Summary of the Mutual Learning Sessions

28 June 2023, Tomakomai, Hokkaido, Japan
20th Workshop on GHG Inventories in Asia

Greenhouse Gas Inventory Office of Japan (GIO)
National Institute for Environmental Studies (NIES)

Greenhouse gas Inventory Office of Japan

Mutual Learning in WGIA20

- Participants had exchanged the Q&A sheets with the partner countries through the WGIA secretariat in advance.

- In the sessions, participants discussed sector-specific issues based on the Q&A sheet.

- The sessions were held as closed-door discussions.

Sector	Country	Number of Participants
IPPU	Mongolia	3
IPPU	Philippines	3 onsite, 2 remote
LULUCF	Indonesia	3
LULUCF	Lao PDR	4
Waste	Japan	5 onsite, 2 remote
Waste	Vietnam	3

Participants in the ML sessions

Report on each session
Overview of each country's inventory

■ **Overview of each country's inventory**

Sector	Country	Inventory	Guidelines Applied	Estimation Methodology	Emission Factors	Activity Data
IPPU	**Mongolia**	NIR 2023(Draft) NC4 (Draft)	2006 IPCC GLs	Tier 1	Default	National statistics/surveys and data provided by industry
	Philippines	2010 Sectoral GHG Inventory Report (Draft)	2006 IPCC GLs	Tier 1, 2	CS, Default	National statistics/surveys, data provided by industry, and int'l sources
LULUCF	**Indonesia**	BUR3, FRL2	2006 IPCC GLs /IPCC Wetlands Supplement	Tier1, 2	CS, Default	National statistics Remote sensing data
	Lao PDR	BUR1	1996 GLs 2006 IPCC GLs	Tier1, 2	CS, Default	National statistics Remote sensing data
Waste	**Japan**	NIR 2023	2006 IPCC GLs, 2019 ref.	Default, Tier2, 3, CS	CS, Default	National statistics
	Vietnam	BUR3	2006 IPCC GLs	Tier 1, 2	Default	National statistics

1. IPPU sector (1) (Mongolia and Philippines)

■ **Issues and solutions / Outstanding issues**

- It is necessary to prepare to estimate using higher tier methods for key categories such as cement production and Refrigeration and air conditioning (RAC), and this will require more disaggregated activity data, and collecting of confidential data in some cases. (Mongolia/Philippines)

- It is necessary to ensure that the assumptions of hybrid Tier 1a/b method for RAC provided by the 2006 IPCC Guidelines are appropriate for the national circumstances. (Mongolia/Philippines)

- Assessment of completeness for IPPU emission sources based on the 2006 IPCC Guidelines is required. Surveys of industrial activity, communications with industry and drafting of policy issuance to require industries to report are ongoing. (Philippines)

1. IPPU sector (2) (Mongolia and Philippines)

■ **Issues and solutions / Outstanding issues (cont.)**

- Difficulties will be faced in terms of QC during recalculations and switching to reporting F-gas emissions using AR5 GWP values for the entire time series. (Mongolia/Philippines)

- For categories with less complicated end-uses, such as electrical equipment (2.G.1), efforts may be taken to start estimation (Mongolia/Philippines).

- More description specific to a country is needed for the clarify of the reports, including e.g. what AD or EFs were actually applied (Mongolia/Philippines).

1. IPPU sector (3) (Mongolia and Philippines)

■ **Good practices**

<u>Mongolia</u>

- Consistent time-series emissions from 1990 onward is prepared.

- For accurate estimation of mineral industry category, the largest source of IPPU, quality check is conducted by comparing activity data from the Ministry of Agriculture and Light Industry, and National Statistical Office.

- Assessment of completeness for IPPU emission sources based on the 2006 IPCC Guidelines has been conducted, and categories that are not estimated are discussed in the report.

1. IPPU sector (4) (Mongolia and Philippines)

■ **Good practices**

Philippines

- Executive Order No.174 provided the institutional arrangement for the GHG inventory management and reporting system. The Climate Change Commission as the overall lead agency, issued guidance documents, templates, and tools to serve as reference for the agencies in the development of the latest inventory.

- Clinker production data is used in the inventory estimation of cement production which is a key category. It is also beneficial because clinker substitution is one of the mitigation measures in the NDC.

- To fill the gaps of the clinker production data for Tier 2 cement production estimation, efforts were made to use alternative data from other sources.

2. LULUCF (1)
(Indonesia and Lao PDR)

■ **Outstanding issues**

- In order to meet the new requirements under the Paris Agreement (18/CMA.1, 5/CMA.3), the following challenges are identified:
  - ✓ To report a consistent annual time series data (Lao PDR)
  - ✓ To estimate for not-estimated categories or to use appropriate Notation Keys.
  - ✓ To disaggregate the emissions to follow the subcategory and carbon pool basis accordance with the CRT.
  - ✓ To separate the AFOLU into the Agriculture and the LULUCF/FOLU accordingly.
- Difficulties are faced in collecting appropriate activity data.
- Estimating all carbon pools especially mineral soils are challenging.
- Involving sub-national and local stakeholders into climate change communication to collect more data to reflect local circumstances on ADs/ EFs.

2. LULUCF (2) (Indonesia and Lao PDR)

■ **Good practices**

Indonesia

- Submitting many reports such as BURs, FRLs reports and helped with the improvements for each submission.

- The institutional arrangement for 3rd BUR has developed with better coordination and collaboration.

- Remote sensing has contributed to improve the detection of land use and land-use changes, resulting in, e.g., producing monthly maps of burnt scar area and annual land cover maps.

- Indonesia has developed many aspects in their report of 3rd BUR. The followings are the practices improved from the previous BUR 2:
  - ✓ Reported a consistent annual time series starting from 2000 up to 2019 which is equivalent to two years prior to the submission.
  - ✓ Recalculations were conducted for all reporting years from the estimation in 2nd BUR.
  - ✓ CH_4 and N_2O emissions from biomass burning have been estimated in FOLU sector.

- Improvement has been made by prioritizing key categories

2. LULUCF (3)
(Indonesia and Lao PDR)

■ **Good practices**

Lao PDR

- 2006 IPCC GLs were applied.

- Land use change Matrix were developed.

- To improve GHG estimation of forest, Lao has been making effort to reflect national circumstance. This includes development of CS-parameters and applying the allometric equations from neighboring country (Vietnam) for some forest types.

- CS EFs for estimating emissions from biomass burning is being studied and planned to use it for near future estimation (such as FREL, GHGI).

- National GHG database management system is being developed through CBIT-PJ.

- Standard Operational Procedures (SOP: a kind of agreement procedures for revising estimation methodologies) has been applied for every submission.

3. Waste sector (1) (Japan and Vietnam)

■ **Issues and solutions / Outstanding issues**

- Applying appropriate extrapolation technique can make up for the lack of historical data for category SWDS, and this will eliminate underestimation of CH_4 emissions (Vietnam).
- There is still room for improvement regarding differences between national statistics and aggregated data from municipalities (Vietnam).
- Activity data of CH_4 recovery and sludge needs to be collected through on-going and upcoming projects (Vietnam).
- Development of CS EFs and parameters can improve national emission estimation (Both countries).

3. Waste sector (2) (Japan and Vietnam)

■ **Good practices**

Vietnam
- The national inventory system is established by the domestic laws and has effective QC procedures.
- Continuous effort is made to improve methodology for the next inventory submission.
- Uncertainty analysis is conducted in detail.

Japan
- Transparent explanation and accurate estimation of GHG emissions are provided in NIR.
- National system with the cooperation of the private sector, municipalities and relevant agencies is established for collecting AD, developing EFs and conducting QA/QC activities.
- An effective legal framework for the waste management is established.

Summary of all the sessions

- **In the ML sessions, participants shared with partner countries their experiences shown below.**
- Toward the 2024 submission in accordance with the MPGs under the PA, the countries make effort to enhance completeness in their inventory by resolving not-estimated categories and by preparing timeseries data.
- To improve national inventory system, the countries develop and formalize relationships with various stakeholders under legal frameworks.
- Many countries are making continuous effort to develop CS EFs and parameters to estimate GHG emissions more accurately.
- To reflect the effects of mitigation policies, some countries have already/are striving to obtain data, such as the amount of clinker production or CH_4 recovery.

- **Building on the discussions, participants will improve and prepare the inventory for the 2024 submission.**

Thank you for your attention!