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Steering Body to the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe

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Item 6 (c) of the provisional agenda

Progress in activities in 2013 and future work: emissions

Emission inventories and projections

Report by the co-Chairs of the Task Force on Emission Inventories and Projections

Summary

The mandate of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) Steering Body, as set out in Executive Body for the Convention on Long-range Transboundary Air Pollution decision 1999/2 (ECE/EB.AIR/68, annex III, appendix III), is to provide sound scientific support for the Convention, inter alia, in the area of emission inventories and emission projections. In that connection, the EMEP Steering Body is tasked with providing the Executive Body and other subsidiary bodies annually with an overall analysis of transboundary air pollution (*ibid.*, para. 4 (a)).

In line with that mandate, the present report reflects progress made and conclusions agreed at the twenty-sixth meeting of the EMEP Task Force on Emission Inventories and Projections (Istanbul, 14–15 May 2013) in accordance with the 2012–2013 workplan of the Convention, approved by the Executive Body at its twenty-ninth session (ECE/EB.AIR/109/Add.2, item 2.1).

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I. Introduction

1. The twenty-sixth meeting of the Task Force on Emission Inventories and Projections under the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) was held on 14 and 15 May 2013 in Istanbul. The meeting of the Task Force, which is a subsidiary body of the United Nations Economic Commission for Europe (ECE) Convention on Long-range Transboundary Air Pollution (Air Convention), was held jointly with a meeting of the European Environment Information and Observation Network (EIONET), maintained by the European Environment Agency (EEA). It was preceded by a scientific workshop, held jointly with EIONET, which provided a platform for the users of emissions inventory data to explain their current uses of inventory data sets, and their priorities for improvements to the emissions' data. Conclusions from the joint workshop are presented in the annex to this report. Presentations and documents from the Task Force meeting and from the workshop are available online.¹

A. Attendance

2. Over 130 participants registered for the annual Task Force meeting, representing 40 countries as well as international organizations, including the EMEP Centre on Emission Inventories and Projections (CEIP), the Centre for Integrated Assessment Modelling (CIAM), the Meteorological Synthesizing Centre-West (MSC-W) and the Task Force on Reactive Nitrogen. Several representatives from industry also attended.

3. The Convention was represented by the Chair of the EMEP Steering Body and by the secretariat.

4. The European Commission was represented by members of its Joint Research Centre and EEA was represented by several members of its staff as well as staff from its European Topic Centre on Air Pollution and Climate Change Mitigation (ETC/ACM).

B. Organization of work

5. Mr. C. Dore (United Kingdom of Great Britain and Northern Ireland), Mr. M. Adams (EEA) and Ms. K. Saarinen (Finland) co-chaired the meeting of the Task Force.

6. The Task Force held expert panel sessions on combustion and industry; agriculture and nature; transport; and projections.

7. The Air Convention secretariat informed participants about recent work associated with revisions and amendments to protocols to the Convention, and in particular the work of the Executive Body, the EMEP Steering Body, and the Working Group on Strategies and Review. The Task Force was encouraged to transparently report whether items in the Task Force draft 2014–2015 workplan had secured funding or not.

8. The Chairs noted the decision by the Executive Body directing EMEP² to support the work of the Implementation Committee, and more specifically to review national

¹ Available from <http://www.tfeip-secretariat.org/meetings/>.

² Executive Body decision 2012/24 concerning the reporting of persistent organic pollutants (see ECE/EB.AIR/113/Add.1).

persistent organic pollutants (POPs) emissions inventories. The Task Force agreed to support the work of the Implementation Committee as far as its resources and mandate allowed.

II. 2013 emissions reporting and review

9. The representative of CEIP presented a summary of the emissions reporting in 2013. The Task Force was disappointed to note that reporting of emissions data and Informative Inventory Reports (IIRs) had decreased slightly since 2012. There remained a significant number of Parties that had not reported by the submission deadline, or provide an IIR. The Task Force Chairs had repeatedly encouraged communication from those Parties to establish how the Task Force could try to facilitate support that directly delivered improvements to reported emissions data and IIRs. They noted that Parties were not approaching the Task Force to discuss solutions to those issues. CEIP also reminded participants of the Executive Body decision concerning reporting of finer resolution (0.1° x 0.1° longitude-latitude) gridded data to the revised EMEP grid.³ It was expected that data would be required from 2015 onwards.

10. CEIP noted that the Stage 3 emissions inventory review process was not receiving enough support to allow complete review teams for the reviews in 2013. As a result, the quality of national emission inventories that were used to demonstrate compliance with emission reduction targets and ceilings could not be properly checked. The Task Force Chairs noted that the situation had been ongoing for a number of years, and that there had been no signs of improvement in terms of Parties supporting sufficient numbers of reviewers. The Task Force recommended that the Steering Body consult with Parties to understand whether they wished the Stage 3 reviews to continue, and therefore whether there was any commitment to providing sufficient support in the future to allow the Stage 3 reviews to be undertaken.

11. Informal awards were given to recognize a range of best practice activities concerning the reporting of emissions data sets and IIRs. Awards were given for the following: most comprehensive IIR (Finland); best IIR from a small country (Croatia and Estonia); most transparent IIR/best presentation (Sweden); IIR with most improvements (Poland); most complete reporting in 2013 (Spain); and most improved inventory reporting within the last three years (Turkey).

12. A representative from Turkey gave a presentation on the development of their national emissions inventory, including the challenges that had been overcome.

13. On behalf of the European Commission, the EEA provided an update on the progress being made in the revision of the European Union (EU) National Emissions Ceiling Directive.⁴

III. *EMEP/EEA air pollutant emission inventory guidebook*

14. The Task Force received a presentation from Denmark on the European Commission-funded project to update many of the chapters in the *EMEP/EEA air pollutant*

³ Executive Body decision 2012/13 on changing of the EMEP grid projection, spatial resolution and domain (see ECE/EB.AIR/113/Add.1).

⁴ Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on national emission ceilings for certain atmospheric pollutants.

emission inventory guidebook,⁵ including the addition of black carbon. That project had now been completed.

15. The Task Force held detailed technical sessions to review the revised chapters of the guidebook, and agreed that the updates were to be recommended. The Task Force therefore recommended that the EMEP Steering Body endorse the updated guidebook chapters at its meeting in September 2013.

16. To ensure the early availability of the updated chapters for national experts, it was agreed that they would be made available on the EEA website after the Task Force meeting, following their editing to align the guidebook structure as far as possible with the proposed changes to the nomenclature for reporting (NFR) format (see paras. 19–21 below on the Reporting Guidelines).

17. The Task Force had heard that EEA had offered to investigate funding opportunities to translate the updated guidebook chapters into Russian.

18. Representatives from the European Solvents Industry Group presented a solvents emissions inventory for Europe, which differed significantly from information in the guidebook. Differences would therefore be investigated in the future by the Task Force.

IV. Protocol to Abate Acidification, Eutrophication and Ground-level Ozone, Protocol on Heavy Metals and Protocol on Persistent Organic Pollutants

19. *Reporting Guidelines.* The Task Force recognized the requests from the EMEP Steering Body and Executive Body to revise the Guidelines for Reporting Emission Data under the Convention on Long-range Transboundary Air Pollution (Reporting Guidelines) (ECE/EB.AIR/97) and its annexes to ensure consistency with recent decisions of the Executive Body and the three recently amended protocols under the Convention.

20. The Task Force discussed in detail a draft document on revising the Reporting Guidelines that had been circulated prior to the meeting, including revisions to the templates used for submitted emissions estimates and NFR templates. Agreement was reached on a proposal to revise a number of significant aspects of the Reporting Guidelines.

21. The Task Force agreed to form an ad hoc group to finish drafting a proposal for the EMEP Steering Body and to submit the revised Guidelines (and revised reporting templates) in time for consideration at its next meeting in September 2013. However, in drafting that recommendation, the Task Force noted a minor complication. The greenhouse gas emissions common reporting format (CRF) under the United Nations Framework Convention on Climate Change was scheduled to be amended during 2013, and it was desirable to ensure that the reporting structure under the Convention remained consistent with the CRF. The Task Force would therefore be recommending that the EMEP Steering Body adopt the changes to the Reporting Guidelines, while recognizing that there might be the need for further minor technical amendments to the NFR.

22. *Emission inventory adjustments.* The Task Force Chairs provided an update on the support that had been provided to the EMEP Steering Body in the form of technical guidance on adjustments, and the decisions made by the EMEP Executive Body. It was noted that some of the detailed aspects of the adjustments process had not yet been decided.

⁵ Available from <http://www.eea.europa.eu/publications/emep-eea-emission-inventory-guidebook-2009>.

In particular, the funding mechanism and management of the expert reviewers had yet to be determined. The Task Force were of the opinion that CEIP was well placed to manage the adjustment process subject to the provision of additional operational funding.

23. In response to a request from the EMEP Steering Body, the Task Force agreed to set up an ad hoc group to draft a guidance document that described the information expected in an adjustment application, and draft a template for the annual reporting of adjustments granted in detail to accompany the emissions inventory reporting tables. Those would be provided to the EMEP Steering Body as informal documents in time for its meeting in September 2013.

V. European Environment Information and Observation Network

24. Representatives from EEA gave a number of presentations outlining recent project work and the activities of EEA relevant to EIONET in general, including on:

- (a) The impacts of international shipping on air quality and climate forcing, drawn from a recent EEA report;
- (b) How well EU member States had been able to project their future emission trends over the past several years. That work would inform a forthcoming EEA report on ex post assessment of emission projections;
- (c) Reporting issues encountered in the compilation of the 2013 EU Air Convention emission inventory, and the implications for future quality assurance/quality control procedures.

VI. Other issues

25. The Task Force was pleased to note that the secretariat had been able to attend the meeting, and thanked the United Kingdom for providing supporting funds.

26. The Task Force Chairs expressed their appreciation to the Turkish Ministry of Environment and Urbanization for hosting the meeting, and thanked EEA for providing financial support to allow EIONET representatives to participate in the meeting. The Task Force Chairs also thanked Mr. Fabio Dalan of the European Commission's Joint Research Centre for being a guest co-chair of the transport expert panel.

VII. Future work

27. The Task Force agreed on the following main activities planned for the remainder of 2013 and into 2014, which would be submitted to the EMEP Steering Body in September 2013 for approval:

- (a) To compile a summary of the Task Force's core activities, and transparently present whether planned future activities had secured funding or not;
- (b) To continue to provide a focal point for technical discussion on air pollutant emissions, and to maintain current communication routes (including promotion of the web forum);
- (c) To create a LinkedIn account for the Task Force to promote improved technical communication/discussions;

(d) To update the Guidebook Maintenance and Improvement Plan, and undertake work to improve chapters of the *EMEP/EEA air pollutant emission inventory guidebook*, as resources allowed;

(e) To review with Parties the usefulness of Stage 1 and Stage 2 review reports;

(f) To liaise with the EMEP Steering Body regarding the future of the Stage 3 Review process and the inadequate support from Parties;

(g) To liaise with Parties not making complete submissions and encourage their active participation at Task Force meetings.

28. The Task Force agreed to hold its next meeting (and workshop) in May of 2014, and thanked Belgium for agreeing to host it.

Annex

Conclusions of the workshop of the Task Force on Emission Inventories and Projections and the European Environment Information and Observation Network on emission inventory compilers and users

1. The 2013 Task Force workshop brought together emission inventory compilers with stakeholders and users of the data. A number of key points and recommended actions arose from discussion groups focusing on four different areas: accuracy; completeness; mapping; and fine timescales.
2. Accuracy:
 - (a) Stronger links with statistics departments should help to improve the accuracy of activity data. It may be possible to better assess the accuracy of emission factors, but this is expected to be resource intensive;
 - (b) The use of bottom-up methodologies will help with accuracy, but it is often challenging to coordinate this with top-down approaches;
 - (c) There is scope for a project to promote the use of Monte Carlo analysis, but it is considered overly detailed/resource intensive for many countries/applications;
 - (d) Policymakers associated with compliance are not particularly interested in uncertainties, but those involved in scenario analysis are;
 - (e) The modelling community need to provide more detailed feedback to identify priority areas for improvement.
3. The Task Force Chairs will discuss whether it would be helpful to compile an annual briefing note for the Task Force on Measurements and Modelling, outlining the priorities of the Task Force on Emission Inventories and Projections.
4. Completeness:
 - (a) Details and methodologies on sources that are not included in compliance inventories should be considered for inclusion in the EMEP/EEA guidebook. Similarly, information on speciation should be considered;
 - (b) The Task Force should consider hosting an information portal, to provide a central resource that holds relevant reports, links to research projects, links to relevant work of the climate change community and links to other emissions-related work;
 - (c) The group suggested that the Task Force remind inventory compilers that they need to be clearer in IIRs about the reason for reporting "NE" (no method, no data, or no resources). This could be facilitated through the Stage 3 reviews;
 - (d) Better communications within the inventory community would help (expert panels, web portal, bilateral discussions between different Parties).
5. The Task Force expert panel leaders and co-Chairs will discuss the additional efforts required to include extra information in the guidebook.
6. The Task Force will investigate the possibility of hosting an information portal, and provide an estimate of the required funds (by 30 June 2013).

7. The Task Force will add a list of national contacts to its website, and will continue to encourage communications through the expert panels and its web forum.
8. Mapping:
- (a) The group noted that the EMEP/EEA guidebook chapter on mapping had just been updated, and therefore little extra work was needed;
 - (b) Many in the group considered that it was easier to report emissions mapping more frequently than on the current five-yearly basis;
 - (c) It was suggested that it would be beneficial to modellers if the Task Force could host a “one-stop shop” information resource for the modellers and those mapping emissions data;
 - (d) The Emissions Database for Global Atmospheric Research (EDGAR)⁶ and other gridding resources were discussed;
 - (e) It was agreed that estimating emissions from international transport sources was best undertaken in a centralized way.
9. The Task Force Chairs will liaise with CEIP on the possibility of CEIP hosting an information centre for the modellers.
10. Fine timescales:
- (a) There was support for collating information on the methods currently being used by the modellers, and where there is a lack of good input data and information;
 - (b) It was agreed that the modellers (and policymakers) need to provide the emissions inventory community with an indication of their priorities, i.e., where would it be most helpful for inventory compilers to invest in improvement projects;
 - (c) There was some concern that outputs from recent EU projects (data sets and methodologies) are not being communicated to the relevant users;
 - (d) It would be sensible to collate the currently available data sets on temporal profiles;
 - (e) The group considered that gridded NFR was the most sensible detail level to work at;
 - (f) Resources: These may be made available if the benefits were clearly justified.
11. The Task Force co-Chairs will liaise with the Chairs of the Task Force on Measurements and Modelling, MSC-W and the Meteorological Synthesizing Centre-East with the aim of obtaining information to steer inventory improvement tasks.
12. The co-Chairs will also investigate the resources needed for collating information on the current temporal emissions profiles.

⁶ See <http://edgar.jrc.ec.europa.eu/index.php>.