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Executive Body for the Convention on Long-range Transboundary Air Pollution

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

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Geneva, 5–7 September 2011
Item 6 (c) of the provisional agenda
Progress in activities in 2011 and future work: emissions

Emission inventories and projections

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

I. Introduction

1. This report reflects progress made and conclusions agreed at the twenty-fourth meeting of the Task Force on Emission Inventories and Projections, in accordance with item 2.1 of the 2011 workplan for the implementation of the Convention on Long-range Transboundary Air Pollution (ECE/EB.AIR/106/Add.2) approved by the Executive Body at its twenty-eighth session.

2. The twenty-fourth meeting was held on 2 and 3 May 2011 in Stockholm, Sweden, and was held jointly with the European Environment Information and Observation Network (EIONET), maintained by the European Environment Agency (EEA). The meeting was followed by a scientific workshop, held jointly with EIONET, which focused on emissions gridding and mapping to support Parties to the Convention in preparation for the five-yearly reporting of gridded data in 2012. 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 at: http://www.tfeip-secretariat.org/2011-spring-sweden.

A. Attendance

3. Over 120 participants, representing over 40 countries as well as international organizations including the Cooperative Programme for Monitoring and Evaluation of the

Long-range Transmission of Air Pollutants in Europe Centre on Emission Inventories and Projections (CEIP), the Centre for Integrated Assessment Modelling (CIAM), the European Organization for the Safety of Air Navigation (EUROCONTROL), and the Union of the Electricity Industry-EURELECTRIC.

4. The European Commission was represented at the meeting by the Joint Research Centre's Institute for Environment and Sustainability. Representatives from Eurostat, EEA and its European Topic Centre on Air Pollution and Climate Change Mitigation (ETC/ACM) were also present.

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 co-Chairs informed participants about the outcomes of the twenty-eighth session of the Executive Body held in December 2010, and the forty-eighth session of the Working Group on Strategies and Review held in April 2011, highlighting in particular, revisions and amendments to protocols to the Convention. In addition, the Task Force held expert panel sessions on combustion and industry; agriculture and nature; transport; and projections.

II. 2011 emissions reporting and review

7. The representative of CEIP observed that quality of the Informative Inventory Reports (IIRs) was steadily increasing, although the number of Parties submitting IIR's remained largely constant. The Chair encouraged Parties not submitting IIRs to communicate to the Task Force the barriers that they faced, so that the Task Force could try to facilitate effective support.

8. The Task Force recognized that the Stage 3 review process had, to date, reviewed Parties who had submitted both emission estimates and IIRs — the two prerequisites for a Stage 3 review. In contrast, the scheduled reviews for the next two years looked to be particularly challenging, as they involved countries that had either not yet submitted emission datasets and/or IIRs. Unless those Parties reported that information in future submission rounds, a Stage 3 review of their emission submission would not be possible.

III. Developments in Eastern Europe, the Caucasus and Central Asia

9. The Task Force heard from their Eastern Europe, the Caucasus and Central Asia country representative that the main reasons for the lack of progress in reporting from the subregion countries was considered to be associated with Governmental decisions, rather than the lack of technical capability or availability of guidance. The Task Force agreed to discuss the issue with the Chair of the Steering Body to the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) to try to identify ways in which reporting from those countries could be improved, and suggested that one option would be to contact the relevant countries by letter, explaining why IIRs were required.

10. Following a presentation from the Russian Federation, the Task Force noted that the translation of the *EMEP/EEA Air Pollutant Emission Inventory Guidebook* into Russian was

nearing completion. It agreed that the Russian version of the Guidebook would be trialled across the next inventory compilation cycle, and its use reviewed.

IV. Recent research projects and emission inventory developments

11. The Task Force considered a number of research projects and related activities with the potential to contribute to the improvement of the emission inventories. It noted in particular the following as being valuable for further inventory improvements:

(a) Continuing development of Finland's Air Pollutant Emission Factor Library. The Chair encouraged Parties to upload emission factors to the library;

(b) The creation of an information repository on black carbon at the International Institute for Applied Systems Analysis. A need was expressed for funding to support the work. The initiative received support from the Task Force, and noted close links with the Task Force workplan;

(c) The following presentations:

- Emission Estimates from Wood Combustion by Denmark;
- A Tier 3 Methodology for Domestic Wood Combustion by Italy;
- Current Plans and Work Programme for the Task Force on Hemispheric Transport of Air Pollution by the European Commission;
- Latest Emission Estimates from the EDGAR emissions model by the Joint Research Centre;
- Improvements in Emission Factors for the Cement Sector by Belarus.

V. Estimates of black carbon, organic carbon, elemental carbon and particulate matter

12. The Task Force considered the specific issue of improving emission estimates of particulate matter (PM) and in particular PM_{10} and the various metrics being used for carbon (black carbon (BC), organic carbon (OC) and elemental carbon (EC)), and welcomed the following presentations:

- Emissions and Baseline Projections of BC using the GAINS model by CIAM;
- A European-wide inventory of EC and OC by the Netherlands;
- An Emissions Inventory of BC by Denmark;
- A BC Emissions Inventory and Comparison with Other Countries by Finland.

13. The Task Force recognized the importance of assessing the current information that was available to make emission estimates of BC, and added that to its workplan.

VI. Flexibility mechanisms

14. A representative of the European Union (EU) provided an introduction to recent activities on the potential inclusion of flexibility mechanisms in the revised Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Gothenburg Protocol). The Chair then explained the Task Force work to date in the area, including the

provision of a report to the Working Group on Strategies and Review commenting the mechanisms proposed by the EU. The Chair then presented an overview of the mechanisms more generally before opening the floor for discussion.

15. An expert from Ireland opened the discussion by indicating strong support for relative ceilings, and in particular a "Kyoto type" of methodology.[1] There was support for that point of view from the United Kingdom, ETC/ACM, and several other countries. However, it was noted by ETC/ACM and the Netherlands that, while it would address many reporting issues, there were still some challenges associated with a Kyoto-type approach.

16. Numerous countries expressed a clear lack of support for mechanisms which required the preparation of multiple versions of an inventory data set. Issues associated with reporting, version control and an increased burden for Parties were all raised. There was a clear preference for a system that improved consistency in the reporting of greenhouse gas emissions.

17. Experts from the United Kingdom indicated support for flexibility mechanisms in general, and the need to consider a range of different options — a view supported by the Netherlands experts. However, the United Kingdom noted that it was difficult to comment until clearer technical guidance had been provided on the current EU proposals.

18. Experts from France proposed some additional mechanisms for consideration. They also noted that the current Stage 3 review process would probably require considerable strengthening if such mechanisms were introduced.

19. The issue was raised whether flexibility mechanisms might be applied to the existing 2010 ceilings. The EU explained that while they did not wish to change the ceilings for 2010, it was possible that the revised Gothenburg Protocol could (subject to outcome of negotiations) retrospectively amend the 2010 emission estimates through flexibility mechanisms.

20. The representatives of ETC/ACM expressed the need for a system that allowed updated emission factors to be more rapidly disseminated for use in national emission inventories. The Chair reminded the Task Force that draft updated chapters had been put into the public domain and might be used before they were formally incorporated into the EMEP/EEA Guidebook.

21. Following discussions on the possible inclusion of flexibility mechanisms in the revised Gothenburg Protocol, and the need to provide technical support to the Working Group on Strategies and Review, the Task Force agreed to form a flexibility mechanism ad hoc group. The group would be tasked with reviewing the technical implications of a range of different options relating to flexibility mechanisms, and provide technical support to the Working Group on Strategies and Review as appropriate.

VII. European Environment Information and Observation Network

22. EEA provided a review of recent EEA- and EIONET-related activities, and introduced the following presentations:

[1] A percentage reduction on a base year is specified as a target. However, at a predetermined date several years after the entry into force of the Protocol, the most current estimate for the base year is used to express the percentage reduction as an absolute value. This absolute value is fixed as the reduction which is to be achieved, irrespective of subsequent revisions to the base year.

(a) A report on the EEA workshop on uncertainty in road transport emissions and the differences in emission arising from new scientific knowledge over time as reflected in changes between the COPERT[2] II and COPERT 4 road transport emission model, from the ETC/ACM;

(b) A new Aviation Inventory Data Portal being developed by EEA in collaboration with EUROCONTROL;

(c) An update on the links to emissions with satellite measurement and Global Monitoring for Environment and Security (GMES), from ETC/ACM.

VIII. Development of the EMEP/EEA Air Pollutant Emission Inventory Guidebook

23. The Task Force was informed that the Agriculture and Nature expert panel had postponed the creation of a methodology for non-methane volatile organic compound emissions from agriculture until 2012, due to a lack of resources.

24. Recent contributions to the work of the Task Force had been made by Eurostat and EUROCONTROL.

25. A number of chapters updated by the Combustion and Industry expert panel would be made available on the Task Force website, but would not be incorporated into the EMEP/EEA Guidebook until the next round of Guidebook updates (currently scheduled for 2013).

26. The Task Force discussed the fact that the Guidebook was revised to provide emission factors which were applicable to the most recent years. It concluded that some consideration should be given to the need to specify the year(s) or the period for which emission factors were applicable. The Task Force agreed to revisit that issue at its next meeting.

IX. Other issues

27. The ETC/ACM presented some informal awards for IIR best practice. Finland was considered to have provided the most comprehensive IIR, Austria the best all-round IIR, Estonia the most improved IIR, and Switzerland and Croatia as the best IIRs from a small Party.

28. The Task Force agreed that the attendance of the secretariat at past meetings of the Task Force had been very valuable and expressed its wish for it to attend future meetings if possible.

29. The Task Force Chairs expressed their appreciation to the Swedish Ministry of Environment and Swedish Environmental Protection Agency for hosting the meeting, and thanked Norway, the United Kingdom and EEA for providing financial support to allow certain representatives to participate in the meeting. They also thanked Julio Lumbreras (Spain) for his past contributions to the work on projections as the panel Co-Chair, and noted the need for a new Co-Chair of the Task Force projections expert panel.

[2] **Co**mputer **P**rogramme to calculate **E**missions from **R**oad **T**ransport.

X. Future work

30. The Task Force agreed on the following main activities planned for 2012 to be submitted to the EMEP Steering Body in September 2011 for approval:

(a) Encourage increased levels of national support for the activities of the Task Force;

(b) Undertake tasks in the maintenance and improvement plan for the EMEP/EEA Air Pollutant Emission Inventory Guidebook, as support allows;

(c) Form an ad hoc group to provide specific support to Working Group on Strategies and Review on flexibility mechanisms associated with the revision of the Gothenburg Protocol. The Group will update and extend the existing Task Force paper on flexibility mechanisms, for submission to the EMEP Steering Body in 2011;

(d) Undertake an assessment of the current knowledge on BC, and provide support to the Task Force on Hemispheric Transport of Air Pollution as resources allow. The Task Force co-Chairs will seek contributions to a short report, for submission to the EMEP Steering Body in 2011;

(e) Continue to support the Stage 2 and 3 review processes by liaising with CEIP;

(f) Continue to liaise with parties not submitting data or IIRs, to facilitate more complete reporting;

(g) Liaise with the EMEP Steering Body Chair regarding possible actions to address the lack of progress in reporting from countries in Eastern Europe, the Caucasus and Central Asia;

(h) Review the extent to which the forthcoming Russian version of the EMEP/EEA Air Pollutant Emission Inventory Guidebook is used by countries in Eastern Europe, the Caucasus and Central Asia.

31. The Task Force agreed to hold its next meeting in April or May of 2012, at a venue to be decided.

Annex

Conclusions of the Joint Technical Workshop of the Task Force on Emission Inventories and Projections and the European Environment Information and Observation Network

The workshop participants:

(a) Noted that there was a timing issue with the revision to the EMEP grid because the grid will not be revised in time for the 2012 submission of gridded data. Continuation of five-yearly reporting would mean that data on a new grid would only be submitted in 2017. Parties were encouraged to report on the old grid in 2012, but prepare for the new grid (which is to be finalized), with the aim of reporting gridded data in 2014 on the new grid;

(b) Noted that a significant number of States Parties do not report gridded data and encouraged Parties not reporting gridded data to communicate to the Task Force co-Chairs the barriers to reporting gridded data;

(c) Identified a clear need for a repository of spatial data sets, and associated guidance. The EDGAR team at the Joint Research Centre indicated their willingness to provide underlying data sets to Parties from their project work;

(d) Noted that it was not possible to submit point, line and area sources directly to EMEP rather than gridded data, as CEIP has insufficient resources available to process the data accordingly;

(e) Agreed that handling of confidential data was an important consideration when generating gridded emissions data, particularly as the resolution and detail of emission maps is increasing;

(f) Noted that sophisticated emissions mapping and gridding is undertaken in some Parties (e.g., in the United Kingdom, Denmark and Sweden) and with a project on the Diffuse Air Emissions in the European Pollution Release and Transfer Register (E-PRTR).