



OVERVIEW OF THE BUR1 AND THE PREPARATION FOR PUBLISHING OF NATIONAL INVENTORY SYSTEM IN VIETNAM

Capacity building for measurability, reportability and verifiability

The 13th Workshop on GHG Inventories in Asia (WGIA13)

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Outline

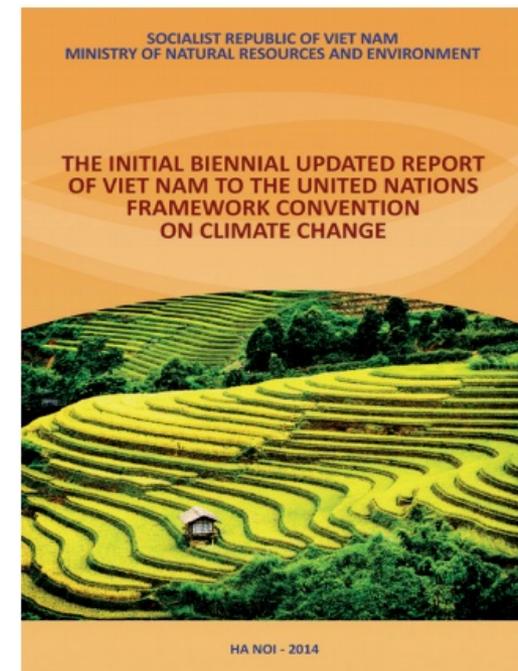
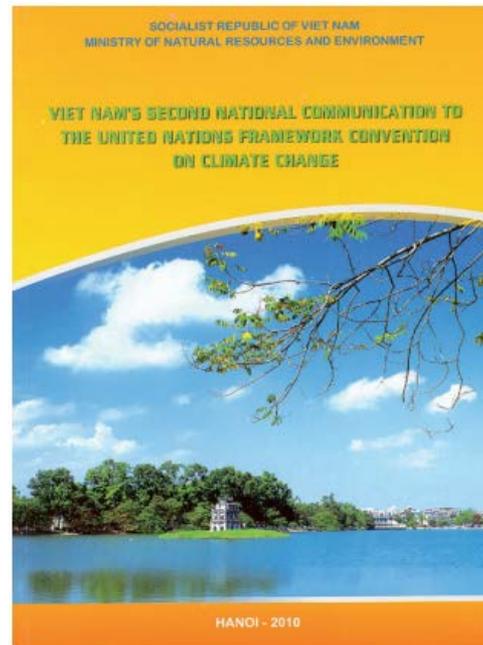
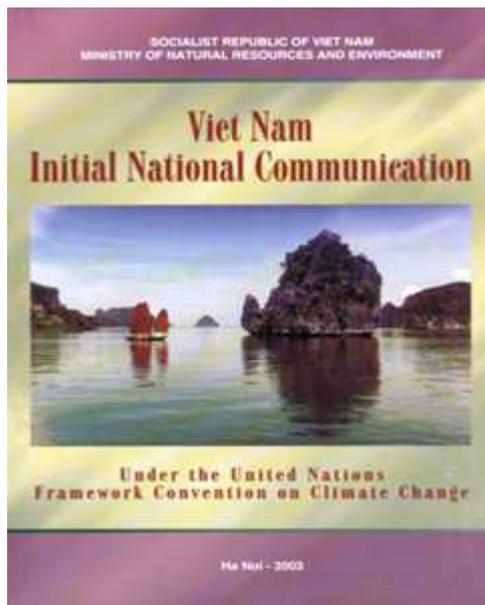
1. Development of the BUR1 of Vietnam
2. Main contents of BUR1
3. Preparation for the publishing of NIS

1. Development of BUR1 (1/3)

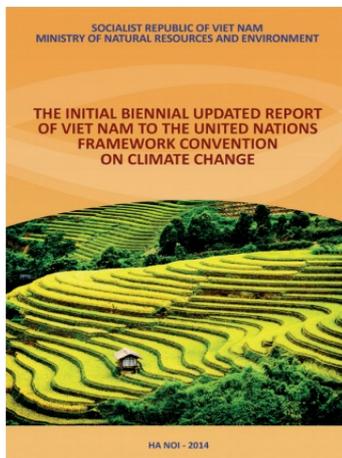
- + Vietnam ratified the UNFCCC in 1994 and the Kyoto Protocol in 2002.
- + Ministry of Natural Resources and Environment (MONRE) is the National Focal Point of Vietnam for implementation of UNFCCC and KP.
- + Department of Meteorology, Hydrology and Climate Change (DMHCC) of MONRE is responsible for:
 - Organizing and coordinating implementation of UNFCCC and KP;
 - Standing Office for the National Steering Committee of UNFCCC and KP;
 - Designated National Authority for the Clean Development Mechanism;
 - Focal point for communication with the UNFCCC Secretariat and the Intergovernmental Panel on Climate Change.

1. Development of BUR1 (2/3)

Vietnam submitted the Initial National Communication (NC1), the NC2 and the Initial Biennial Updated Report (BUR1) to the UNFCCC Secretariat in 2003, 2010 and 2014.



1. Development of BUR1 (3/3)



(1) *Decision No. 2/CP.17 dated March 15th, 2012 by COP17 in South Africa:*

- **Submission of BURs** containing updates of national GHG inventories and information on mitigation actions, needs and received support **is an obligation** of all developing country Parties to the UNFCCC.
- The **first BUR** should be submitted to UNFCCC by **2014**.

www.unfccc.int/8722.php

(2) *Decision No. 44/QD-TTg dated January 8th, 2014 by the Prime Minister approving the Policy Matrix of 2014 under the Support Program to Respond to Climate Change (SP-RCC):*

Developing the first BUR to UNFCCC is **one of the urgent policy actions** in the 2014 Policy Matrix of SP-RCC.

2. Content of BUR1 (1/21)

Executive Summary

Chapter 1: National Circumstances

Chapter 2: National GHG inventory 2010

Chapter 3: GHG Emission Mitigation Activities

**Chapter 4: Financial, technology, capacity
needs and received support for climate change**

References

Appendix 1: Information of three NAMAs in Vietnam

Appendix 2: List of CDM Projects in Vietnam



2. Content of BUR1 (2/21)

Chapter 1: National Circumstances

1.1. Natural conditions

- Tropical monsoon climate;
- 331 thousands km².

1.2. Social and economic overview

- 87 millions (2010);
- Total end-use energy of 48 MTOE;
- Mainly agriculture (paddy of 31% national land);
- 13.4 Mil. ha forest (40% national land);

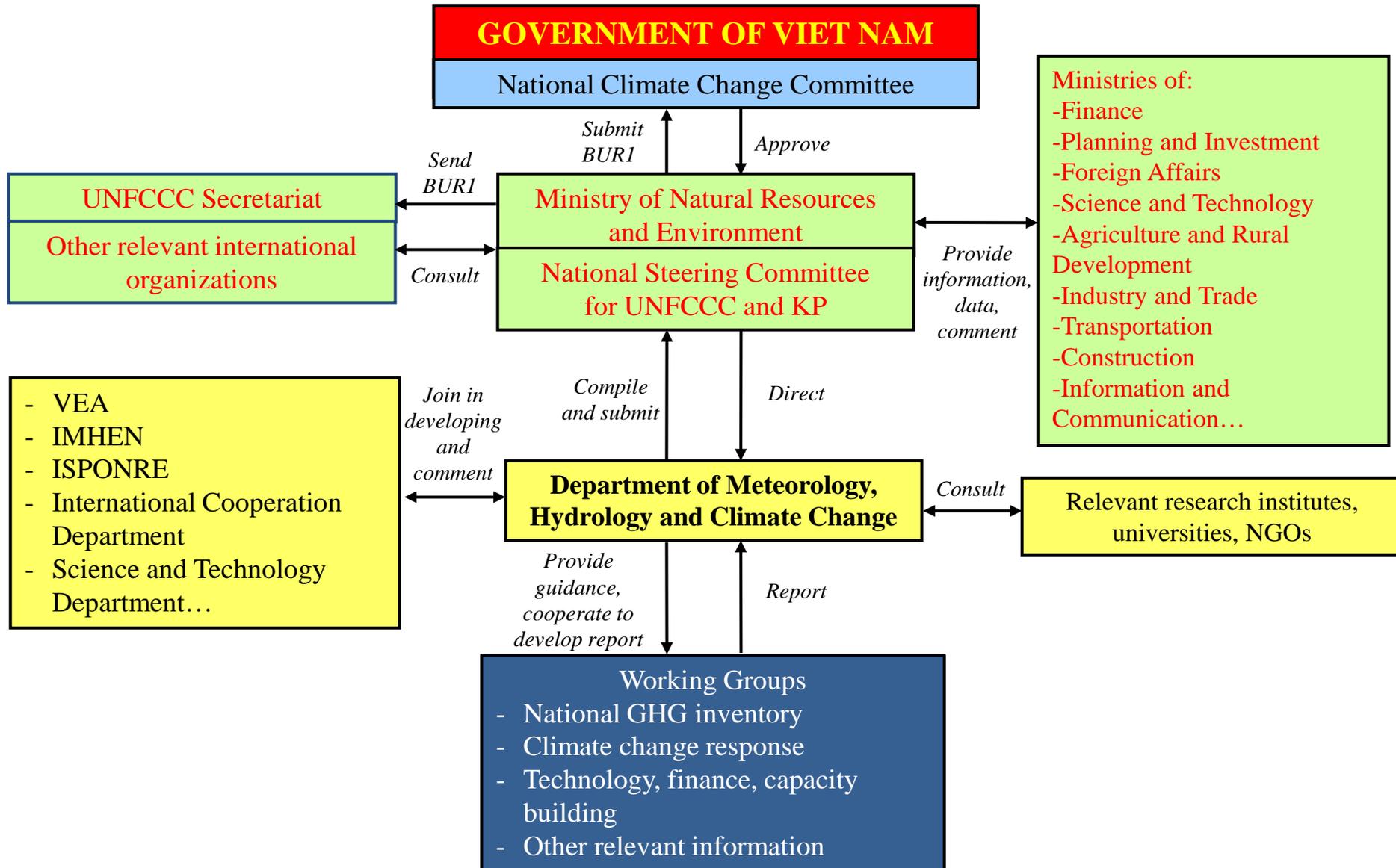
1.3. Sustainable development strategy

- Middle-income country

1.4. IA for development of BURs and NCs of Vietnam



Institutional arrangement for development of BUR1



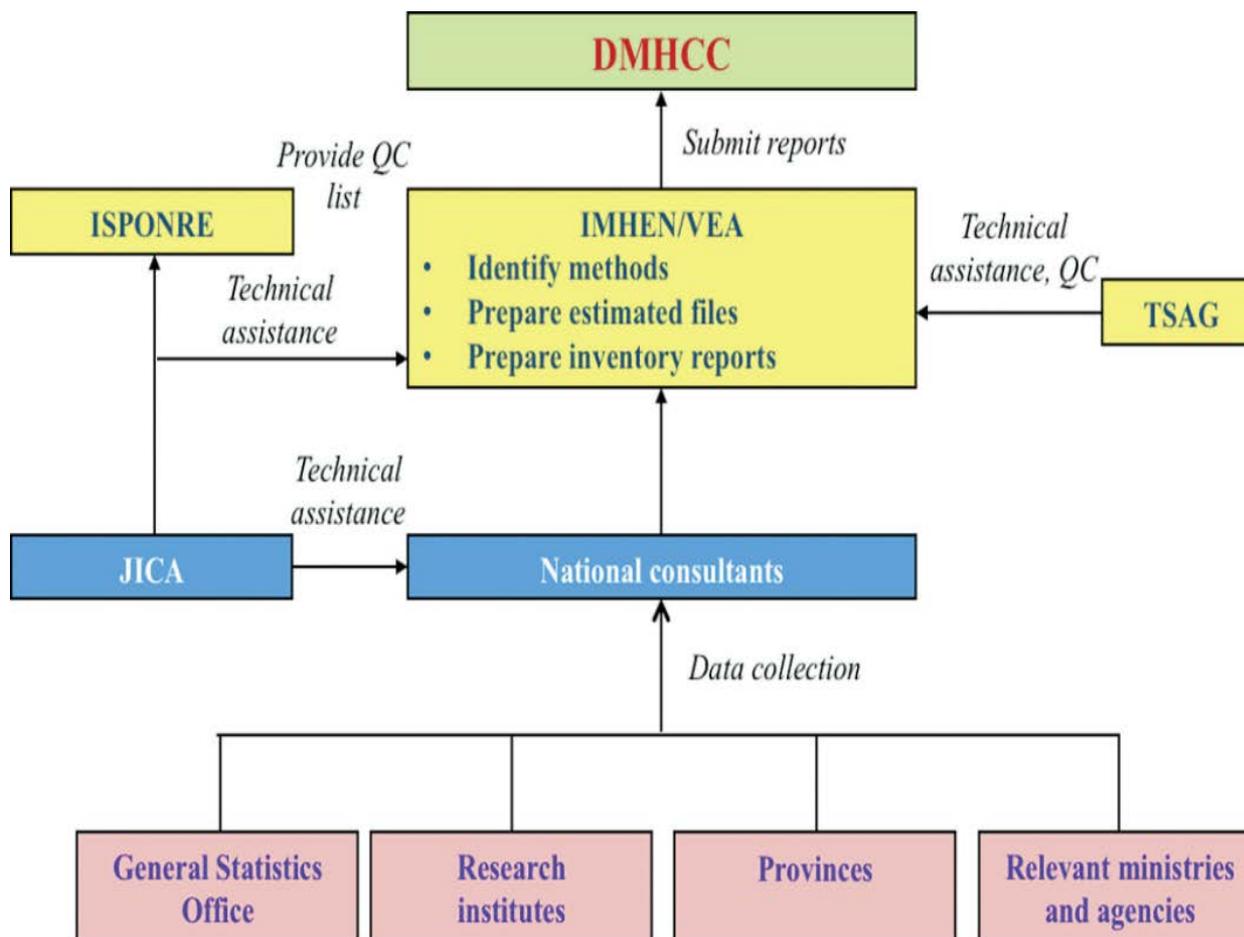
2. Content of BUR1 (4/21)

Chapter 2: National GHG inventory 2010

- 2.1. Institutional arrangement for National GHG Inventory**
- 2.2. Methodology, data source and emission factors**
- 2.3. Quality Control and Quality Assurance**
- 2.4. Results of 2010 GHG Inventory**
- 2.5. GHG emission projects for 2020 and 2030**

2. Content of BUR1 (5/21)

2.1. Institutional arrangement for GHG Inventory 2010



2. Content of BUR1 (6/21)

2.2. Methodology, data source and emission factors

Inventory method: Revised 1996 Intergovernmental Panel on Climate Change (IPCC), GPG 2000 and GPG-LULUCF 2003.

Activity data: General Statistic Office (GSO), related Ministries and agencies, research institutes, entrepreneur, ...

Institutional arrangements: was hosted by DMHCC/MONRE, ran by projected mechanism with the TA support of JICA.

The NIRs of 2005 and 2010: have identified 96 categories excluding LULUCF and 117 categories including LULUCF, provided recommendations responding to sectors in the improvement of future GHG inventories.

Emission factor: Almost all of IPCC default EFs, only rice cultivation used in-country specific EFs.

2. Content of BUR1 (7/21)

2.3. Quality Control and Quality Assurance

Position	Responsibility	Organization
GHG Inventory	All contents of the inventory program, the content related QA / QC	DMHCC-MONRE
QA/QC coordinator	Implement the plan of QA/QC overall	DMHCC-MONRE
Leader	Implement QA/QC processes for general (tier 1) or specific sources (tier 2)	IMHEN-MONRE (Energy, IP, LULUCF) VEA-MONRE (Agri, Waste)
External Experts	Assess the result of inventory	Independent experts from MOIT, MARD, MOC, MOT, MONRE, Universities.

2. Content of BUR1 (8/21)

2.4. Results of 2010 GHG Inventory

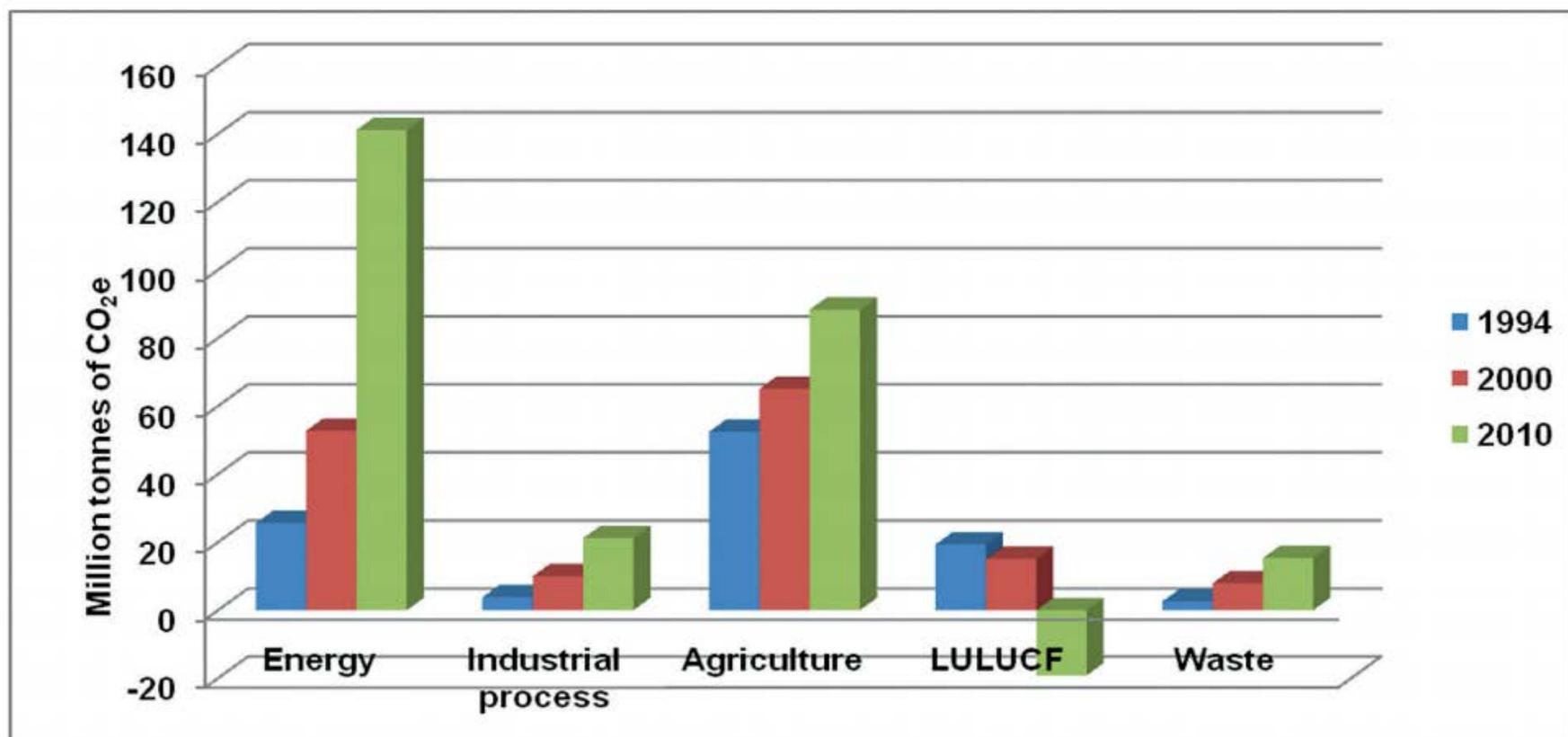
Unit: million tonnes of CO₂ equivalent

Sector	CO ₂	CH ₄	N ₂ O	Total	Percentage (%)
Energy	124.8	16.0	0.4	141.1	53.05
Industrial Processes	21.2	-	-	21.2	7.97
Agriculture	-	57.9	30.4	88.3	33.20
LULUCF	-20.3	1.0	0.1	-19.2	
Waste	0.07	13.4	1.8	15.4	5.78
Total Emissions (excluding LULUCF)	146.0	87.3	32.7	266.0	100.00
Total Emissions (including LULUCF)	125.7	88.3	32.8	246.8	

2. Content of BUR1 (9/21)

2.4. Results of 2010 GHG Inventory

Comparison of GHG emissions/removals in 1994, 2000 and 2010



2. Content of BUR1 (10/21)

2.4. Results of 2010 GHG Inventory

GHG emissions and removals in 2010 and projections to 2020 and 2030

Sector	2010	2020	2030
Energy	141.1	381.1	648.5
Agriculture	88.3	100.8	109.3
LULUCF	-19.2	-42.5	-45.3
Waste	15.4	26.6	48.0
Total	225.6	466.0	760.5

2. Content of BUR1 (11/21)

Chapter 3: GHG Emission Mitigation Activities

3.1. NAMA preparation

Institutional framework for NAMAs in Vietnam is under development

Some NAMA proposals have been developed:

- Supporting program for wind power development;
- NAMA on biogas for on-site power generation for medium/large pig farms;
- Fund for renewable energy development – Viet Nam GET FiT mechanism (MOIT).

2. Content of BUR1 (12/21)

Chapter 3: GHG Emission Mitigation Activities

3.2. CDM Implementation

- 253 projects have been registered by the Executive Board (EB) for CDM with total GHG emission reduction of 137 million tCO₂e (rank 4th in the world)
- 11 PoAs have been registered by EB
- Received 10 million of CERs issued by EB (rank 11th)

2. Content of BUR1 (13/21)

Chapter 3: GHG Emission Mitigation Activities

3.3. Implementation of JCM and other mechanisms

- Japan and Viet Nam signed a Memorandum of Cooperation on low-carbon growth in July 2013;
- The 1st Joint Committee (JC) meeting on Sep. 2013, both sides adopted the Rules of Procedures and at the 2nd JC meeting on Feb. 2014, technical guidelines were adopted for developing several pilot JCM projects;
- 28 JCM projects (*proposed by the Ministries Japan*) in the feasibility study phase (*estimated 10 million tonnes CO₂eq per year*).
- Vietnam participated in carbon crediting projects under the Verified Carbon Standard (VCS) and Gold Standard (GS) to trade on voluntary carbon markets; having 4 projects registered under the GS and 15 projects under the VCS with 419,452 credits issued for these VCS projects.

2. Content of BUR1 (14/21)

Chapter 3: GHG Emission Mitigation Activities

3.4. Development of GHG mitigation options

Several mitigation actions mainly in 3/5 sectors:

Energy sector

Option	GHG reduction potential (million tCO ₂ e)	Cost (US\$/tCO ₂ e)
Using high efficiency air conditioners	39.083	-7.8
Converting to LPG in transport sector	4.726	-10.9
Switching from petroleum to ethanol use in transport sector	12.265	19.2
Biomass thermo-power development	57.343	4.8
Small hydropower development	55.741	-4.7
Wind power development	68.145	41.1
Total	237.303	

2. Content of BUR1 (15/21)

Chapter 3: GHG Emission Mitigation Activities

3.4. Development of GHG mitigation options

Agriculture sector

Option	GHG reduction potential (million tCO ₂ e)	Cost (US\$/tCO ₂ e)
Alternate wetting and drying irrigation or System of Rice Intensification (AWD-SRI)	1.47	76.3
Re-using rice crop residues as composts	9.34	-59.1
Total	10.81	

2. Content of BUR1 (16/21)

Chapter 3: GHG Emission Mitigation Activities

3.4. Development of GHG mitigation options

LULUCF sector

Option	GHG reduction potential (million tCO ₂ e)	Cost (US\$/tCO ₂ e)
Mixture plantation of indigenous tree species	504.17	1.3
Natural forest regeneration with enrichment planting of indigenous trees under forest canopy	151.29	1.6
Community based-forest management under the forestry socialization policy with planting of non-timber forest products	137.30	0.9
Total	792.76	

2. Content of BUR1 (17/21)

Chapter 4: Financial, technology and capacity needs and support received for climate change activities

4.1. Gaps and constraints

- **The NIS has not been officially established** and an insufficient legal foundation for responsibilities of ministries and stakeholders in NIS;
- Implementation of the GHG inventory is not comprehensive;
- Most of the EFs used for GHG inventory are IPCC's default values;
- QA/QC is insufficient; a lack of specific guidelines;
- Activity data is inadequate, a lack of a specific database to implement;
- Domestic financial resources and availability of local experts for the national GHG inventory are limited.
- Most of national GHG inventories are conducted primarily under programs and projects funded by internationals.

2. Content of BUR1 (18/21)

4.2. Financial, technology and capacity needs

- ✓ MONRE has implemented SP-RCC.
- ✓ In 2009, the SP-RCC has 6 sponsors: JICA, AFD, WB, CIDA, DFAT, Korea Eximbank;
- ✓ Total funds: US\$ 138 million, 212 million, 136 million, 173 million & 204 million for 2010-2014;
- ✓ MONRE, MOIT, MOC, MOT and MARD got FA, TA, and capacity-building from both domestics and internationals (US\$ 200 million);

Total investment to respond to climate change in Viet Nam (billions VND)

Activity \ Year	2010	2011	2012	2013
Mitigation	111	20	41	149
Adaptation combined with mitigation	435	385	366	267
Adaptation	3 770	3 025	2 922	3 413

UNDP,
2014

2. Content of BUR1 (19/21)

Technology for adaptation

Sector	Technology	Availability/Scale
Agriculture	Plant Genetic/Breeding	Long term/Large
	Rice to upland grain	Long term/Medium
	Triple cropping to double + shrimp/fish crop	Long term/Small
LULUCF	Plant Genetic	Short term/Large
	Agro-forestry	Short term/Small
Coastal zone	Sea-dyke	Short and Medium term/Large
	Coastal wetland rehabilitation	Short and Medium term/Large
Water resources	Rooftop rainfall harvesting for household usages	Short term/Small
	Runoff water harvesting	Short term/Small and Medium
	Integrated river basin management	Short and Medium term/Large

2. Content of BUR1 (20/21)

Technology for mitigation

Sector	Technology	Availability/Scale
Energy	Wind power	Short term/Medium
	Energy-saving compact fluorescent lamps	Short term/Small and Medium
	Cogeneration	Short and Medium term/Medium
	Bus rapid transit	Medium and Long term/Large
Agriculture	Biogas	Short term/Small and Medium
	Nutrition improvement through controlled fodder supplement	Short and Medium term/Small
	Wet and dry irrigation in certain rice growth stages	Short and Medium term/Medium
LULUCF	Sustainable forest management	Short term/Large
	Afforestation and reforestation	Short term/Large
	Rehabilitation of mangroves	Short term/Large

2. Content of BUR1 (21/21)

Chapter 4: Financial, technology and capacity needs and support received for climate change activities

4.3. Supports for climate change activities

- a. Supplementing and completing legal documents for implementation of the UNFCCC and response to climate change;
- b. Developing, updating and downscaling climate change scenarios;
- c. Improving capacity and effectiveness of early warning and disaster prevention;
- d. Building capacity for officials
- e. Developing a database system;
- f. Studying and developing country-specific emission factors;
- g. Improving capacity to develop a low-carbon economy;
- h. Developing several climate services and insurance systems.

3. Preparation for publishing of NIS (1/1)

- Vietnam had a lot of capacity increasing after completing BUR1 and others, but having limits when the National GHG Inventory System (NIS) has not published;
- A research of Department of Meteorology, Hydrology and Climate Change (DMHCC) under Decision No. 1579 of MONRE Minister dated September 5th 2013 has tried to propose a suitable NIS for the GHG inventory annually;
- The central government issued a Decision No. 1277/QD-TTg dated July 8th, 2014 by the Prime Minister approving the Policy Matrix of 2015 and a PA is to publish the NIS at 2016;
- The approved NIS of Vietnam will strengthen the implementation of GHG inventory in recent.

A sunset over the ocean with a bright sun low on the horizon, casting a golden glow across the sky and water. The sky is filled with dark, dramatic clouds, and the water is dark with some small silhouettes of boats or structures in the distance.

TRÂN TRỌNG CẢM ƠN !!!
THANK YOU VERY MUCH

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