

The Second Workshop on GHG Inventories in Asia Region
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Submission of the Viet Nam Initial National Communication

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Background

- ✦ Viet Nam signed the UNFCCC in 1992 and ratified it on 16 November 1994.
- ✦ In order to fulfill the commitment described in the articles 12.1, 12.5 of UNFCCC and following the guidelines "Preparation of the Initial National Communication" for Non-Annex I Parties, the Government of Viet Nam assigned the Ministry of Natural Resources and Environment as a National Authority to implement the project "Viet Nam: Preparation of the Initial National Communication to the UNFCCC - GF/2200-97-54" with financial and technical support from the GEF and UNEP.
- ✦ There were many workshops and seminars held to prepare and complete the Initial National Communication.
- ✦ The Initial National Communication of Viet Nam was submitted to the UNFCCC Secretariat in November 2003.

Institutional arrangements for Preparing National Communication



Institutional arrangements for preparing National Communication

The climate change enabling activity to prepare the Initial National Communication to the UNFCCC led to the establishment of a National Study Team composed of the following institutions:

- ✦ Ministry of Natural Resources and Environment (MONRE)
- ✦ Ministry of Industry (MOI)
- ✦ Ministry of Planning and Investment (MPI)
- ✦ Ministry of Science and Technology (MOST)
- ✦ Ministry of Agriculture and Rural Development (MARD)
- ✦ Ministry of Finance (MOF)
- ✦ Ministry of Foreign Affairs (MOFA)
- ✦ Ministry of Transportation (MOT)
- ✦ Viet Nam Union of Science and Technology Associations (VUSTA).

Implemented activities

✦ 1994 National GHG Inventory was carried out for the main sectors:

- Energy
- Industry Processes
- Forestry and Land Use Change
- Agriculture
- Waste

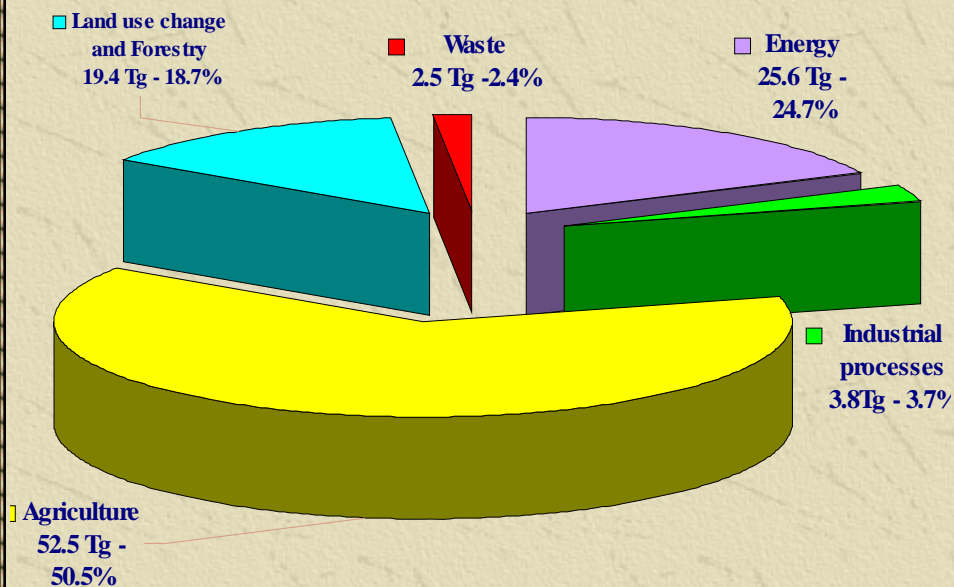
The methodology:

- ◆ the guidance of IPCC version 1996
 - ◆ The guideline for preparation of National Communication for Non-Annex I Parties
- ✦ The data sources were collected and processed from the General Statistical Office and other related Agencies of Viet Nam

GHG Inventory Results in 1994

Emission sector	CO ₂ equivalent (million tons)	(%)
Energy	25.6	24.7
Industrial Processes	3.8	3.7
Agriculture	52.5	50.5
Forestry and Land Use Change	19.4	18.7
Waste	2.5	2.4
Total emission	103.8	100

G H G s Inventory Results in 1994



G H G National & Sectoral Projection

Unit: Tg CO₂ equivalent

<i>Year</i>	<i>1994</i>	<i>2010</i>	<i>2020</i>
Energy	25.64	105.17	196.98
Land use change and Forestry	19.38	-21.70	-28.40
Agriculture	52.45	57.20	64.70
Total	97.47	140.67	233.28

GHG Mitigation Options

✦ Based on the results of GHG Inventory, GHG mitigation options in Viet Nam were developed for 3 major sectors:

- ✦ Energy (9 options)
- ✦ Forestry and Land Use Change (6 options)
- ✦ Agriculture (3 options)

GHG mitigation options in Viet Nam Energy sector (Period 2000-2020)

Options	Period 2000-2020	
	GHG mitigation potential (Tg CO ₂)	Abatement Cost (\$/tCO ₂)
E1: Replacement of low-efficiency coal fired boilers by higher efficiency one	10.2	3.65
E2: Replacement of low-efficiency oil fired boilers by higher efficiency one	3.5	-3.65
E3: Fuel efficiency improvements with lean burn engine in transportation	21.9	-6.78
E4: Development of geo-thermal power	29.2	5.15
E5: Development of solar power	26.1	6.01

GHG mitigation options in Viet Nam (Cont.)
Energy sector (Period 2000-2020)

Options	Period 2000-2020	
	GHG mitigation potential (Tg CO ₂)	Abatement Cost (\$/tCO ₂)
E6: Development of wind power stations	34	4.64
E7: Efficiency improvement in coal-cooking stoves	73	-4.15
E8: Replace incandescent light bulbs by compact fluorescent lamps	16	-8.31
E9: More efficient industrial motors	70	-7.19
Total	283.8	

GHG mitigation options in Viet Nam (Cont.)
Forestry and Land Use Change sector
(Period 2000- 2020)

<i>Options</i>	<i>Carbon Sink (Tg CO₂)</i>	<i>Reduced Cost (\$/tCO₂)</i>
F1: Protection of forest	1,320.6	0.21
F2: Combination of forest nursing and delineation for regeneration	372.6	0.11
F3: Planting of protective, specialized forest	325.8	0.26
F4: Short rotation reforestation	445.8	-0.15
F5: Long rotation reforestation	496.1	0.20
F6: Scattered trees planting	278.7	2.56
Total	3,221.6	

**GHG mitigation options in Viet Nam (Cont.)
Agriculture sector (Period 2000- 2020)**

<i>Options</i>	<i>Reduced methane (Tg CO₂ eq.)</i>	<i>Mitigation Cost (\$/tCO₂)</i>
A1: Water management in rice field	105.0	13.12
A2: Food processing for animal	8.0	5.19
A3: Utilization of biogas	27.3	3.41
Total	140.3	

Implemented activities

✦ Adaptation measures for water resources:

1. Building reservoirs for containing flood water to mitigate losses caused by flood, meanwhile regulate water during low-flow season.
2. Upgrading and raising the scale of drainage system
3. Upgrading existing sea and river-mouth dykes
4. Actively limiting the population growth rate and organizing new resettlement areas to avoid the effects of sea level rise
5. Reclaiming areas for agricultural production
6. Using water scientifically and effectively with special attention paid to increasing run-off during low-flow season
7. Exploiting while protecting water sources
8. Conducting studies for planning rational and safe use of surface water sources.

Implemented activities

✦ Adaptation measures for agriculture sector:

1. Development of crop patterns suitable to climate change
2. Effective use with of irrigation water
3. Upgrading of irrigation system for agriculture
4. Development of new varieties that could stand against severe environmental conditions
5. Reserve and storage of local crop varieties, establishing crop seed banks
6. Development of farming techniques appropriate to climate change

Implemented activities

✦ Adaptation measures for forestry and land use change sector:

1. Enhancing reforestation, regreening bare lands and hills, protecting and developing of mangrove forest
2. Protecting natural forest and going forward to closing natural forest exploitation. Preventing forest fire
3. Establishing bank of seeds of natural forest trees in order to protect some valuable varieties.
4. Enhancing timber processing and limiting use wood as material.
5. Selecting and developing plant varieties suitable to natural conditions taking into account climate change

Implemented activities

✦ Adaptation measures for aquaculture:

1. Researching on prediction of movement of fishes and providing fishermen with fish monitoring equipment.
2. Importing and developing valuable aquaculture varieties that could adapt to high temperature.
3. Changing farming structure in some wet areas from rice monoculture to fish-rice rotation system.
4. Taking into account sea level rise and increase of temperature while building infrastructures, quays, ports, store house, etc.
5. Developing plan on brackish water aquaculture for Central Viet Nam with 2000 km of coast and sandy land
6. Building back-up dyke behind sea dyke to create transitional belts between agricultural land and sea.
7. Building storm shelter port systems along the coast as well as in islands.
8. Establishing natural ecological reserves.

Implemented activities

✦ Adaptation measures for coastal zone:

Three strategic options:

1. Full protection:

Make all dykes higher and strengthen coastal management

2. Adaptation: reform infrastructures and habits of the people living in the coastal zone to adapt sea level rise.

3. Withdrawal (or avoidance): resettlement, moving house and infrastructures from threatened areas.

Implemented activities

✦ Adaptation measures for energy, transportation sector:

1. Taking into account climate change factors in planning of energy and transport development
2. Upgrading and reconstructing transport infrastructure in areas often threatened by sea level rise and flood
3. Ensuring demand side management of energy based on high efficiency of energy use, economical and rational use of energy, ensuring energy security and safety
4. Developing strategies to response and adapt to the vagary of weather.

Implemented activities

✦ Adaptation measures for human health

1. Accelerating the implementation of the programme "Eliminating hunger and reducing poverty", improving living standards of the people, especially of those in remote areas.
2. Developing national plan and programme for medical control and monitoring in areas that have high danger of infections in order to take timely response measures and prevent the spreading of diseases.
3. Establishing green, clean and beautiful areas in the dense populated areas.
4. Promoting public awareness on climate change so that every person could take adaptation measures for himself
5. Implementing strict quarantine at the borders, airports to prevent infection and disease transmission from outside.

Portfolio of some projects on climate change

No	Name of Project	Location	Total Budget (million USD)	Time
1	Development of renewable energy	All country	50	2005-2009
2	Energy saving in industry	All country	3.3	2005-2007
3	Encouraging utilization of renewable energy in rural areas	North of Vietnam	0.46	2005-2007
4	Forest plantation on sandy soil in the coast of the Southern Central Viet Nam	Southern Central Vietnam	11.5	2005-2010

Portfolio of some projects on climate change (cont.)

No	Name of Project	Location	Total Budge (million USD)	Time
5	Improving cooking stoves of the rural-mountainous community	North of Viet Nam	0.35	2005-2009
6	Using biogas as fuel to mitigate GHG in rural areas	All country	1.5	2004-2008
7	Research on-generation technology from biomass fuel in Vietnam	All country	0.135	2004-2006
8	Energy conservation and saving in small and medium-sized enterprises	All country	1.5	2003-2006

Portfolio of some projects on climate change (cont.)

No	Name of Project	Location	Total Budge (million USD)	Time
9	Wind power stations for the people in remote island	Quang Ninh Province	0.2	2004-2011
10	Planting protective forest in the watershed of Ngan Sau, Ngan Pho Rivers	Ha Tinh Province	7.01	2004-2012
11	Irrigation management of wetland rice field to reduce methane emission	Red River Delta and Mekong River Delta	5.025	2004-2007
12	Exploitation of geo-thermal energy in Vietnam	Central Viet Nam	0.3	2004-2005

Next steps

1. Carrying out the Project "Expedited financing for (interim) measures for capacity building in priority areas" (Phase II). This project is a following-up to the Initial National Communication.
 - ✦ The main objective of the project is to enhance capacity building at national level and maintain efforts to access and disseminate information related to climate change technologies.
 - ✦ The specific objectives are:
 - ✦ To help meet the added requirement of enhancing capacity in order to identify and analyse technologies needs
 - ✦ To access information on technology transfer and sensitise the public awareness on climate change
 - ✦ To build the capacity to prepare climate change programmes promoting technology transfer.
 - ✦ To build the capacity to improve the quality of climate change enabling activities.

Next steps

2. Developing climate change scenarios in Viet Nam for period 2010-2070
3. Collecting database provided for second National Communication
4. Continuing to study adaptation measures
5. Developing climate change project portfolio including potential CDM projects

Thank you for your attention