



**IPCC Methodology Report on
Short-lived Climate Forcers
update / notes from the waste
BOG**

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TFEIP

Role and remit of the waste BOG

- Contribute to the IPCC TFI work on developing a methodology report for SLCFs
- This is an ongoing effort – project overview presented by Kiyoto Tanabe in yesterday's session on 'International News'
- First step was the collation of existing methodologies, data and EFs that allow for the estimation of SLCF emissions – [good sense check on the status and gaps in EMEP/EEA 2019](#)
- The virtual sessions (13-20 October 2021) included sectoral breakout groups (BOGs) with the remit to:
 - Understand the key sectoral and cross-sectoral messages / issues
 - Identify knowledge gaps
- Remember: IPCC guidance is global, and approaches should be globally representative where possible
 - This has implications for Default/T1 data and EFs as well as for higher tier guidance

Key messages / considerations

Key Categories

- 4.C. Waste Incineration & Open Burning of Waste is a dominant source of air pollutant emissions. Efforts to develop robust estimates of activity data and EFs for this category should be prioritized
 - 4.A (and 4.D) generate most effort for primary GHGs (CH₄)

Impact/Importance of Waste Emissions

- Waste emissions from many categories (e.g., landfill fires, landfill flares, open burning) have a greater impact at the local level (e.g., local air quality impacts next to landfills), than at the national or global level.
 - Bring gridded/spatial reporting into IPCC?

Uncertainties

- Limited activity and EF data result in large uncertainties in air pollutant emissions from the waste sector, BUT these uncertainties should not limit efforts to develop robust emission estimates for Waste

Sectoral issues

- **Split out SWD into three subcategories** to distinguish between:
 - 4.A.1.a – Landfill fires (PM (BC/OC), NO_x, CO, NMVOC, SO₂)
 - 4.A.1.b – Flaring (PM (BC/OC), NO_x, CO, NMVOC, SO₂)
 - 4.A.1.c – Decomposition (CO, NMVOC, NH₃)
- **Cross-sectoral issues** are relatively well known
 - Allocation of emissions when energy recovery is in place (energy/waste – 5A/5B/5C/5D)
 - Manure handling (AFOLU/waste – 5B/5D)
 - Sludge handling (energy/AFOLU/waste – 5A/5B/5C/5D)
 - Agricultural / crop burning (AFOLU/waste – 5C)

Knowledge gaps identified

- 4.A SWDS – landfill fires / smouldering / flaring
 - Need for regional data and consideration of defaults for different landfill types (managed / unmanaged)
- 4.B Biological treatment – limited data on composting and green waste, N in feedstock
 - Regional EFs for composting
- **4.C Incineration and open burning**
 - equation to estimate the amount of open burned waste (both Pfrac and Bfrac)
 - Lack of technology / region-specific EFs
 - Need for non-lab EFs for tire burning
 - Incineration and environmental conditions poorly covered in existing guidance e.g. waste / soil moisture, meteorology, level of smoulder
- 4.D Wastewater – differing methods between EMEP/EEA (wastewater treated) and USEPA NEI (flow rate)

Next steps

- We will continue to work with TFI and its collaborators to share input from the EMEP/EEA community
- Please let us know if you have national research plans or input relevant to the development of global guidance methodologies on SLCFs

Waste BOG contributors

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