



## Minutes from the TFEIP 2023 Annual Meeting

Issue1, 31/05/2023.

*Key decisions: red*

*Points of interest: blue*

The TFEIP held its annual meeting on 18th-20th April 2023. The 36<sup>th</sup> meeting of the Task Force was held in a hybrid format, with participants joining both in person in Oxford, United Kingdom, and online via Zoom. The meeting was well attended with 76 participants attending the meeting in person and just under 200 participating online across the three days. Participants represented approximately 40 countries and over 100 international organisations. Most sessions were held sequentially, apart from some expert panels (Combustion and Industry, Transport and Agriculture) which were held in parallel.

The co-chairs jointly chaired the plenary sessions, and the Expert Panel leaders chaired their respective expert panel sessions.

### 1 Introduction and International News

#### 1.1 Introduction from UK government and the co-chairs

As meeting hosts, the UK government opened the meeting, with a welcome being provided by Bill Parish (Deputy Director of Air Quality and Industrial Emissions, Defra). He reflected on past successes of the LRTAP Convention, but also noted that there are several key challenges that the future work of the Convention needs to address.

The Co-chairs, Martin Adams (EEA) and Chris Dore (UK), also welcomed participants, and noted the benefits of holding the meeting in a hybrid form welcoming participants both in person and online. They explained that a key priority of the TFEIP 2023 Meeting was to present and discuss proposed amendments to the EMEP/EEA Air Pollutant Emissions Inventory Guidebook, and consequently this dominated the agenda of the meeting.

#### 1.2 International News

**LRTAP Convention:** Laurence Rouil (EMEP Steering Body Chair) provided an update on recent activities in the Convention, and in particular the review of the Gothenburg Protocol.

**E-learning:** Carolin Sanz Noriega (LRTAP Convention Secretariat) presented the recently launched e-learning course on reporting emissions in the CLRTAP. The TFEIP Co-chairs thanked the Secretariat for their work, and noted the usefulness of the course. *The Task Force and individual members were encouraged to share information about the course with interested colleagues and contacts.*

**Forum for International Cooperation on air Pollution:** Alison Davies (UK) presented the latest news on the newly formed Forum for International Co-operation on Air Pollution within the LRTAP Convention. The forum will engage with other regional organisations to understand the needs and interests of regions as well as what further collaboration and cooperation can be prioritised and achieved.

**CEIP update:** Sabine Schindlbacher (CEIP) gave an update on emissions inventory reporting and review in the LRTAP Convention. The focus of the 2023 in depth inventory review will be emissions from agriculture and gridded data for this sector.

## 2 Updating the EMEP/EEA Air Pollutant Emissions Inventory Guidebook

Draft updated chapters were discussed in the respective expert panel sessions.

### Key decision:

Subject to final amendments (to be implemented following the meeting, as agreed in the Expert Panel sessions), the TFEIP agreed to adopt the following updated chapters:

Relevant Expert Panel	Chapters
Combustion and Industry	1.A.1 Electricity & heat generation 1.A.2 Industrial combustion 1.A.3.e Pipeline transport 1.A.4 Residential/Commercial 1.A.4 new Annex for future reporting Fugitives - 1.B.1.a, 1.B.1.b, 1.B.2.a.i, 1.B.2.b, 1.B.2.a.iv, 1.B.2.a.v Industrial Processes: 2.A.1, 2.B, 2.C.1, 2.C.3, 2.D.3.g, 2.H.1
Transport	1A3a Aviation 1A3b Road transport 1A3b Road transport – tyre & brake wear 1A3c Railways 1A3d Navigation (shipping) 1A3ei Pipeline transport
Agriculture & Nature	3B Manure management 3D Agricultural soils 6A Other (included in national total)
Waste	5A Solid waste disposal 5C1a Municipal solid waste incineration 5C1bi Industrial waste incineration 5C1biii Medical waste incineration 5D Wastewater handling 5E Other waste
User Engagement	A7 Spatial mapping of emissions

## 3 Combustion and Industry Expert Panel

The Expert Panel on Combustion and Industry was attended by over 80 participants. The proposed amendments to the EMEP/EEA Guidebook were presented and the main discussions were centred around the following points:

- Limit of detection: It was proposed that “<” symbols are introduced to the Guidebook to highlight where emission factors are based upon the limit of detection. This will highlight the

difference between values quoted at limit of detection and those derived from data considered to be more accurate.

- New guidance on emissions from the use of hydrogen fuel will be incorporated into the guidebook. This will be an important source in the future.
- A new annex was proposed that will provide further information on emissions from residential combustion.

Presentations were also given on the following topics:

- An update on changes to the European Solvents Industry Group solvent VOC inventories
- A domestic combustion emission factor measurement programme and model improvements.

#### **Key decisions:**

Subject to the final amendments discussed, the Expert Panel agreed on the updates to the Combustion and Industry EMEP/EEA Guidebook chapters. The Expert Panel also approved the 2024-2025 workplan.

## 4 Transport Expert Panel

The Expert Panel on Transport was attended by over 60 participants. Presentations were given on several topics, including:

- Proposed updates to the EMEP/EEA Guidebook.
- New knowledge on high- emitters and on-road emissions from the H2020 CARES project.
- A UK based project which investigates the use of remote sensing data for emissions inventories and nitrogen dioxide emissions.
- The upcoming EURO 7 regulations.
- A new tool for calculating maritime and aviation emissions.
- The compliance of shipping vessels with emissions regulations.
- A UK based project to refine rail emission factors to enable a tier 3 approach.
- Hydrogen emission factors for transport projections.

**Key decisions:** The Expert Panel approved the proposed changes to the EMEP/EEA Guidebook and approved the 2024-2025 workplan.

## 5 Agriculture and Nature Expert Panel

The Expert Panel on Agriculture and Nature was attended by over 60 participants. Presentations and discussions were dominated by the proposed updates to the Guidebook. Updates include a new chapter for non-agricultural animals, revised emission factors for ammonia emissions from synthetic fertilisers and some additional guidance in chapter 3B on the export and import of manure. A new methodology for calculating ammonia emissions from crop residues has also been proposed, although finding activity data for this is likely to be a challenge. The Expert Panel agreed to run a webinar on this topic.

Other presentations and discussion took place on:

- An update on A Model-based Based Approach for Emission Inventories (AMALFI) project which focused on the tier 3 ammonia emissions from field applied slurry.

- Updates to the Agricultural Emissions Estimation (AgrEE) tool.
- Agricultural NMVOC emissions.
- Ammonia emission estimates from manure management in Northern Italy at different resolution: farms, municipality and national level.
- An update from the Task Force on Reactive Nitrogen and other working groups.
- Regionalisation in methodologies.

**Key decisions:** The Expert Panel agreed on their 2024-2025 workplan which included the completion of the revisions to the EMEP/EEA Guidebook, continued collaboration with other technical groups in the Convention, providing uncertainty estimates for emission factors where possible and investigation of options for regional emissions factors.

## 6 Projections Expert Panel

The Projections Expert Panel was attended by approximately 150 participants. The panel heard presentations on the following:

- Implementation of the IED in GAINS and how this impacts future NH<sub>3</sub> emissions.
- Preliminary results of the Horizon iCHANGE project.

The panel considered feedback on the recent updates to the emissions reporting template (Annex IV), and a question was asked about the reporting of adjustments in the projections submission.

### **Key decisions:**

The Expert Panel agreed on their 2024-2025 workplan.

The TFEIP will consult with other stakeholders before drafting guidance on the inclusion of adjustments (and other flexibility mechanisms) in projections, and will seek a formal decision from the EMEP Steering Body in their 2023 meeting.

A minor correction will be made to the existing projections template concerning the voluntary nature of BC reporting.

## 7 Waste Expert Panel

The Waste Expert panel was attended by approximately 80 participants. All presentations and discussions were focused on the proposed revisions to the EMEP/EEA Guidebook which included updates to emission factors for solid waste disposal and medical waste incineration, and corrections and clarifications in the solid waste incineration, wastewater handling and other waste chapters. It was agreed that the Expert Panel will further explore a new methodology for calculating NMVOC emissions from solid waste which was proposed by a participant from the UK.

Participants were invited to contact the panel chair, Céline Gueguen (France), if they wish to have more involvement in the work of the expert panel or have any suggestions for the 2023-2024 workplan.

**Key decisions:** The Expert Panel approved the proposed changes to the EMEP/EEA Guidebook chapters, and agreed their 2024-2025 workplan.

## 8 User Engagement

The User Engagement Expert Panel was attended by approximately 90 participants. The panel heard presentations on the following topics:

- Reviewing the EMEP/EEA Guidebook chapter on emissions mapping.
- Feedback from the EDGAR workshop.
- The use of reported emission data in AQ modelling studies.
- Uptake of reported emissions data in CAMS inventories.

### Key decisions:

The Expert Panel approved the changes to the EMEP/EEA Guidebook's chapter on emissions mapping, and agreed their 2024-2025 workplan.

“Additional guidance” for the modelling community within the LRTAP Convention will be developed across the next year.

## 9 The future of emissions reporting

Results from the recent TFEIP questionnaire on the future of emissions inventory reporting were presented and discussed.

The TFEIP reached the following conclusions, which will be used to draft a technical paper to be submitted to the EMEP Steering Body:

**TSP, PM<sub>10</sub>, BC and CO:** There are several reasons why it is sensible to retain the reporting of these pollutants (even if they are used for e.g. checking, rather than reporting purposes).

**EC and OC:** There is a need to improve the accuracy and specificity of the BC EFs in the Guidebook before considering the inclusion of EC and/or OC in reporting, which would require significant future resources to implement. But this is something which could be included as a longer-term aim of the LRTAP Convention.

**Condensable PM:** The recommended aim is to continue to focus on improved transparency and consistency of reporting, and support ongoing initiatives within the LRTAP Convention in this regard. It is recognised that time is needed to continue to build the evidence base before emissions inventories could comprehensively report e.g. filterable PM only and/or filterable and condensable PM.

**Heavy metals & POPs:** There is a general preference to retain the current reporting, and it was noted that removing individual pollutants doesn't have a large impact on the burden of reporting. Work is needed to improve the POPs and HMs emission factors in the Guidebook. This has been identified as an area of improvement for many years, but has never been of high enough priority to ensure that significant resources are allocated to it as a development task.

### Centralised estimation of selected sources:

- Shipping and aviation would be good candidates for using this approach, and it is recommended that options are explored. However, changes in responsibilities (and the required funding streams) mean that it may be complex to implement changes.
- Fires – if earth observation datasets are able to resolve natural/wildfires from building and car fires (e.g. by combining with land cover datasets), then this may also be a good candidate for this approach. This may also be a useful approach for identifying emissions from landfill fires. “Backyard” fires may be more challenging, depending on the spatial resolution of available datasets. Some further investigation with earth observation experts is needed.

**CH<sub>4</sub>:** Initial indications from modellers are that if CH<sub>4</sub> were included in the LRTAP Convention, then they would not need gridded CH<sub>4</sub> emissions data for their modelling purposes. If this is the case, then emissions data reported to the UNFCCC could be used without significant additional processing (although there may be some minor issues associated with linking the UNFCCC's CRF reporting structure with the LRTAP Convention's NFR).

**Ultrafine, PM<sub>0.1</sub>, PM<sub>1</sub>:** Ultrafine PM emissions would be a particularly challenging metric to estimate. It is proposed that PM emissions reporting continues as it is currently, with the longer-term aim of improving the PM size fractionation profiles in existing guidance.

**Gridded emissions:** There is a need to focus on improving the quality of data being reported, rather than increasing the scope or detail requirements of the reported data.

**Projections:** The current scope of reporting is considered to be sufficient to meet the needs of the users. Improvements to the quality of the reported data is a priority item.

**Key decision:**

To reflect these views, the TFEIP will prepare a technical paper on the future of emissions inventory reporting, to be submitted to EMEP ahead of their Steering Body meeting.

## 10 New Science

Presentations were given on:

- Monitoring ultra fine particles.
- Estimating the costs of air pollution from industrial emissions data.
- Earth observation emissions from NO<sub>x</sub>, NH<sub>3</sub>, and BVOC from the Sentinel EO-based Emission and Deposition Service (SEEDS) project available for benchmarking.
- Earth observation, non-road mobile machinery, and wildfires.

## 11 Feedback and conclusions

The co-chairs reflected on upcoming priorities, commitments, and the 2024-2025 workplan.

**Key decision:**

The TFEIP approved the work that is proposed for the remainder of 2023, as detailed in sections above. This is dominated by the finalisation of updated EMEP/EEA Guidebook chapters. The TFEIP's draft 2024-2025 workplan was also agreed. This includes the corresponding workplans of the expert panels in contributing to technical discussions and supporting Parties to the LRTAP Convention.

Mr Kiyoto Tanabe (IPCC) spoke about IPCC's upcoming work on short-lived climate forcers. [Members of the Task Force who may be interested in contributing to this work were invited to get in touch.](#)

The co-chairs thanked the expert panel leaders for their extensive and detailed work in updating the EMEP/EEA Guidebook.

The Co-chairs expressed their thanks to the UK Government (Defra) for hosting the meeting, and invited Parties to contact the co-chairs regarding the hosting of the TFEIP annual meeting in 2024. The Task Force also sincerely thanked Martin Adams, who steps down from his role as Task Force Co-Chair, for his many years of contribution to the Convention.

The meeting was then closed.