

TFEIP Newsletter:

Autumn 2013



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Welcome to another newsletter from the Taskforce on Emission Inventories and Projections. As the winter months come ever closer, we take a look back on the work that we've done this year, and speculate about what might be coming up in the future – and in particular the CLRTAP Executive Body meeting in December, where some important decisions will be made.

This year has been dominated by activities supporting the future implementation of the 2012 revision to the Gothenburg Protocol. We had in depth discussions at our annual TFEIP meeting about the proposed revised Reporting Guidelines, to prepare a version for submission to the EMEP Steering Body in September. We would especially like to thank all those who contributed to the development of the new Guidelines proposal. Some important changes to the Reporting Guidelines have been proposed (particularly relating to the frequency of reporting and deadlines).

We also prepared technical guidance on emission inventory adjustments for the EMEP Steering Body. A number of Parties may be interested in using the adjustment mechanism to retrospectively adjust their 2010 emission totals.

You'll find more details on these activities and more in this edition of the newsletter. Don't forget to also visit our TFEIP website. There's a wealth of information there (presentations from recent meetings, technical support documents etc.).

We are always looking for better and more efficient ways of communicating. So as well as the web forum, we will be launching a TFEIP LinkedIn account. It should allow us to all stay in touch more easily – see details later in the newsletter.

If you need help with anything on emissions, then please feel free to get in touch.

<http://www.tfeip-secretariat.org/>

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# 1 TFEIP/EIONET May 2013, Istanbul

This year the joint TFEIP/EIONET meeting was hosted by the Turkish Ministry for Environment and Urbanisation in Istanbul. A significant part of the meeting was spent on discussing the proposed changes to the Reporting Guidelines and templates - discussing what is, or should be, reported under the Convention. This was a necessary step in supporting the revisions to the Gothenburg Protocol, even if reviewing almost all aspects of the reporting was quite demanding at times.

## TFEIP Technical Workshop: Stakeholder Consultation

**Date:** 13<sup>th</sup> May 2013

This year we scheduled the workshop before the annual meeting. This was so that the outcomes of the workshop (consultation with a range of different stakeholders) could feed into discussions about the future work of the TFEIP.

The workshop heard presentations from air quality modellers, and in particular MSC-West and MSC-East, who both highlighted a number of key areas where improvements to the emissions data would bring improvements to their work:

**MSC-West** indicated their priorities for improvements would be improved temporal resolution of the annual data, and better information on chemical speciation. It was also clear that they would benefit from improved emission estimates from natural sources, but which do not need to be reported in the national emission inventories.

**MSC-East** faced a more fundamental challenge, in that the current data reporting (especially of mapped data and point sources) for POPs and heavy metals is far from complete.

The **TFMM** explained the extent of the issue - that “consistent and complete reporting of emissions” is available for only approximately 50% of the EMEP area.

We then formed four discussion groups:

### Accuracy

- Stronger links with statistics departments should help to improve the accuracy of AD.
- The use of bottom-up methodologies will help with accuracy, but it is often challenging to co-ordinate this with top-down approaches.
- There is scope for a project to promote the use of Monte-Carlo uncertainty analysis, but it is considered overly resource intensive for many countries.
- Policy makers associated with compliance are not very interested in uncertainties, but those involved in scenario analysis are.
- We need to ask the modelling community for more detailed feedback to identify priority areas for improvement.

**The TFEIP Chairs will compile a briefing note for the TFMM, outlining the priorities of the TFEIP.**

### Completeness

- Methodologies for non-anthropogenic sources and resuspension should be included in the Guidebook. Improved information on speciation should also be considered.
- The TFEIP might consider hosting an “information portal”, to provide a central resource for inventory compilers that holds relevant reports, links to research projects, links to relevant work of the climate change community etc.
- The TFEIP should remind compilers that they need to be clearer in IIRs about the reason for reporting “NE” (no method/no data/ no resources?).

**The TFEIP expert panel leaders and Co-Chairs will aim to include items to improve reporting completeness in the TFEIP workplan.**

**The Chairs will seek funding for an “information portal”.**

**The TFEIP will investigate adding a list of national contacts to the TFEIP website.**

### Mapping

- The group noted that the EMEP/EEA Guidebook chapter on gridding emissions has just been updated, and therefore little extra work was needed.
- It was suggested that it would be beneficial if there was an information resource for modellers.
- EDGAR and other gridding resources were discussed.
- It was agreed that estimating emissions from international transport sources is best done centrally.

**The TFEIP Chairs will liaise with CEIP on the possibility of CEIP hosting an information centre for the air quality modelling community.**

### Fine Timescales

- There was support for collating information on the methods currently being used by modellers and national compilers to develop temporal emission profiles i.e. how emissions change within the year.
- It was agreed that the modellers (and policy makers) need to provide the emissions inventory community with an indication of their priorities, to steer TFEIP activities.
- There was some concern that outputs from recent EU projects (datasets and methodologies) are not finding their way to the relevant users.
- The group considered that the gridded NFR categorisation (GNFR) was a sensible detail level to work at.

**The Co-chairs of the TFEIP will liaise with the TFMM, MSC-W and MSC-E with an aim of obtaining information to further steer inventory improvement tasks.**

*There are some key areas where the emission inventory community need to make improvements, and we remind Parties that it is their responsibility to make submissions that are complete and of good quality!*

*We need to recognise that the modelling community are key users of our data, and it's only right that we do our best to support their work. So we will try to make progress in the areas that they have highlighted. However, as always, we will be restricted by the funds that we can access.*



TFEIP/EIONET Meeting, Istanbul

## TFEIP/EIONET Annual Meeting

**Date:** 14<sup>th</sup> – 15<sup>th</sup> May 2013

### SESSION 1: REPORTING REVIEW AND UNECE DEVELOPMENTS

Krzysztof Olendrzynski (UN/ECE CLRTAP Secretariat) presented the latest information on activities within the LRTAP Convention. He encouraged the TFEIP to be more transparent and clearly highlight those planned activities that were dependent upon receiving additional financial support. The TFEIP chairs indicated that they would do this for the next workplan.

Katarina Mareckova (CEIP) gave a short overview of the latest reporting cycle. The TFEIP noted with disappointment that reporting from Parties has slightly decreased overall since 2012. Parties were again encouraged to nominate experts for the Stage 3 reviews.

## SESSION 2: UPDATING THE REPORTING GUIDELINES

Martin Adams (EEA) led detailed discussions on the update of the Reporting Guidelines and templates, draft documents having been circulated prior to the meeting.

*(Following the TFEIP meeting, the TFEIP chairs led an ad hoc group that submitted an updated version of proposed Reporting Guidelines for consideration at the September EMEP SB meeting. Details of the EMEP SB meeting are included in Section 4 of this newsletter).*

## SESSION 3: MEETING OF TFEIP EXPERT PANELS

All sector expert panels discussed updated Guidebook chapters and recommended their adoption (conditional upon some minor revisions). Some changes to NFR codes were also proposed as part of the new proposed Reporting Guidelines.

### Combustion and Industry:

- The solvents industry presented their own emission estimates for the EU. These were considerably lower than the national emission estimates, and further work is needed to understand the reasons for these differences.
- Other topics discussed include BC and OC emission inventories, benzene emissions and PM metrics (differences between condensable and filterable particles).

### Agriculture and Nature:

- 4B Animal husbandry: New default NMVOC emission factors (EFs) have now been developed and will be included in the GB.
- Corrections and additions have been made to 4F field burning EFs.
- 4D Crop production: Some corrections made to the chapter. New NH<sub>3</sub> EFs for mineral fertiliser application have been calculated. These are expected to have a large impact on emission estimates.

### Transport:

- The panel heard an overview of which countries are using which models to estimate road transport emissions.

- A number of methodology updates were presented and discussed.
- Options for a possible new COPERT 5 road transport emissions model version were presented and discussed.

### Projections:

- The panel heard a presentation that assessed the ambition level of the 2020 emission reduction targets of the Gothenburg Protocol.
- A number of suggestions were made for improving the Guidebook projections chapter. In particular the uncertainties section will be removed, and sensitivity analysis will be included instead. A section on waste will also be drafted.



Expert Panel Meeting, TFEIP/EIONET, 2013.

## SESSION 4: ADJUSTMENTS, REPORTING TEMPLATES & NECD

Chris Dore (Chair) gave an overview of the new emission inventory or reduction commitments adjustments procedure, and discussion followed.

A paper was submitted to EMEP for discussion at the Steering Body meeting in September (see Section 4).

Robert Wankmueller (CEIP) presented the updated reporting template.

Martin Adams (Chair) gave an update on the revision of the EU NEC Directive on behalf of the European Commission.

## SESSION 5: EIONET

Martin Adams (EEA) provided a briefing on the EEA's recent and on-going activities.

John van Aardenne (EEA) presented the impacts of international shipping on air quality and climate forcing, drawn from a recent EEA report.

Melanie Sporer (EEA) presented a consideration of how Member States have reported projections for 2010 across the past decade compared to the reported emission inventory data for that year. This was taken from a forthcoming EEA report on ex-post assessment of emission projections.

John van Aardenne (EEA) presented a short summary of reporting issues encountered in the compilation of the 2013 EU CLRTAP emission inventory.

## SESSION 6: REVIEW OF EXPERT PANEL PROCEEDINGS

See comments under Session 3.

## SESSION 7. MEETING CONCLUSIONS AND CLOSE

Chris Dore presented the draft TFEIP workplan for 2014 and conclusions from the meeting. The workplan and meeting conclusions were agreed by the attendees, and can be found here:

[http://www.unece.org/fileadmin/DAM/env/documents/2013/air/emep/ECE\\_EB.AIR\\_GE.1\\_2013\\_5\\_ENG\\_01.pdf](http://www.unece.org/fileadmin/DAM/env/documents/2013/air/emep/ECE_EB.AIR_GE.1_2013_5_ENG_01.pdf)

The Co-chairs warmly thanked the Turkish Ministry of Environment and Urbanisation for hosting the meeting and their hospitality. The meeting was then closed.



TFEIP Chairs and CEIP representative with Turkish hosts

# 2 Release of the Updated EMEP/EEA Guidebook

## 2013 Guidebook Update

The new 2013 version of the EMEP/EEA air pollutant emission inventory guidebook (the 'Guidebook') is now available. The Guidebook provides the general reference source for countries reporting air emissions inventory data to the UNECE LRTAP Convention and for EU Member States under the National Emission Ceilings Directive. Later this year, the Guidebook will be formally endorsed by the LRTAP Convention, but it is published now with the agreement of EMEP to ensure its early availability to experts.

New elements in the 2013 Guidebook include:

- Emission factors to allow estimation of black carbon emissions;
- Improved consistency of information for particulate matter, heavy metals, persistent organic pollutants and black carbon;

- New information on solvent use and on small combustion sources e.g. domestic stoves;
- New information on emissions of non-methane volatile organic compounds (NMVOC) from manure management systems and ammonia (NH<sub>3</sub>) from mineral fertilisers;
- New information on gasoline evaporation from road transport;
- New data for estimating emissions of fugitive emissions of particulate matter;
- Updated guidance on mapping of emissions;
- An updated chapter structure following the proposed changes to the Nomenclature for Reporting (NFR).

You can find the latest version here:

<http://eea.europa.eu/emep-eea-guidebook>

### 3 Personal Profile: Carlo Trozzi

#### Co-chair of the Combustion & Industry Expert Panel

##### Chief Technical Officer, Techne Consulting

*We continue to introduce different members of the TFEIP Management team in the newsletter. Carlo Trozzi, long-time leader of the Combustion and Industry expert panel, provides us with an overview of his work.*

At the age of eighteen I finished high school and I was in doubt whether to continue with studies in philosophy or science. I continued my studies in Physics at the University "La Sapienza" of Rome and took a Master's degree in 1981 with a thesis on computer simulation of molecular systems (molecular dynamic method).



After some years of work on Energy Models and Databases I cooperated with ENEA to produce the first national emission inventories from combustion sources.

From 1988 I participated in the first CORINAR working group with the objective of compiling an inventory of atmospheric emissions of SO<sub>2</sub>, NO<sub>x</sub>, and VOC from the 12 Member States of the Community for the year 1985. From 1991 I contributed to an update of CORINAIR for 1990 in co-operation with EMEP and IPCC-OECD to assist in the preparation of inventories required under the Long Range Transboundary Air Pollution (LRTAP) Convention and the United Nations Framework Climate Change Convention (UNFCCC).

In the following years as Technical Director at Techne Consulting I worked on the Italy national inventory in: navigation, air traffic and the industrial sector, and devoted my attention to regional emission inventories to support regional air quality management plans, activities that I am still involved with today.

From 2004 I have been the Co-chair the of the Combustion & Industry Expert panel, and have worked hard to maintain an up-to-date and coherent Guidebook, with special attention on the scientific content of the different chapters. Compiling emission inventories is a challenge that requires a combination of: scientific expertise, statistical techniques, and a philosophical approach, especially when dealing with large uncertainties!

As well as participating in the TFEIP, I also contribute to the Mobile Source Committee, the Modelling Committee and the Non road group of the United States Environmental Protection Agency Emission Inventory Improvement Program. I have been involved in a wide range of research projects and, in recent years, I have been cooperating with Montenegro and Albania to help them with their national emission inventories.

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4 The 2013 EMEP Steering Body Meeting

The EMEP Steering Body (SB) is the TFEIP's parent body under the LRTAP Convention. In turn, the EMEP EB reports to the Convention's highest body – the Executive Body. The recent EMEP SB meeting in September included a lot of discussion that was directly relevant to our emissions work. Formal minutes and conclusions will be posted on the LRTAP Convention website soon, but here is an overview of the meeting from the perspective of the emissions community:

Revised Reporting Guidelines

The SB discussed the TFEIP's proposal for revised Emission Reporting Guidelines. The great majority of the proposals put forward by the TFEIP were retained, although a few changes were made. ***The updated Guidelines proposal will now be discussed at the Convention's Executive Body in December where further changes may still be made.***

Pollutants: It was agreed that reporting of TSP and the "additional" metals should be voluntary.

Reporting Years: Reporting of particulate matter (PM) emissions for 1990 – 1999 will remain voluntary, meaning PM_{2.5}, PM₁₀ and black carbon (where available) shall be reported from 2000 onward. The main pollutants (NO_x, NMVOC, NH₃, CO, SO_x and NH₃), heavy metals (Cd, Hg and Pb) and POPs will be reported from 1990 onwards.

Reporting Deadlines and Frequencies:

It was proposed that:

- Emissions data will be reported annually by 15th February, with a 4 week resubmission window.
- Informative Inventory Reports (IIRs) will be reported annually by 15th March each year.
- Projections data shall be reported every two years by 15th February
- Gridded and LPS data will be reported every two years by 1st May.



Reporting Formats: Data that is not submitted in the most up to date version of the template will be rejected by CEIP. Parties must therefore use the new reporting template from 2015.

Large point source stack heights: In its annual meeting the TFEIP was surprised to note that the MSC-W and MSC-E are not using these data, noting that this increases reporting burden by preventing countries from re-using E-PRTR data for Convention purposes. The EMEP SB however supported keeping the requirement to report stack heights as part of the regular LPS data reporting.

Next steps

If the Executive Body approve the proposed Guidelines in December, Parties should use the new Guidelines and reporting templates from February 2015 onwards.

Emissions Adjustments

A paper on adjustments was presented by the TFEIP and was well received, with the exception of the proposed funding mechanism.

The current proposal assumes that no funds would be available from the EMEP budget to support activities associated with the adjustment process.

Consequently, it is proposed that the Party making the adjustment application also provides funds for the required independent review of their application.

Discussions at the meeting noted that this was far from an ideal approach. However, whilst several alternatives were considered, no clear conclusion was reached on how the proposed funding mechanism could be improved.

As a result, this issue will be further discussed at the Executive Body meeting in December before any decisions can be made.

5 The Future of the Stage 3 Reviews

A team of expert reviewers met in Copenhagen in late June to participate in the annual detailed (Stage 3) review of emission inventories submitted under the LRTAP Convention. All review reports have been completed and are available from the [CEIP website](#).

The Parties reviewed were: Bulgaria, France, Italy, Latvia, Lithuania, Norway, Poland, Portugal, Romania and Sweden.

As with previous years, it was not possible to perform a complete review of the inventory data from all these countries because there were not enough expert reviewers available.

The continued lack of experts available for the Stage 3 reviews raises some serious questions about its future.

Of the 51 Parties in the Convention, only 18 have nominated reviewers, and a number of this group of 18 have nominated just one reviewer. We consider that all Parties should nominate at least several reviewers for an effective review process to occur. As we have heard at many past TFEIP meetings, there are many advantages to being involved in the review – it's a great way to learn what

other countries are doing, learn how they solve issues that you also may have in your own inventory, and to make new friends!

If there continues to be insufficient support from Parties, it may be necessary to stop the Stage 3 reviews.

EMEP, CEIP and EEA would like to thank everyone who contributed to the review. Members of the review teams represented: Austria, Denmark, Estonia, the EU, Finland, Germany, Ireland, the Netherlands, Norway, Sweden and the United Kingdom.



If you want to register as an expert reviewer, then it's very simple. There is a [form to complete](#) on the CEIP website. This should be filled in and forwarded by your national CLRTAP representative to the [UNECE secretariat](#) and [CEIP](#).

6 TFEIP Meeting 2014 Announcement

We are very pleased to announce the dates and venue for TFEIP 2014.

Venue: Ghent, Belgium

Dates: 12th & 13th May 2013

The TFEIP/EIONET meeting will be followed by a technical workshop on 14th May. Several suggestions have been made for the topic of the workshop:

- Completeness;
- Quantifying uncertainties;
- PM from biomass combustion sources;
- Residential and small/medium combustion sources;

- How to incorporate point source or country specific input data.

We welcome your views.

The meeting is very kindly being hosted by the Flemish Environment Agency, in co-operation with the other three regions of Belgium.

Further details concerning the meeting will be available in due course. But you can start your planning by visiting this site: www.visitgent.be

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## 7 Other Meetings and Announcements

### Farewell Penny!

It is always sad when a friend and colleague moves on to other work. Penny Dilara has been one of our Expert Panel Co-chairs for more than 10 years!



But her role at the JRC has changed recently and she won't be able to continue with her TFEIP work.

We are all sorry to see her go, but of course we wish her well in her new role.

From all the TFEIP, thanks for all of your contributions across the years!

### TFEIP LinkedIn Group

We have set up a TFEIP Group on LinkedIn. The intention is to help improve our communications in the emission inventory community.

Here is how you can join in:

1. Log in to your LinkedIn account, and type "TFEIP" in the search box.
2. This gives you a list of everything, including people. But if you click on "Groups" (just to the left of the first person on your search results), then the search will show the TFEIP group home page.
3. Once you have joined the TFEIP group, you will be able to post questions or topics for discussion with the wider inventory community.

We hope that you find it helpful!

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Forthcoming Meetings

The CLRTAP Executive Body Meeting, 9-13th December 2013.

As mentioned in Section 4, some important decisions will be made at this meeting relating to emissions:

- Revised Reporting Guidelines: The EMEP SB proposal will be discussed and hopefully adopted.
- Emissions Adjustments: It is expected that there will be discussions regarding potential funding mechanisms before the proposed process can be adopted.

If you are attending the meeting, then it would be advisable to discuss these points with your national emissions inventory team beforehand.

North American Black Carbon Emissions Estimation Guidelines

This project is being led by the Commission for Environmental Cooperation (CEC) - an intergovernmental organization created by Canada, Mexico and the United States. The project is a two-year project across 1st July 2013 – 30th June 2015, and involves three main tasks:

- A review of black carbon emissions estimation methodologies available or in use in North America and around the world.
- A series of consultations with emission estimation experts including experts participating in the LRTAP Convention (EMEP/TFEIP)
- The development of a document that will provide guidance on estimating black carbon emissions from individual source types that can be applied by the three North American countries.

The CEC Secretariat is in the process of developing a request for proposals for contractor support for the project. Meetings and consultations are expected to be organized starting in Spring 2014.

Contact Information: Orlando Cabrera-Rivera, Program Manager, ocabrera@cec.org

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*If you would like to publicise details of your forthcoming relevant meetings or workshops in the next TFEIP newsletter, you are welcome to email the Chairs with information.*

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