Lessons Learned: NAMA development in Vietnam

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Presentation outline

NAMA-related policies in Vietnam

NAMA-readiness in implementation

NAMA proposals
Vietnam responds to Climate change mitigation

National Target Programme to Respond to Climate Change (2008)

National Strategy on Climate change (2011)

National Action Plan on Climate Change (2012)

National Green Growth Strategy (2012)
1. National Climate Change Strategy

- Prime Minister of Vietnamese Government approved it on 05 Dec. 2011
- Guiding principles related to mitigation:
  - associated with sustainable development toward a low carbon economy
  - Climate change adaptation and GHG emission reduction must be carried out in parallel for effective response to climate change
- Strategic objectives related to mitigation:
  - low-carbon economy and green growth as principles in achieving sustainable development;
  - GHG emission reduction and removal to become a mandatory index in social and economic development
1. National Climate Change Strategy (cont’)

Strategic tasks related to mitigation

- Protection and sustainable development of forest, increasing carbon removals and biodiversity conservation
- GHG emission reduction to protect global climate system
- Community capacity development to respond to climate change
- Scientific and technological development for climate change response
- International cooperation and integration to enhance the country’s status in climate change
2. Vietnam Green Growth Strategy

✓ Prime Minister of Vietnamese Government approved it on 25 Sept. 2012

✓ Overall objectives:

→ green growth, as a mean to achieve the low carbon economy and to enrich natural capital, will become the principal direction in sustainable economic development;

→ reduction of GHG emissions and increased capability to absorb GHG are gradually becoming compulsory and important indicators in social-economic development.
2. Vietnam Green Growth Strategy

✔️ Strategic tasks

- Reduce the intensity of GHG emissions and promote the use of clean and renewable energies

Vietnam has set a climate target for 2020 for reducing emission intensity by 8–10% as compared to the 2010 level, reducing energy consumption per unit of GDP by 1–1.5% per year, and reducing GHG emissions from energy activities by 10–20% compared to the business as usual case. This commitment includes a voluntary reduction of approximately 10%, and an additional 10% reduction with additional international support.
3. The plan “Management of GHG emissions; management of the activities of trading carbon credits to the international market”

- The Plan has been approved by the GOV on 21 Nov. 2012
- Objectives:
  - carrying out the UNFCCC and other related treaties that Viet Nam has involved in;
  - taking opportunities to develop a low carbon economy and green growth in the country
  - joining the international community’s efforts in mitigate GHG emissions and contributing to sustainable development
- GHG mitigation targets in 2020:
  - Energy: 8% (Base year 2005)
  - Agriculture: 20%
  - LULUCF: 20%
  - Waste: 5%
Presentation outline

- NAMA-related policies in Vietnam
- NAMA-readiness in implementation
- NAMA proposals
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

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);
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 low carbon technologies to be introduced for NAMAs

<table>
<thead>
<tr>
<th>Organization name</th>
<th>Established year</th>
<th>Covered district</th>
<th>Covered area (ha)</th>
<th>Covered population</th>
<th>Type of site</th>
<th>Completed disposal (%)</th>
<th>Duration of operation</th>
<th>MSW amount (2000-2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ha Noi Urban Environment Company Ltd.</td>
<td>1950</td>
<td>4 center districts: Ba Dinh, Hoan Kiem, Bai Ba Trung, Dong Da</td>
<td>3,400</td>
<td>1,200,000</td>
<td>Sanitary landfill</td>
<td>85</td>
<td>1999-2013</td>
<td>502,956</td>
</tr>
<tr>
<td>Tu Lien Urban Environment Enterprise</td>
<td>1994</td>
<td>10 towns</td>
<td>5,000</td>
<td>160,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dong Anh Urban Environment Enterprise</td>
<td>1998</td>
<td>Dong Anh district</td>
<td>18,201.85</td>
<td>323,055</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soc Son Urban Environment Company</td>
<td>1997/3/2</td>
<td>Soc Son district</td>
<td>30,609</td>
<td>300,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gia Lam Urban Environment Enterprise</td>
<td>1994</td>
<td>7 wards in Long Bien district</td>
<td>6,058.24</td>
<td>170,706</td>
<td>Sanitary landfill</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thanh Tri Urban Environment Enterprise</td>
<td>1996</td>
<td>Thanh Tri district</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yen Bai Works and Urban Environment Company</td>
<td>1979</td>
<td>7 wards in Yen Bai City</td>
<td>10,815</td>
<td>95,892</td>
<td>Open dumping</td>
<td></td>
<td>1994-2011</td>
<td></td>
</tr>
<tr>
<td>Lao Cai Urban Environment Company</td>
<td>1994</td>
<td>Lao Cai city, Sapa town, Bac Ha town, Bat xat town</td>
<td>221, 24, 1.41, 3.35</td>
<td>94,893, 6,772, 3,849, 3,091</td>
<td>Sanitary landfill</td>
<td>70, 1.5 years, 15 years</td>
<td>1999-2015</td>
<td></td>
</tr>
</tbody>
</table>

Source: A joint study by IMHEN and OECC, with support MOEJ 2012
## Calculated reduction by NAMA candidates

<table>
<thead>
<tr>
<th>Mitigation measure</th>
<th>Calculation method</th>
<th>Scenario</th>
<th>Emissions reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of semi-aerobic landfill technology</td>
<td>GHG emissions reduction (tCO$_2$e) = GHG emissions per landfill (tCO$_2$e) × Value of methane correction factor (MCF)</td>
<td>Scenario 1: waste growth rate: 3.27%</td>
<td>Approx. 31,434,874 tCO$_2$e (2013-2020)</td>
</tr>
<tr>
<td>Scenario 2: waste growth rate: 10%</td>
<td></td>
<td>Approx. 41,816,060 tCO$_2$e (2013-2020)</td>
<td></td>
</tr>
</tbody>
</table>

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

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
2. Technical guideline on NAMA development (sponsored by UNDP)

- **Overall objective:** to develop a guideline on easy-to-use methods and tools and list of activities for NAMA development in a MRV manner

3. Facilitating Implementation and Readiness for Mitigation (FIRM) (sponsored by DANIDA)

- **Overall objective:** to develop a guideline on easy-to-use methods and tools and list of activities for NAMA development in a MRV manner

4. Support for NTP on climate change with a focus on energy and transport (sponsored by ADB)

**Project specific targets related to GHG emissions**

- 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;
5. 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;

6. 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)*

- **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.

7. Proposal on Creation of an overarching framework for NAMA and MRV in Vietnam

**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.
Presentation outline

NAMA-related policies in Vietnam

NAMA-readiness in implementation

NAMA proposals
Phase 1 (2006–2010): the focus was on capacity building, development of a legal framework (the Law on Energy Efficiency and Conservation was adopted), development of a national certification scheme, and training of energy managers and auditors.

Phase 2 (2011–2015) is on promoting the application and implementation of energy-efficiency solutions.

Focus of the fast-start finance is on the building sector and on small and medium-sized enterprises (SMEs) in the bricks and ceramics industries.

Setting up of a robust MRV system, establishing a long-term sustainable financing mechanism for implementing energy-efficiency investments. A total of 150–250 energy-efficiency projects in brick and ceramic and other sectors will be implemented as part of the fast-start finance support.
Overall objective: to strengthen Vietnam’s ability to prepare, propose and implement a full-scale scheme of clearly specified NAMAs in the cement sector.
3. NAMA in the Waste Sector: Waste to Resources for Cities in Vietnam (*IMHEN cooperated with UN-ESCAP to apply for the NAMA Facility*)

- IMHEN was assigned by MONRE to cooperate with UN-ESCAP to propose a NAMA in waste sector to the NAMA Facility;

- **Overall goal:** to mitigate GHG emissions from the waste sector in cities in Vietnam through the application of integrated solid waste management practices to help Vietnam reach the target of reducing GHG emissions by 5% in the waste sector by 2020;

- **Specific objectives:**
  - Improvement of waste collection services in cities in Vietnam, and the promotion of 3R principles;
  - The diversion of waste streams from landfill disposal and other end-of-pipe solutions;
  - Sorting out of the organic and inorganic components of waste streams through the separation of waste at source;
  - Promotion of the biological treatment of the organic waste; and
  - The recycling and reuse of inorganic waste.
3. NAMA in the Waste Sector: Waste to Resources for Cities in Vietnam (*IMHEN cooperated with UN-ESCAP to apply for the NAMA Facility*)

**Phases**

- **Preparation Phase**
  (July 2013 – Dec 2013)
  - Elaboration of a detailed study on the NAMA concept and design;
  - Conduct of a national kick-off workshop
  - Data collection

- **Pilot phase**
  (Jan 2014 – June 2015)
  - Capacity building for local partners, e.g. URENCO under the People’s Committee
  - Implement pilot projects in cities across Vietnam.

- **NAMA-up-scaling phase**
  (July 2015 – Dec 2020)
  - Full implementation of the NAMA throughout cities in Vietnam.
Financial support and expected contributions

**IMHEN in-kind contribution**

**Unilateral contribution (national and municipal governments)**

**UN-ESCAP** is willing to provide support on the following streams:

- Preparation of supporting studies and background documents for Phase 1;
- Identification and mobilization of stakeholders in Phase 1;
- Seed funding to selected pilot projects in Phase 2;
- Capacity building activities and knowledge sharing initiatives.

**Private Sector** (project to project basis)

**International Support** (10 mil – 20 mil USD)

3. NAMA in the Waste Sector: Waste to Resources for Cities in Vietnam *(IMHEN cooperated with UN-ESCAP to apply for the NAMA Facility)*
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
5. Proposal for NAMA on Biogas for Medium sized Livestock Farms in Vietnam

The scale: Livestock Farms
Average production: 1,000 – 5,000 pigs

Objectvie: Livestock waste management of Medium size Farm with 1,000 – 10,000 tons/year:
- Support for Production development & Protect Environment
- Production of Renew.energy, Electricity...
- GHG Mitigation of 5,000 – 50,000 tons eq.CO2/year/ farm
- Production of bio-fertilizer/ Sustainable. Agri.

Location: Central region of Vietnam
Can Loc Dist., Ha Tinh Prov.
(Based on intial survey)
Production and application of hybrid and electric cars in Vietnam

- **Implementing agencies:**
  - Corporation of Investment into global digital technology;
  - Institute of Meteorology, Hydrology and Environment;
  - Vietnam Corporation of Investment into digital technology;
  - Linh Dam Corporation of Technology;
  - KPIT Cummins Infosystems Ltd (Indian partner).

- **Overall objective:**
  To reduce GHG emissions from transport sector through the production and application of hybrid and electric cars in Vietnam, towards the target of the Vietnam Government that 6 million environmentally-friendly vehicles will be in operation by 2020.

- **Specific objectives:**

  - **Phase 1:** Application of hybrid cars: pilot application for 15,000-20,000 Mai Linh taxi cars

  - **Phase 2:** Application of electric cars
    - 2016: 10,000 electric cars;
    - 2017: 20,000 electric cars;
    - 2018: 20,000 electric cars;
    - 2019: 20,000 electric cars;
    - 2020: 30,000 electric cars
Conclusion

Carry out related Strategies/Programs/Plans to achieve objectives related to GHG emission reduction towards low-carbon economy:

• Develop the National GHG inventory system of Vietnam;
• Assess GHG mitigation potentials: REDD+ program, effectively use of energy sources; apply energy production technologies from renewable and new energy sources;
• Establish MRV system for NAMA of Vietnam;
• Implement GHG mitigation projects with national resources and internation financial and technology supports.

The Department of Meteorology, Hydrology and Climate Change (DMHCC) possibly will be the focal agency for NAMA development and implementation in Vietnam;
Thank you for your attention!!!