and latest decisions and actions regarding NAMAs at international level, monthly update;
- FIRM work in other participating countries: most other countries have identified the man areas for their NAMA and LCDS work, at Inception Workshop stage

Support for NTP on climate change with a focus on energy and transport

(sponsored by ADB)

- **Funding**: ADB
- **Period**: Apr 2012 – Dec 2013
- **Executive agency:** The Industrial Safety and Environment Agency (ISEA) of MOIT is acting as Standing Office of the Project Steering Committee.

- **Implementing agencies:**
  - Industrial Safety and Environment Agency (ISEA);
  - Ministry of Transport (MOT);
  - Ministry of Natural Natural Resources and Environment (MONRE);
  - Government of Ho Chi Minh City;
  - Government of Da Nang City;
  - Government of Thanh Hoa Province.

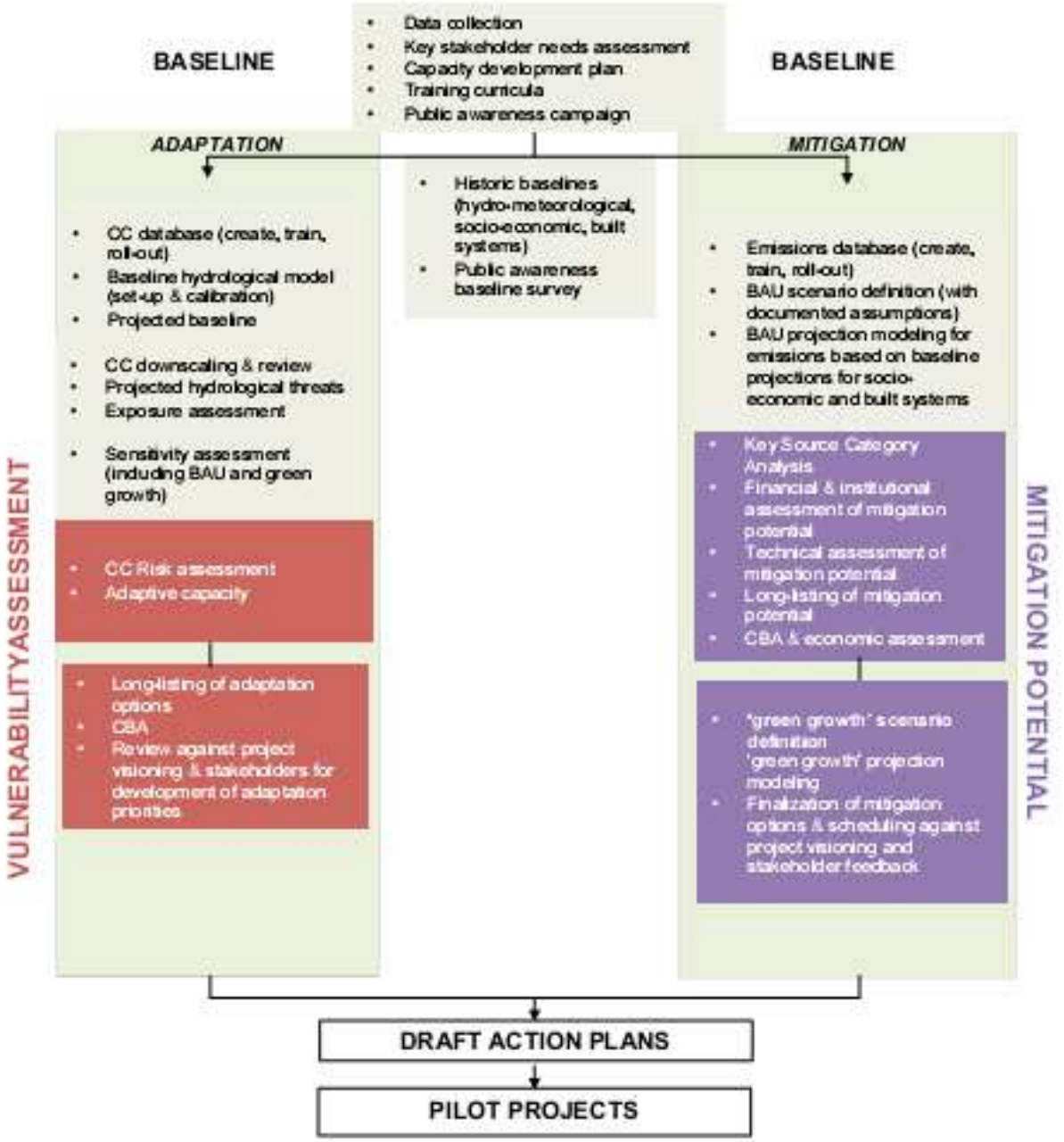
Project specific targets

- Assess, estimate the existing level of GHG emissions and the level of GHG emissions under the 'business-as-usual' and "green growth" scenarios, and identify opportunities to reduce GHG in both the energy and transport sectors;

- Identify impacts and risks caused by climate change and identify appropriate adaptation measures;

- Review the policies and legal capacity building, awareness of coping with climate change for local communities and ministries in the project

Overall methodology



Project general outcomes

- Media programs, publications raising awareness about climate change to be deployed on the topic of energy and transport to cope with climate change;
- Forming the staff of the participating units with capacity and experience accumulated, in the deployment of additional activities to cope with climate change, particularly the energy and transport sectors;
- Action Plans to respond to climate change impacts for ministries and localities involved in the project to date, additional issues of adaptation and mitigation of GHG emissions for the energy and transport sectors;
- Methodology and criteria for incorporating and integrating climate change factors into the strategy, planning and development plan for the energy and transport sectors.

Strengthening planning capacity for low carbon growth in developing Asia

(sponsored by Japan, United Kingdom and the ADB's Technical Assistance Special Fund IV)

- **Funding:** co-financed by the Government of Japan, the Government of United Kingdom, and ADB's Technical Assistance Special Fund IV (TASF-IV). Estimated cost for Vietnam: 284.000 USD

- **Executing agency:** ADB

- **Participating countries:** five Southeast Asian developing member countries (DMCs)—Indonesia, Malaysia, Philippines, Thailand, and Viet Nam.

- **Period:** 15 Nov 2010 - June 2013

Strengthening planning capacity for low carbon growth in developing Asia

(sponsored by Japan, United Kingdom and the ADB's Technical Assistance Special Fund IV)

Objective: To facilitate the participating DMCs' transition toward a low-carbon development pathway, through:

(i) development and application of a much needed country-specific low-carbon growth modeling framework that is transparent, flexible, and user-friendly;

(ii) analysis to help create/update low-carbon roadmaps and provide input to development plans based on the framework developed; and

(iii) training sessions and hands-on computer workshops to enhance the capacity of relevant agencies/institutions to maintain and utilize the models and associated database for planning purposes.

Three project components

- **Component 1: Model and Software Development:** involves (i) development of customized, internationally-linked low-carbon economic modeling framework for Viet Nam, (ii) database construction (Excel-based), and (iii) development of planning tools.
- **Component 2: Low Carbon Analysis and Roadmap:** apply the software developed under Component 1 for demonstration. Based on consultation with National Technical Working Group, this component will help create/update a low-carbon roadmap, prioritize low-carbon strategies and policy instruments, and will produce analysis reports to provide inputs into development plans.
- **Component 3: Capacity Building and Training:** transfer the software developed under Component 1 to relevant agencies and institutions and will organize training sessions and workshops.

Development of methodology to design NAMAs and assessment, review and supplementation of the institutional system to support the design and implementation of NAMAs

(Department of Meteorology, Hydrology and Climate Change, Ministry of Natural Resources and Environment)

- **Period**: 2012 – 2013
- **Implementing agency:** Department of Meteorology, Hydrology and Climate Change
- **Objectives:**

- Research on the methodology of development of NAMAs;
- Assess and review the institutional and policy system to facilitate the design of NAMAs;
- Propose the institutional arrangement which supports the design of NAMAs;
- Propose a implementation framework for NAMAs.

Proposal on Creation of an overarching framework for NAMA and MRV in Vietnam *(funded by GIZ)*

Overall objective: The state management for climate change response of the MONRE is strengthened in coordinating and advising the development and implementation of transformational and MRVable NAMAs in Vietnam and their financing through national and international public and private sources.

Work stream 1: Improved institutional capacity at MONRE for effective coordination of and advice to identification, development and implementation of NAMAs
Work stream 2: Identification and development of concrete NAMAs
Work stream 3: Establishment of National MRV system for NAMAs
Work stream 4: Capacity building for international climate change negotiations

NAMA WIND PROJECT

(by MOIT)

Activities proposed for Wind NAMA project

The outcome of wind NAMA project in concept phase is NAMA Project Concept Note approved and available for submitting to UNFCCC, including the activities as follows:

- Definition of scope and objective
- Identifying the barriers of NAMA wind power project
- Definition of data requirements and collection
- Definition of Business As Usual scenario
- Estimation of GHG reductions
- Definition of co-benefits
- Plan for MRV system
- Institutions and responsibilities
- Stakeholder engagement
- Identifying support options
- Involving donors
- Finalizing the Wind NAMA concept

Activities proposed for Wind NAMA project

1. **Definition of scope and objective**

   - Scope: Single pilot project of wind power in power generation sector.
   - Objective: GHG mitigation and co-benefits

2. **Identifying the barriers of NAMA wind power project:**

   Wind power development faces various barriers that are political, economic, financial, legal, regulatory, technical, institutional...

   NAMA can propose the measures and steps required to overcome these barriers to support wind power development.

3. **Definition of Data Requirement and Collection.**

   The NAMA development will require a huge amount of data for site selection, calculation of wind energy potential, baseline setting, the calculation of NAMA emissions, the required abatement and implementation costs.

   All data required must be listed for setting plan for data collection.

Activities proposed for Wind NAMA project

4. Definition of the Business As Usual Scenario.

The baseline scenario is the emissions that would have occurred in the absence of the NAMA action, also called the "BAU" scenario.

The BAU definition for the energy sector is a complex exercise, depending on their energy pricing, energy resources available, projected economic development, etc.

5. Estimated Emission Reductions.

The BAU is crucial factor when calculating GHG emission reductions.

A NAMA's mitigation effect is measured by the difference between the BAU emissions and the level of emissions under the NAMA.

There are several methods for calculation. The approved CDM methodology could be used for calculation of GHG emission reduction of wind NAMA project.

Activities proposed for Wind NAMA project

6. Definition of Co-benefits

Besides the GHG abatement effects, wind NAMAs will generate co-benefits.

- Benefits to the economy: an increased number of jobs, reducing expenditures in foreign currencies to import fuels for power generation.
- Benefits to environment: emission reduction
- Benefits to energy security: Reduction of dependent on fuels imported.

7. Plan for MRV System

Measurement, Reporting, and Verification (MRV) is a very important activity of NAMA:

* **Measured**: either by monitoring, for example, the amount of fuels that have been saved through NAMA, or calculation using the available data;

* **Reported**: a result of climate change mitigation impact that has been measured in the form of ton of CO_{2e} per year (t-CO_{2e}/year) reduced by NAMA, is compiled and reported.

* **Verified**: the result obtained through measurement is checked and confirmed whether all the information and data contained in a report is accurate and correct.

It is advised not to establish a new monitoring system for the proposed NAMA, but to use the existing monitoring and reporting system available for CDM projects.

Activities proposed for Wind NAMA project

8. Identifying Institutions and Responsibilities

The NAMA coordinator should clearly define the roles of all actors involved in the NAMA conception phase, including:

* Involved entities;

* Roles and responsibilities of involved entities;

* Definition of expertise required (technical or institutional).

9. Stakeholder Engagement

* Stakeholder engagement should play a decisive role throughout the process of wind NAMA development.

* Stakeholders would be more strongly involved in the early stages of preparing a NAMA when crucial issues require the stakeholders´ attention.

* Stakeholders should be kept informed when the NAMA is being implemented.

Activities proposed for Wind NAMA project

10. Identifying Support Options

Implementation of Wind NAMA may face various challenges.

Support to overcome these can come in the form of financial or technical support or capacity building.

To estimate the financial support requirements of NAMA activities, the costs of related CDM projects for wind power that have already been undertaken can be taken into account.

11. Involving Donors

NAMA finance will come from two major sources:

- Public domestic sources
- International donors.

12. Finalizing the Wind NAMA concept

The wind NAMA concept should be finalized and approved before submitting to the UNFCCC.

Implementation plans for wind NAMA project

Activities	2013				
	8	9	10	11	12
1. Definition of scope and objective					
2. Identifying the barriers of NAMA wind power project					
3. Data requirements and collection					
4. Definition of BAU					
5. Estimation of GHG reductions					
6. Definition of co-benefits					

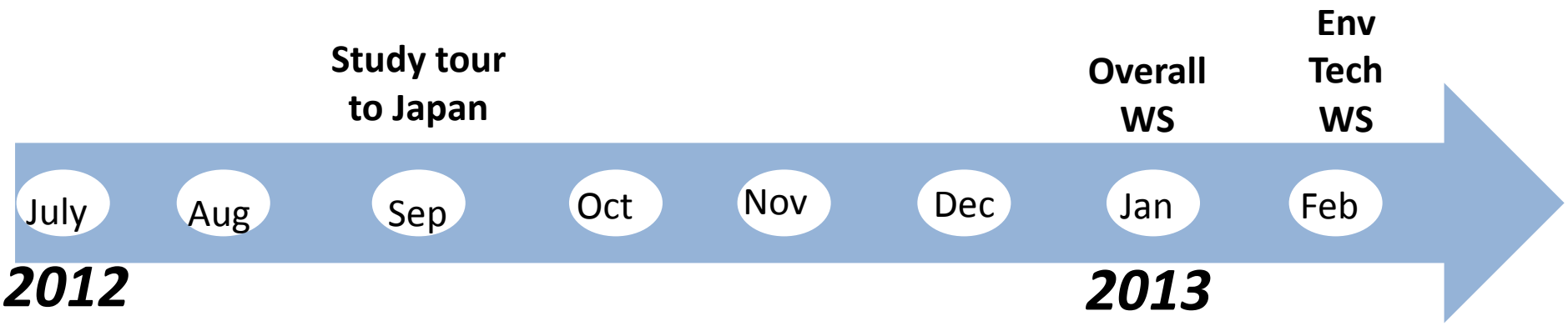
Implementation plans for wind NAMA project

Activities	2014							
	1	2	3	4	5	6	7	8
7. Plan for MRV system								
8. Institutions and responsibilities								
9. Stakeholder engagement								
10. Identifying support options								
11. Involving donors								
12. Finalizing the Wind NAMA concept								

Vietnam-Japan Capacity-building Cooperation and Joint Study Project for NAMAs in waste sector in a MRV manner

(by IMHEN)

Schedule



Act 1. Identify BL and NAMA scenario in waste sector

Act 2. Draft Guideline for NAMA selection in waste sector

Act 3. Draft a Guideline for MRV of NAMAs

Act 4. Draft a Modality for Institutional Arragement for NAMA implementation in waste sector

Act 5. Collection information on technology to be employed in waste sector

Side event COP18

Selected Sector: Waste Sector

NAMAs: CH4 Reduction from Landfill (semi aerobic technology)

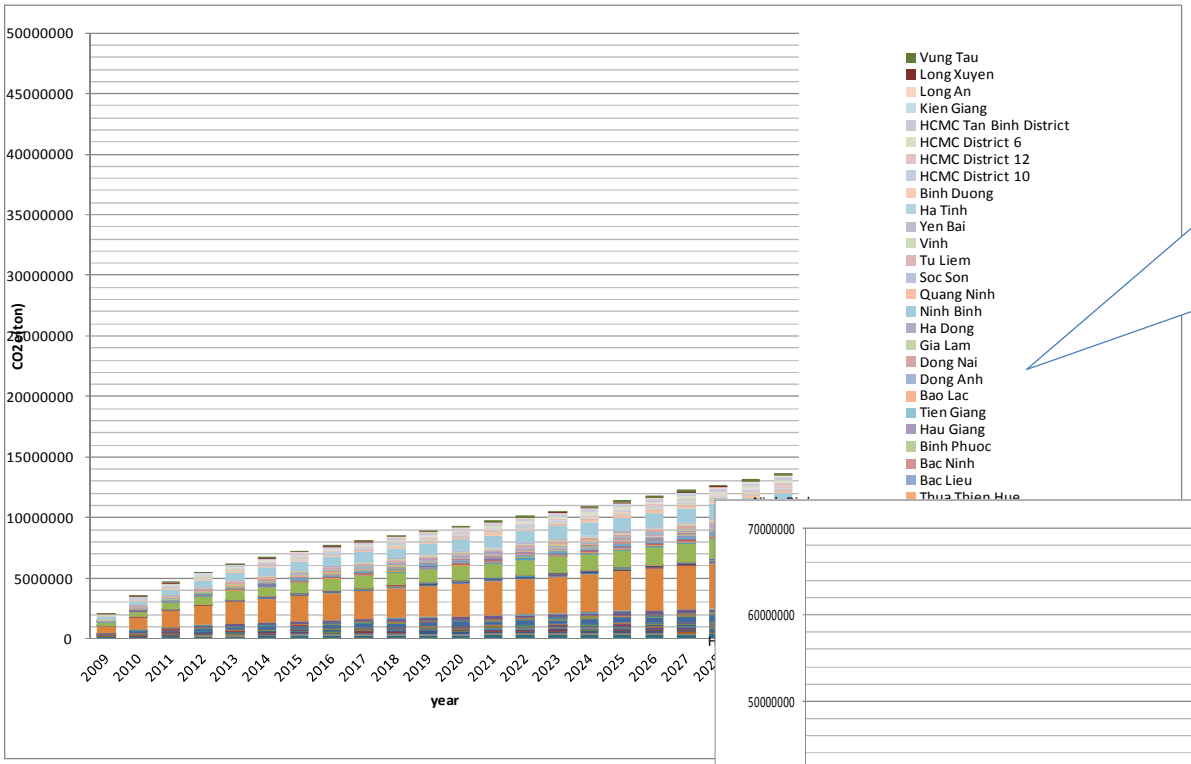
Working Group : MONREE, MOC, MPI, VEA, IMHEN

(Chaired by IMHEN)

Results:

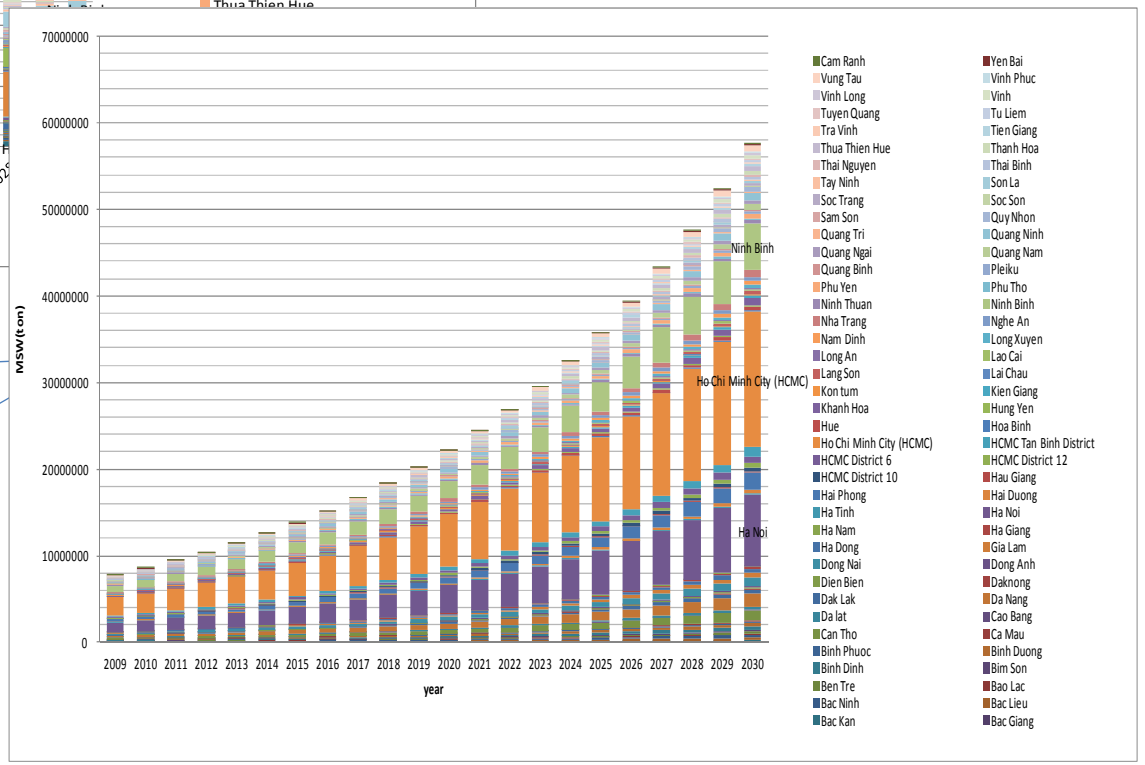
1. Collected historical activity data from all landfills (LFs) in Viet Nam
2. Calculated BAU and reduction by NAMA candidates (Emission Reductions from CH4 Emission from LFs)
3. Discussed possible reporting procedures
4. Jointly reported at COP18 Side Event
5. Jointly reported at SB38 Side Event

Estimated increase in solid waste in Vietnam



Scenario 1:
based on estimated future growth in population and GDP

Scenario 2:
based on the growth rate of urban solid waste during the period of 2007-2010



Source: A joint study by IMHEN and OECC, with support MOEJ 2012

Identified useful low carbon technologies to be introduced for NAMAs

	Organization name	Established year	SWM collection service			Type of site	Completed disposal (%)	Duration of operation	MSW amount
			Covered district	Covered area (ha)	Covered population				2000-2009
1	Ha Noi Urban Environment Company Ltd.,	1950	4 center districts : Ba Dinh, Hoan Kiem, Bai Ba Trung, Dong Da	3,400	1,200,000	Sanitary landfill	85	1999-2013	502,956
2	Tu Liem Urban Environment Enterprise	1994	10 towns	5,000	160,000				
3	Dong Anh Urban Environment Enterprise	1998	Dong Anh district	18,201.85	323,055				
4	Soc Son Urban Environment Company	1997/3/2	Soc Son district	30,609	300,000				
5	Gia Lam Urban Environment Enterprise	1994	7 wards in Long Bien district	6,038.24	170,706	Sanitary landfill			
			Gia Lam district	11,400	220,000				
6	Thanh tri Urban Environment Enterprise	1996	Thanh Tri district		147,788				
7	Yen Bai Works and Urban Environment Company	1979	7 wards in Yen Bai City	10,815	95,892	Open dumping		1994 -2011	
8	Lao Cai Urban Environment Company	1994	Lao Cai city	221	94,893	Sanitary landfill	70	1999-2015	
			Sapa town	24	6,772	Sanitary landfill		1,5 years	
			Bac Ha town	1.41	3,849	Sanitary landfill		15 years	
			Bat xat town	3.35	3,091				

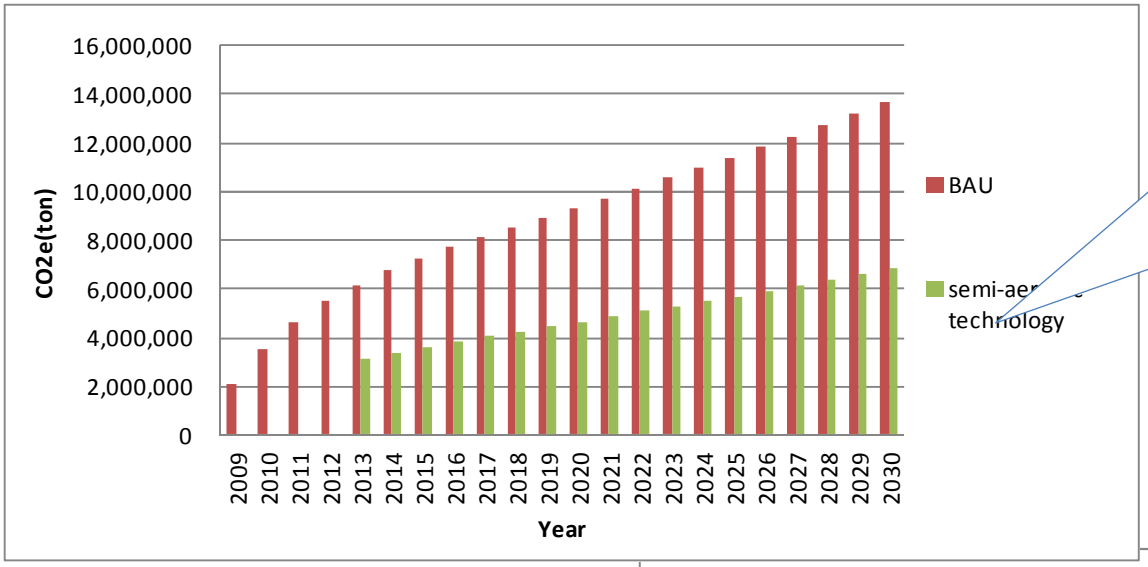
Source: A joint study by IMHEN and OECC, with support MOEJ 2012

Calculated reduction by NAMA candidates

Mitigation measure	Calculation method	Scenario	Emissions reduction
Use of semi-aerobic landfill technology	GHG emissions reduction (tCO_2e) = GHG emissions per landfill (tCO_2e) × Value of methane correction factor (MCF)	Scenario 1 : waste growth rate: 3.27%	Approx. 31,434,874 tCO_{2e} (2013-2020)
		Scenario 2 : waste growth rate: 10%	Approx. 41,816,060 tCO_{2e} (2013-2020)

Source: A joint study by IMHEN and OECC, with support MOEJ 2012

BAU and NAMA scenarios with the introduction of semi-aerobic landfill technology in Vietnam



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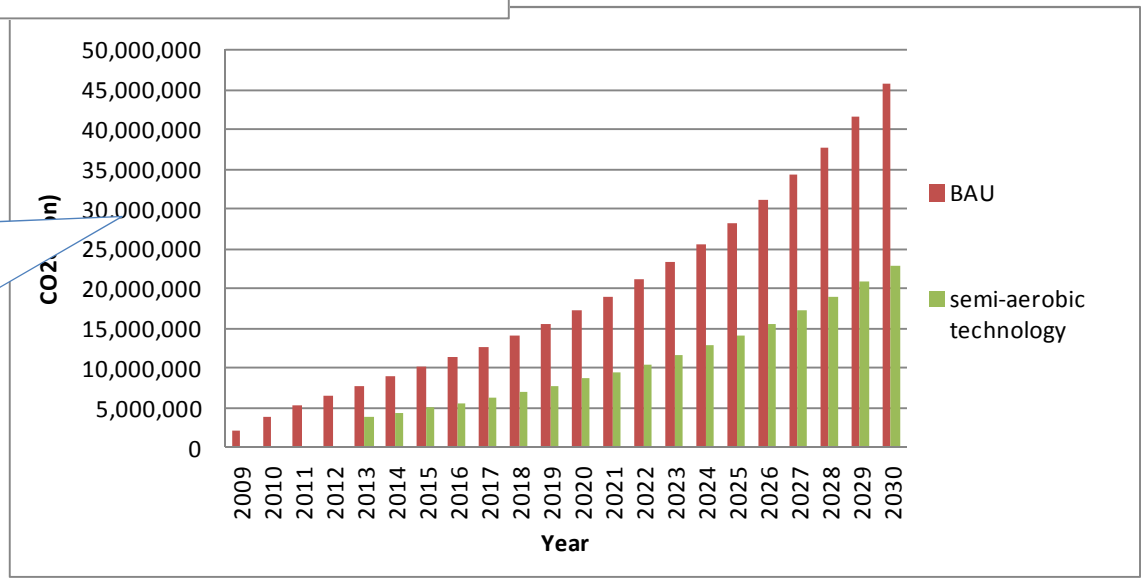

Source: A joint study by IMHEN and OECC, with support MOEJ 2012

Thank you for your attention!!!