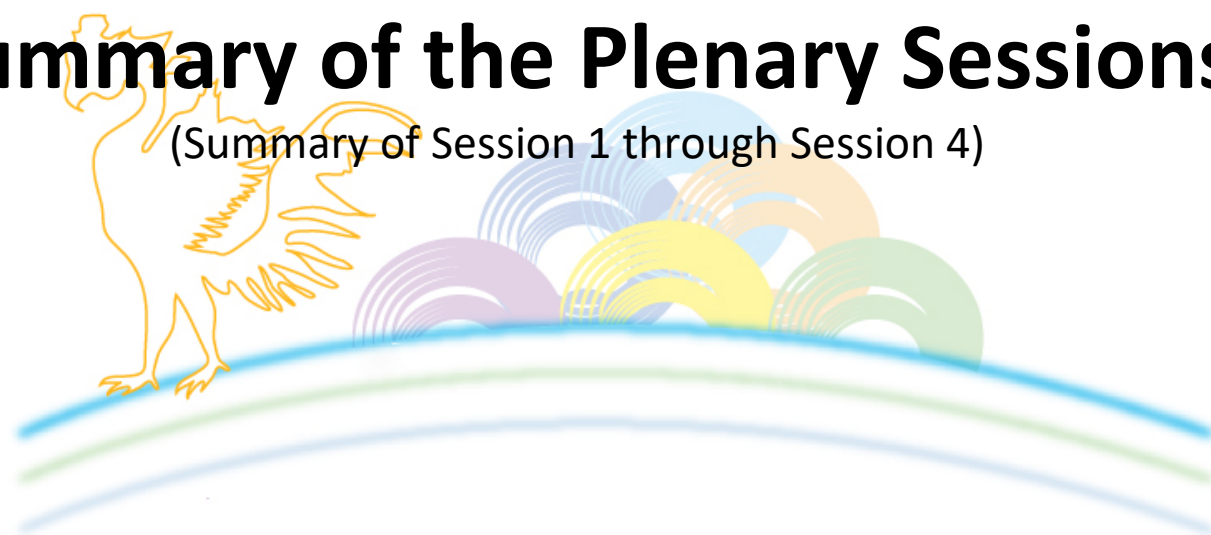


# Summary of the Plenary Sessions

(Summary of Session 1 through Session 4)



17<sup>th</sup> Workshop on Greenhouse Gas Inventory in Asia

1<sup>st</sup> August, 2019

Atsuko Hayashi / Naofumi Kosaka (Rapporteur, GIO/CGER/NIES)

# ***Session 1 –Updates on the NCs and BURs***

Chair: Dr. Baasansuren Jamsranjav (AB; IPCC/TFI)

## Summary of presentations

- Malaysia submitted the BUR2 in 2018 as a summary of the NC3. The 2006GLs were used to estimate the emissions and removals, and clarity and transparency were enhanced through the use of GHG inventory tables, sectoral and background tables, and disaggregation of aviation emissions. Completeness were also enhanced as new categories were subjected for estimation in several sectors. [Dr. Elizabeth MP. Philip (Malaysia)]
- Viet Nam submitted their BUR2 in 2017. The Revised 1996GLs were mainly used to estimate the emissions and removals. Both IPCC default values and CS values are used for EFs, and AD is mostly from national statistics. BUR3 is under preparation and will be completed in 2020.[Ms. Ngoc Thi Bich Tran (Viet Nam)]

# ***Session 1 –Updates on the NCs and BURs***

## Summary of presentations (cont.)

- Brunei submitted the NC2 in November, 2017. The 2006GLs Tier 1 methods and IPCC default EFs, together with AD from national statistics were used to estimate the emissions and removals. Energy is the predominant sector with 11Mt-CO<sub>2</sub> eq emissions in 2014, and half of it comes from Energy Industries. [Mr. Muhammad Nabih Fakhri Matussin (Brunei)]

# ***Session 1 –Updates on the NCs and BURs***

## Summary of discussion

- Malaysia's BUR2 made a substantial improvement from BUR1 in transparency as well as in completeness with new categories' data and time-series data (1990-2014).
- Malaysia has still difficulties in calculating uncertainty. The volume 1 of the 2019 Refinement provides a tool (Excel spreadsheet) for the implementation of Approach 1 for uncertainty. So, utilizing the 2019 Refinement may be helpful.
- Correct and common interpretation of GLs is crucial for preparation and continuous improvement of national GHG inventory.
- Collecting new AD is a big challenge, when applying higher tier methodologies.
- If there is CS data, it could be submitted to the IPCC EFDB and utilized.

# ***Session 1 –Updates on the NCs and BURs***

## Conclusion of the session

- Information/experience sharing is important for WGIA countries to help improving their capacities to meet the reporting requirements under the UNFCCC and plan for the future.
- Acquisition of activity data and country specific emission factors remains a challenge.
- It is important to utilize capacity building opportunities offered by UNFCCC and others.
- A smooth transitioning to the enhanced transparency framework is important. Enhancing data collection, human resources and capacity, coordination among relevant institutions, will be essential.

Chair: Mr. Takahiko Hiraishi (IGES)

### Summary of presentations

- The 2019 Refinement updates, supplements and elaborates on the methodology in the 2006 GLs and therefore must be used in conjunction with the 2006 GLs. The contents of refinements on Vol.1 (GGR) were also explained. [Mr. Kiyoto Tanabe (IPCC/TFI; CGE)]
- An overview of Vol.2 (Energy) was provided, with a focus on refinements on fugitive emissions (1.B.) from coal system, oil and gas system and fuel transformation. [Prof. Zhu Songli (LA; Energy Research Institute, NDRC)]
- The refinements in the Vol.3 (IPPU) were related to 1)new sources, 2)new emission mechanisms, 3)evolution in technologies, 4)new F-GHGs, and 5)needs for clarification. Refinements especially for production of fluorochemicals, aluminum, rare earths, and electronics were explained in detail.[Ms. Deborah Ottinger (CLA; USEPA)]

### Summary of presentations (cont.)

- The 2019 Refinement in Vol.5 (Waste) were introduced. The Refinements were related to “Solid Waste Disposal (4.A)”, “Incineration and Open Incineration of Waste (4.C)” and “Wastewater Treatment and Discharge (4.D)”. The Refinements were mainly corresponding to the updates in waste generation and waste composition, and improvements on estimation methodologies of waste water treatment. [Dr. Sirintornthep Towprayoon (CLA; AB; King Mongkut’s Univ. of Technology Thonburi)]
- The 2019 Refinement in the AFOLU sector (Vol.4) were overviewed. Major refinements, including updated, elaborated, and new guidance, as well as new and updated default data, were introduced. The refinements were made in all chapters except chapter 9 (Other Land).[Dr. Baasansuren Jamsranjav (AB; IPCC/TFI)]

### Summary of presentations (cont.)

- The refinements related to CH<sub>4</sub> emissions from Rice Cultivation were introduced. The methodological refinement for this source provides additionally, baseline emission factors (EFs) of methane at a global scale with new default values at regional scale. It also provides scaling factors for water regimes before and during the cultivation periods along with default conversion factors for different types of organic amendments. [Presentation was made by Dr. Baasansren Jamsranjav (AB; IPCC/TFI) on behalf of Dr. Sumana Bhattacharya (LA; AB; IORA Ecological Solutions)]



### Summary of discussion

- An integrated document of the 2019 Refinement, 2006GLs and other relevant guidance reports may be useful for users, especially for inventory compilers, though such a project has not been officially approved by the IPCC.
- Methodologies applying models are provided in chap.6 of Vol.1, which can be used with Vol.4 when you apply the models for LULUCF sector.
- The managed land proxy (MLP) was retained in the 2019 Refinement, with an optional/voluntary approach newly added for the disaggregation of total MLP emissions/removals into those that are associated with human effects, and those due to natural disturbances.

### Conclusion of the session

- The 2019 Refinement provides an updated and sound scientific basis for supporting the preparation and continuous improvement of national GHG inventories.
- Early use of 2019 Refinement may help inventory compilation, such as through referring to 2019 Refinement, in the context of using the 2006 GLs.
- More analysis of the implication of, and potential benefits by, the use of 2019 Refinement is needed at the technical level.

## ***Session 3 – Fluorinated Gas Emissions from non-Annex I Parties***

Chair: Mr. Kiyoto Tanabe (IPCC/TFI; CGE)

### Summary of presentations

- Under the newly adopted MPGs for the enhanced transparency framework of the PA, the reporting of F-gases have become mandatory, but with room to apply the flexibility clause if capacity is lacking. Preparation is needed to report, with the first BTR to be submitted by the end of 2024. [[Ms. Elsa Hatanaka \(GIO\)](#)]
- Indonesia is currently reporting PFCs from aluminium production. Efforts have been made in trying to identify AD for stationary and mobile air conditioning. Other planned improvements are to identify other sources of F-gases, such as SF<sub>6</sub> from electrical equipment. [[Ms. Ratnasari \(Indonesia\)](#)]

## ***Session 3 – Fluorinated Gas Emissions from non-Annex I Parties***

### Summary of presentations (cont.)

- US F-gas inventory data sources include facility-level reporting, national statistics, and input from trade associations, and models are used to develop estimates for many fluorinated GHG categories. EPA takes the lead and coordinates inventory compilation, with the support of a technical team of EPA experts and consultants. [\[Ms. Deborah Ottinger \(USEPA\)\]](#)
- The 2006 GLs provide a Tier 1 calculation tool based on net consumption of gases, a Tier 2 EF approach, and a Tier 2 mass balance approach for refrigerant and air conditioning (RAC). The 2019 Refinement does not change the methodology, but provides new information to help start estimation. [\[Mr. Kiyoto Tanabe \(IPCC/TFI; CGE\)\]](#)

## ***Session 3 – Fluorinated Gas Emissions from non-Annex I Parties***

### Summary of discussion

- Possible sources of SF<sub>6</sub> was clarified. If new sources are detected or research results are found, sharing this information with TFI, etc would be appreciated.
- It is good to check whether import/supply data matches up with the demand in the model.
- If the default EF value has a range, it is good to choose the value reflecting the real practice, such as whether or not mandatory programs to control HFCs, etc exist in that country.
- The US Vintaging Model for RACs is generally similar to IPCC Tier 2a approach. The Model considers the age-class of the products, etc.

## ***Session 3 – Fluorinated Gas Emissions from non-Annex I Parties***

### Conclusion of the session

- Under the newly adopted Modalities, Procedures and Guidelines (MPGs) for the enhanced transparency framework of the Paris Agreement, the reporting of HFCs, PFCs, SF<sub>6</sub>, and NF<sub>3</sub> have become mandatory, but with room to apply the flexibility clause if capacity is lacking.
- The 2006 GLs provide the basic methodology for RACs, and together with the 2019 Refinement, would be useful to start estimating for this sub-sector.
- A close collaboration with offices dealing with Ozone depleting substances will be useful, in light of the fact that the Kigali Amendment to the Montreal Protocol will be controlling HFCs as well. They may have easier access to data providers of/information on ODS substitutes. GHG inventory compilers should make effort so to have good understanding of Montreal Protocol reporting activities to elaborate such cooperation.

## **Session 4 –GHG Inventory Data and Systems for the Transparency Framework Under the PA**

Chair: Prof. Rizaldi Boer (AB/ Bogor Agricultural University)

### Summary of presentations

- Through Decision 18/CMA.1, the MPGs for the transparency framework for action and support under the Paris Agreement was adopted. It is applicable to all Parties, but with some flexibilities. [\[Mr. William Agyemang-Bonsu \(UNFCCC\)\]](#)
- Algeria is working to gradually integrate environmental dimensions into its development process, including mitigating GHG emissions. In 2000, total emissions amounted to 117 Mt CO<sub>2</sub>eq, with the energy sector being the largest sector (74%) followed by AFOLU, waste, and IPPU sectors. [\[Mr. Mohamed Sidi Moussa \(Algeria\)\]](#)
- Thailand is currently establishing the Thailand Greenhouse Gas Emissions Inventory System (TGEIS), a 2006 GL-based system to enable data input to archiving, which is expected to be fully implemented by 2020. [\[Mr. Sivach Kaewcharoen \(Thailand\)\]](#)

## ***Session 4 –GHG Inventory Data and Systems for the Transparency Framework Under the PA***

### Summary of presentations (cont.)

- The energy balance table has been revised and improved in response to constant change of domestic and international circumstances. The table has contributed to important policy decisions including actions to contribute to the enhanced transparency framework.  
[Dr. Ryo Eto (IEEJ)]
- FAO has developed Capacity-building Initiative for Transparency (CBIT) projects in the AFOLU sector in order to enhance developing countries' technical and institutional capacity to meet the requirements under the enhanced transparency framework.  
[Dr. Mirella Salvatore (FAO)]
- The guidance in 2019 Refinement describes key components and steps that are applied when using atmospheric measurements and inverse models for comparison with inventory emission estimates as part of an inventory quality assurance and quality control procedures.  
[Dr. Shamil Maksyutov (NIES)]



## ***Session 4 –GHG Inventory Data and Systems for the Transparency Framework Under the PA***

### Summary of discussion

- NIR and Adaptation Communication can be a component of BTR to streamline the preparation work of these reports.
- There is fair amount of work to be done to prepare for the first BTR. Questions were raised regarding who, how and when the support for BTR preparation is provided.
- There is a challenge of data collection from private sectors, especially insufficient response rate of questionnaire. Thailand expects more responses in the future through the recent revision of the climate change law.
- There is a difficulty to reflect mitigation effects of AFOLU to inventories due to difference between inventory and mitigation agencies in their understanding of the importance of data, etc.
- Data source of demand side of Energy Balance Table is harder to collect.
- Capacity-building on energy statistics is provided through IEF and the partners of IEF such as APEC.

## Conclusion of the session

- Clear understanding of the new requirements under the enhanced transparency framework is essential.
- Knowing and utilizing available resources/capacity building opportunities is important.
- In order to prepare for the new requirements, WGIA countries should respectively enhance their national systems to prepare Inventories/BTRs.
- Strengthening background statistics for inventories can contribute to the improvement of GHG inventories.

# Thank you

Any comments?

We welcome **any corrections** or additions to these wrap-up slides.

➤ e-mail us to the following address by 3<sup>rd</sup> August:

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