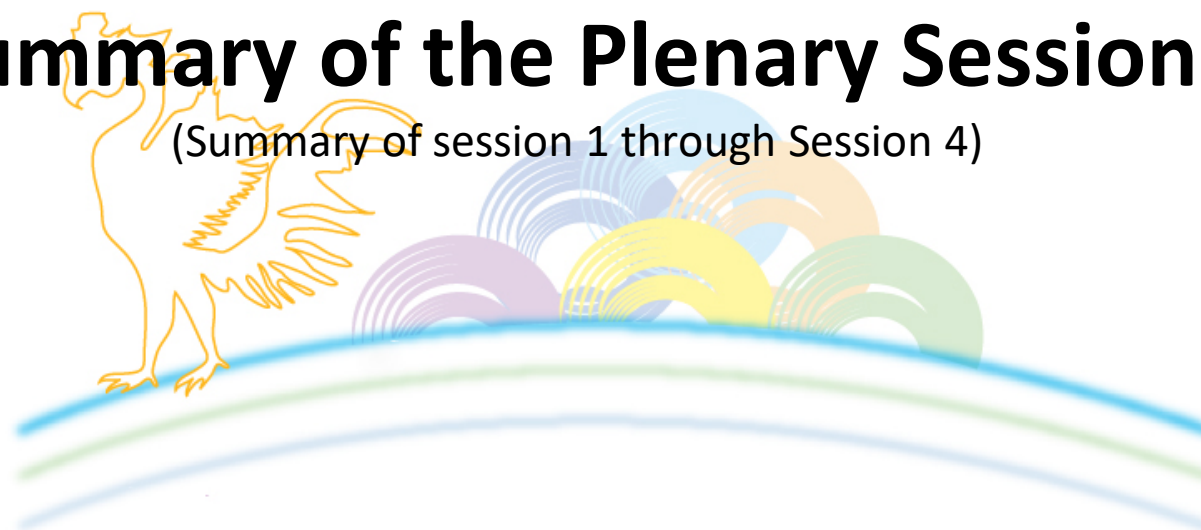


Summary of the Plenary Sessions

(Summary of session 1 through Session 4)



16th Workshop on Greenhouse Gas Inventory in Asia

12th July, 2018

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

Session 1 –Updates on the NCs and BURs

Co-Chairs: Mr. Kiyoto Tanabe (IPCC/TFI)
/Prof. Amit Garg (IIMA)

Summary of presentations

- Mongolia's BUR1 and TNC updated the information contained in SNC and the first National Inventory Report (NIR). In these latest submissions, emissions/removals of GHGs from various sources and sink categories have been estimated using methodologies that are consistent with the 2006 IPCC Guidelines. [Ms. Sanaa Enkhtaivan / Ms. Gerelmaa Shaariibuu (Mongolia)]
- PNG's BUR1 will be submitted in October 2018 and TNC will be submitted in 2019. The 2006 IPCC guidelines were used to estimate emissions and removals for the BUR1.[Mr. Larsen Daboyan / Mr. Erick Immanuel Sarut (PNG)]

Session 1 –Updates on the NCs and BURs

Summary of presentations (cont.)

- Korea submitted the BUR2 in November, 2017. In order to improve transparency of GHG inventory chapter, Korea provided more information than the BUR1. The technical analysis took place in March, 2018. [Dr. Hyung-Wook Choi (ROK)]
- The Enhanced Transparency Framework (ETF) under the Paris Agreement (PA) will build on the existing transparency arrangements under the Convention while integrating the differentiated arrangements between developed and developing countries. It is expected that the general structure of transparency and reporting would not change so drastically from the existing arrangements, but the details would be enhanced and elaborated. [Mr. Takashi Morimoto (MURC)]

Session 1 –Updates on the NCs and BURs

Summary of discussion

- Experience of the ICA process was useful for further improvement towards the next submission. (Mongolia took note of the importance of notation keys and ‘not estimated’ categories.)
- Korea’s MRV process on BUR was clarified. GIR conducted MRV for sectoral data and made internal guidelines for MRV.
- Improvement from Korea’s BUR1 to BUR2 was shared. Korea reflected the comments from ICA/BUR1 and from internal experts to strengthen transparency.
- Timing for applying the new MPG under the PA would probably be in 2024 or later.

Session 1 –Updates on the NCs and BURs

Conclusion of the session

- This kind of information/experience sharing is important because it helps WGIA countries improve their capacities to meet the reporting requirements under the UNFCCC.
- ICA, especially TA which involves interaction with international technical experts, is useful to identify areas for improvement of BUR/NC.
- Compilers are encouraged to follow the negotiations on the ETF under the PA to better understand the MPGs. It would be useful to share the information on how each country is planning to follow the MPGs at WGIA next year and onwards.

Session 2 – Fluorinated Gas Emissions from non-Annex I Parties

Co-Chair: Dr. Sumana Bhattacharya (Iora Ecological Solutions)
/Dr. Atul Bagai (UNEP)

Summary of presentations

- The Kigali Amendment to the Montreal Protocol will newly be controlling HFCs, however, its mission is to phase down production and consumption. Therefore, reducing emissions during the use of HFC devices, etc will still be the job of UNFCCC. It is important to further develop each country's F-gas inventory.
[Ms. Elsa Hatanaka (GIO)]
- Although Thailand did not include F-gas emissions in its BUR2, they are analyzing what sources of data might be available. Information from importers/exporters seem achievable, but challenges are faced with information at the manufactures and end-users of F-gas devices. Promoting understanding is a priority.
[Dr. Kraichat Tantakarnapa (Thailand)]

Session 2 – Fluorinated Gas Emissions from non-Annex I Parties

Summary of presentations (cont.)

- For the TNC, Malaysia is starting to collect data for aluminium production, semiconductors and PVs, mobile air conditioning, and electrical equipment, using 2006 IPCC Guidelines/1996 IPCC Guidelines. [Dr. Elizabeth Philip (Malaysia)]
- The largest F-gas emitted in Singapore is PFCs, with its source mainly being the semiconductor industry. Companies report through the online system called EDMA which has the 2006 IPCC Tier 2a methodology built into it to estimate emissions. Robustness/completeness of data is checked through inter-agency cooperation mechanisms. [Mr. Pitt Yu Zhe (Singapore)]

Session 2 – Fluorinated Gas Emissions from non-Annex I Parties

Summary of discussion

- Thailand a plan to apply higher tiers for F-gas emissions using TGEIS (Thailand Greenhouse Gas Estimation Inventory System).
- A possible response to the phase-down of HFCs is to use HFCs with low GWPs, HFO (hydrofluoroolefin)s, and CO₂ as refrigerants.
- Close collaboration between climate change and ozone experts is needed.
- The National Environment Agency Singapore verifies information reported through EDMA, e.g. by requesting documents that substantiate the data.

Session 2 –Updates on the NCs and BURs

Conclusion of the session

- With the Kigali Amendment entering into force, a closer collaboration between climate change and ozone experts is imperative. Consistency between reported HFC production/consumption and emissions, and GWPs will be useful.

Session 3 – Data Collection and Archiving

Co-Chairs: Dr. Sirintornthep (King Mongkut's University of Technology Thonburi) /Prof. Kirit Parikh (IRADe)

Summary of presentations

- Bhutan's basic information on GHG emissions and their trends were shown and the latest data collection arrangements for the TNC was introduced. [Mr. Dawa Chogyal/Mr.Rinzin Namgay (Bhutan)]
- Indonesia's national GHG data registration & collection system (SIGN SMART) was introduced as one of its implementations for strategy achieving their NDC's emission target. This enables all the data in different sectors to be integrated and to be well stored.[Dr. Joko Prihatno (Indonesia)]

Session 3 – Data Collection and Archiving

Summary of presentations (cont.)

- The compilation process and data sources for Energy statistics in Korea were introduced. GHG inventory Management System (GIMS) was established, and it has enabled inventory work to be more efficient and more sustainable. [Dr. Sung-kyun Kim (KEEI/RoK)]
- How to develop Japan's data for the national Forest inventory was introduced and importance of establishing good statistics based on the bottom-up data from the forest register was shared. [Mr. Masaya Nishimura (FAJ)]

Session 3 – Data Collection and Archiving

Summary of discussion

- For data collection systems, flexibility to be able to adapt to future EF or methodology changes and incorporate QA/QC is important.
- Although only part of the data provision from energy importers and producers are legally bound, and the remaining is voluntarily provided by associations, no gaps are currently identified in the energy data, since there is vigorous efforts to work with voluntary providers.
- The most suitable methodology/model should be selected based on the data availability.

Session 3 – Data Collection and Archiving

Conclusion of the session

- It is important to improve the quality of data collection policy and tools.
- Continuity of inventory teams and QA/QC systems and improving the quality of the data collection system is important.
- The development and improvement of primary statistics in each country is crucial for the improvement of the accuracy of the national GHG inventory.

Summary of presentations

- The work for the 2019 Refinement to be completed in May 2019 is about half a way through. An upgraded version of EFDB was released in May 2018, and work to incorporate Tier 2 methods into the IPCC Inventory Software is expected to be completed for all sectors by March 2019. [[Mr. Andrej Kranjc \(IPCC/TFI/TSU\)](#)]
- The Australian data collection and archiving system (AGEIS) has built-in emission, QA/QC, CRF populating functions. Each year after submission to UNFCCC, data back to 1990 is archived as one set. Emission projection activities and inventory work for F-gases were presented. [[Ms. Monami Das Gupta\(Australia\)](#)]
- To achieve the 2 degree target under the PA, the quality enhancement of statistical data for national GHG inventory is important to make projections of future emissions for CO2 and air pollutants. Possible methodologies for emission projections were also elaborated . [[Dr. Tatsuya Hanaoka \(NIES\)](#)]

Session 4 – GHG Inventories, Projections and Related Activities

Summary of presentations (cont.)

- To secure the transparency of the inventory, comparison and evaluation by remote sensing, and cases of application to inventory work were explained. Referring to specific research cases of CO₂ and methane, atmospheric GHG observation by satellite remote sensing techniques as a way to complement sparse surface observation networks was demonstrated. [Dr. Shamil Maksyutov]
- BC is estimated to be one of the significant global warming agents. However, there are still large uncertainties in estimate of the BC's direct radiative forcing, because the estimates of BC emissions, transportation process of BC and its impacts are not fully understood. There are now instrument developed for long-term and automated measurements of BC with a high accuracy. [Dr. Yutaka Kondo (NIPR)]

Session 4 – GHG Inventories, Projections and Related Activities

Summary of discussion

- The Australian NGER is based on legislation that requires companies that emit over a certain threshold to report their GHG emissions every year. The reported data are confidential. The emissions are aggregated to UNFCCC classification.
- Australian inventory system includes the QA/QC function, e.g. archiving all information used in inventories, tracking changes automatically.
- If sufficient data is unavailable for projection, it is necessary to try to refer to neighbor country data, or modifying the methodologies based on the available dataset.
- Methodologies and datasets of projection models can be improved by comparing with other models.
- As regards to generation of traffic activity data and their projection, it may be advisable to refer to CDM experiences of road traffic project proposals.

Session 4 – GHG Inventories, Projections and Related Activities

Summary of discussion

- A wide range of scientific research is still required to alleviate uncertainties of GHG observation by satellites, including those related to inverse modelling, transport models and observation instruments and practices.
- The SLCF (short-lived climate forcers) , as radiative forcing agents are being discussed and mitigation are acted upon. However their metrics are still under discussion due to their complexity in the climate science arena.
- Brief summary of the IPCC expert meeting on SLCF held in May 2018 was shared.
 - There are methodologies on most of SLCFs for emission inventory developed and used by regional organizations, but they are not applicable globally. Need was recognized to do some works to fill gaps in existing methodologies.
 - There are some issues that require careful consideration in the future work to integrate inventories of GHG and SLCF, such as required spatial/temporal resolution, use of metrics to calculate emissions in CO₂ equivalent units.

Session 4 – GHG Inventories, Projections and Mitigation Actions

Conclusion of the session

- It is important to be aware of scientific advancements surrounding GHG inventories and to learn from advanced systems.
- Inventory compilers should not only wait for inputs from science, but must think how we can contribute to science.

Thank you

Any comments?

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

➤ Or e-mail us to the following address by 20th July:

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