

# Technical Assessment of IPCC Inventory Guidelines – Results of Questionnaire Survey Waste Sector

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Baasansuren Jamsranjav

Technical Support Unit

IPCC Task Force on National Greenhouse Gas Inventories

# Outline

- IPCC Inventory Guidelines:
  - 2006 IPCC Guidelines for National GHG Inventories
  - 2013 Supplement to the 2006 IPCC Guidelines for National GHG Inventories: Wetlands
- Technical Assessment of the IPCC Inventory Guidelines: Results of Questionnaire Survey
  - Statistics of the comments
  - Preliminary analysis of the comments
- Summary

# 2006 IPCC Guidelines for National GHG Inventories

- Volume 5 provides methodological guidance for estimation of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions from following categories:
  - Solid waste disposal (4A)
  - Biological treatment of solid waste (4B)
  - Incineration and open burning of waste (4C)
  - Wastewater treatment and discharge (4D)
- Typically, CH<sub>4</sub> emissions from solid waste disposal sites (SWDS) are the largest source in the Waste sector
- Biogenic CO<sub>2</sub> emissions are not included in the Waste sector
- All greenhouse gas emissions from waste-to-energy should be estimated and reported under the Energy sector

<http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html>

# 2013 Supplement to the 2006 IPCC Guidelines for National GHG Inventories: Wetlands

- Chapter 6: Constructed Wetlands for Wastewater Treatment
  - Supplements the Chapter 6 Wastewater Treatment and Discharge of the Volume 5 of the *2006 IPCC Guidelines*
  - Provides methodological guidance and default emission factors for estimation of CH<sub>4</sub> and N<sub>2</sub>O emissions from constructed wetlands and semi-natural treatment wetlands treating wastewater

<http://www.ipcc-nggip.iges.or.jp/public/wetlands/index.html>

# Technical Assessment of the IPCC Inventory Guidelines: Statistics of Questionnaire Survey Comments

- Total 112 comments from 43 experts
- Comments by categories:

Waste Sector Category List	Number
Waste (4)	<b>112</b>
Solid Waste Disposal (4.A)	<b>35</b>
Managed Waste Disposal Sites (4.A.1)	10
Unmanaged Waste Disposal Sites (4.A.2)	3
Uncategorised Waste Disposal Sites (4.A.3)	2
Biological Treatment of Solid Waste (4.B)	<b>15</b>
Incineration and Open Burning of Waste (4.C)	<b>8</b>
Waste Incineration (4.C.1)	4
Open Burning of Waste (4.C.2)	0
Wastewater Treatment and Discharge (4.D)	<b>39</b>
Domestic Wastewater Treatment and Discharge (4.D.1)	16
Industrial Wastewater Treatment and Discharge (4.D.2)	8
Other (4.E) (Other Waste categories that do not fall within any categories above)	<b>1</b>

# Technical Assessment of the IPCC Inventory Guidelines: Preliminary Analysis of Questionnaire Survey Comments (1)

- Total 11 areas or specific issues that may need to be given high priority are identified for consideration and discussion at the upcoming expert meeting
  - Waste (4): 2
  - Solid waste disposal (4A): 2
  - Biological treatment of solid waste (4B): 1
  - Incineration and open burning of waste (4C): 1
  - Wastewater treatment and discharge (4D): 5

# Technical Assessment of the IPCC Inventory Guidelines: Preliminary Analysis of Questionnaire Survey Comments (2)

- High priority issues/areas, e.g.:
  - Update of MSW generation rate
  - Update of default parameters related to GHG emission estimation from SWDS such as methane generation rate (k-value),  $\text{DOC}_f$ , and oxidation factor
  - Development of guidance on  $\text{N}_2\text{O}$  emissions from SWDSs
  - Update of default emission factors for GHG emissions from biological treatment
  - Update of default emission factors and parameters for GHG emissions from incineration of waste
  - Development of guidance on  $\text{N}_2\text{O}$  emissions from industrial wastewater treatment
  - Improvement of guidance and update or addition of default emission factors of  $\text{N}_2\text{O}$  emissions from nitrification and denitrification at municipal wastewater treatment plants

# Summary

- 112 comments from 43 experts
- Total 11 areas/issues that may need to be given high priority were identified
  - Waste (4): 2
  - Solid waste disposal (4A): 2
  - Biological treatment of solid waste (4B): 1
  - Incineration and open burning of waste (4C): 1
  - Wastewater treatment and discharge (4D): 5



# Thank you

<http://www.ipcc-nggip.iges.or.jp>