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**ECONOMIC COMMISSION FOR EUROPE**

**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)

Thirty-first session  
Geneva, 3–5 September 2007  
Item 3 of the provisional agenda

**ACTIVITIES OF THE EMEP BUREAU**

Note by the secretariat

**INTRODUCTION**

1. This note prepared in consultation with the extended Bureau summarizes the work of the Bureau, including the results of the two meetings of the extended EMEP Bureau held in Vienna on 15 November 2006 and from 26 to 28 March 2007. The Bureau's proposals related to the financing of EMEP are presented in the document on financial and budgetary matters (ECE/EB.AIR/GE.1/2007/11).

2. The following Bureau members attended one or both of the Bureau meetings: Mr. J. Schneider (Austria) as Chair, Mr. P. Grennfelt (Sweden), Mr. J. Rea (United Kingdom), Ms. L. Rouil (France), Ms. S. Vidic (Croatia), Ms. M. Wichmann-Fiebig (Germany) and Mr. K. Wieringa (Netherlands).

3. Representatives from the four EMEP Centres, the Centre for Integrated Assessment Modelling (CIAM), the Chemical Coordinating Centre (CCC), the Meteorological Synthesizing Centre-East (MSC-E) and the Meteorological Synthesizing Centre-West (MSC-W), as well as the UNECE secretariat participated in the second meeting. Ms. K. Rypdal (Norway), Chair of the Task Force on Emission Inventories and Projections, Mr. A. Zuber (European Commission), Co-Chair of the Task Force on Hemispheric Transport of Air Pollution, and Ms. A. Moreault (European Environment Agency) also participated in the second meeting. Mr. T. Keating (United States), Co-Chair of the Task Force on Hemispheric Transport of Air Pollution, participated in the second meeting via a conference call.

## **I. PROGRESS IN EMEP ACTIVITIES AND PLANNING OF FUTURE WORK**

4. The Bureau discussed progress in EMEP activities and future work following the order of the Executive Body's 2007 work plan, item 2. It received oral progress reports from the Task Forces and the centres. Summaries of the discussions on this item appear in the minutes of the Bureau's meetings, which can be accessed as informal documents in English on the Internet at [www.unece.org/env/emep/welcome.html](http://www.unece.org/env/emep/welcome.html).

5. The Bureau noted progress in the work done by MSC-E in addressing the recommendations of the workshop on the review of the MSC-E models on heavy metals and persistent organic pollutants (POPs), including the discrepancies between the model results and the observations when official data are used and a comparison of the EMEP emission data with expert estimates from TNO and the ESPREME project on a country by country basis. The Bureau recommended that the basis for the TNO and ESPREME data should be made available in terms of activity data and emission factors and distributed to national experts at the Task Force on Emission Inventories and Projections so that they can further explore the official data.

6. The Bureau took note of the long-term workplan presented by MSC-W for 2008 – 2012, in particular with respect to the opening of the EMEP Unified model code as service model, the development of global scale modelling capacities, and the development of nesting routines down to local scale with particular focus on PM and nitrogen. The Bureau recommended that work to explore links dynamical between climate change and air pollution should be included as part of the long-term work plan.

7. The Bureau discussed the joint proposal by MSC-E and MSC-W on streamlining the development of a common EMEP global model and the extension of the EMEP grid to include the Eastern Europe, the Caucasus and Central Asia (EECCA) countries. The main reason to develop a global modelling system is that many of the pollutants considered within EMEP

undergo significant intercontinental transport. The increased importance of intercontinental transport and the existence of significant pollution sources in areas susceptible for inter-hemispheric transport, make advisable the extension of hemispheric approaches to use of global scale models instead. The Bureau agreed that the centres should use synergies in various areas, including the compilation of input data (e.g. land use, emissions, meteorological data), the description of physical processes and the modelling code, and urged them to complete the tasks before 2012.

8. The Bureau also recognized there were resource implications for countries in Eastern Europe, Caucasus and Central Asia (EECCA) to support the extension of EMEP programme over these countries. It was important to be aware of their capacity to provide relevant data, including emissions with reasonable quality. Attention was also drawn to the lack of monitoring data in these countries. The Bureau also recognized the importance of capacity-building activities in this area.

9. The Bureau agreed to propose to the Steering Body an extension of the EMEP modelling domain to cover EECCA and to support global scale modelling. A proposal on the future grid with scientific substantiation (e.g. possible extension to EECCA countries, or a change of the EMEP grid projection to LONG-LAT) developed by MSC-E and MSC-W, is presented in Annex I.

10. The Bureau was informed of progress in the implementation of the monitoring strategy. It noted the good progress made, especially in areas which were lagging behind before, for example in Portugal and Romania. It further noted the new EMEP sites in the EECCA region and the need for global data quality assurance when talking about hemispheric or global modelling. It acknowledged that CCC intended to make available all their observations on the Internet in a user-friendly way. The Bureau took note of preparations for the next revision of the monitoring strategy.

11. The Bureau noted the progress made in work on integrated assessment modelling funded through the European Union (EU) LIFE programme, the development of the GAINS model and the CITY-DELTA project, as well as plans for future work, including baseline projections for the review of the Gothenburg Protocol, the revision of the Gothenburg Protocol, consultations with non-EU Parties, and a workshop of the Task Force on Integrated Assessment Modelling on nitrogen (November 2007, IIASA, Austria). It took note of the difficulties in receiving recent input data for integrated modelling from EECCA countries, which prevented CIAM from updating their model also for these parties. The Bureau discussed specific results from the CITY-DELTA projects and recommended that Task Force on Measurements and Modelling should also address the results from CITY-DELTA.

12. The Bureau agreed to hold its next meeting in autumn 2007.

## **II. EMISSIONS**

13. The Bureau was informed about progress in the revision of the Emission Reporting Guidelines, including the proposals for the introduction of “shall” in some places.

14. The Bureau was also informed about the proposal on the review process that would be presented to the Steering Body. It acknowledged that it would be very difficult to make a review without strong guidelines, i.e. “shall”. It also noted that some requirements were not suitable for a centralized review model. The Bureau was informed that the European Commission (EC) might setup a separate centralized review process. It noted that, in such a case, a lot of common work could be done on the technical basis, and the EC and the Convention should join forces for checking the quality of the inventories, while the decision whether a party is in compliance or not with the respective legal instrument, should remain separate.

15. The Bureau noted that the output of the stage-3 review would have two aspects: (a) a short report on issues relevant to the Implementation Committee, which would receive information on whether a party is underestimating national totals by omitting a sector for example or if they were not giving an explanation about using a particularly low emission factor; and (b) feedback to the Party with recommendations for improvement.

16. The Bureau was informed of the establishment of a projection panel under the Task Force on Emission Inventories and Projections under the leadership of the United Kingdom, which would work in cooperation with other relevant groups. The Bureau noted that the United Kingdom would guarantee funding for the first couple of years. It welcomed this development and thanked the United Kingdom for providing this support.

17. The Bureau noted that a contract had been launched with TNO for restructuring of the Emissions Guidebook, where the ESPREME emission factors would be provided as a default.

18. The Bureau exchanged views on the issues of how to provide resources for further work on the improvement of heavy metals emission inventories. The Task Force on Emission Inventories and Projections had discussed that many countries are not providing a complete inventory for heavy metals and the remedy for that was the review process. The suggestion was also made to organize workshops to discuss the methods and results of the ESPREME project. The Bureau decided to present the results provided by MSC-E to the Parties and to seek reactions. Furthermore, it might be helpful for countries analyse the trends in their monitoring data and compare them to the trends in emissions.

19. With regard to gap filling, it was noted that all emissions experts accepted it, but that they still required more clarity on its use. The Bureau invited MSC-W and MSC-E to come up with a short presentation on the criteria for gap filling, while addressing the link to the review process.

### **Reorganization of the EMEP work on emissions**

20. The Bureau discussed the main tasks in the emissions work under EMEP, and in particular the mismatch between the tasks and the EMEP resources. The Bureau agreed on the necessity and importance of creating a centre for emissions and of the additional resources needed to support the work on emissions. With a new centre, the structure in EMEP would be completed, so that each task force had a centre to support it. This would also raise the profile of the work on emissions. It was agreed to propose to the Steering Body that a new emissions centre be established that would be funded through the EMEP budget, with funds already allocated to this task and with additional funding through the proposed increase of the EMEP budget. The detailed proposal is presented in annex II.

21. With regard to the role of the secretariat, it was agreed that it should be carrying out the secretariat's functions without undertaking more technical work, which would be best carried out by a specific centre with the necessary resources and relevant expertise.

22. The Bureau considered the cooperation with EEA and recognized the important contribution by EEA to the Convention's work, especially regarding the emission review process, capacity-building work and the guidelines revision process. EEA was technically capable of becoming the new centre for emissions, but currently did not have the necessary additional funding. The Bureau expressed its wish that EEA would continue to be an essential player in the emissions work in the future.

23. The Bureau noted that Umweltbundesamt Wien had offered to explore the possibility of becoming such an emissions centre.

24. The Steering Body might wish to:

(a) Propose to establish a centre on emissions as outlined in Annex II, and accept the offer by Umweltbundesamt Wien to act as such a centre;

(b) Propose that the transition process take place in 2008, and request the secretariat to reflect this in the workplan; and

(c) Express its appreciation to MSC-W for the work on the emissions database thus far and its wish to support the new organization of the emissions work.

### **III. CONTRIBUTIONS TO EMEP**

#### **A. Status of mandatory and voluntary cash contributions**

25. The secretariat reported on the status of cash contributions, stressing the positive financial situation. All Parties to the EMEP Protocol except for Romania had paid at least part of their contributions for 2006. The Bureau welcomed the positive financial situation.

#### **B. Status of mandatory contributions in kind: Belarus and Ukraine**

26. Concerning the contribution by Belarus, the Bureau was informed about the work carried out in 2006. The Bureau decided to recommend to the EMEP Steering Body to approve the voluntary in-kind contribution by Belarus for 2006.

27. The Bureau also considered the proposal by Belarus for an in-kind contribution for 2008, concerning further research for emission inventory improvements in the Newly Independent States (NIS). The Bureau approved the proposed contribution with the understanding that it would be conducted in close consultation with the Task Force on Emission Inventories and Projections.

28. Concerning the contribution in kind from Ukraine, the secretariat reported that it had no current information on further progress of the project for the development of a national model for environmental impact assessment of heavy metal emissions, which had been approved by the Bureau in 2001 to cover Ukraine's arrears for 1992 – 1994 (equivalent to US\$ 140,989), or the project for establishing an international EMEP site, approved by the Steering Body at its twenty-eighth session, to cover Ukraine's arrears for 1996 – 2001 (equivalent to US\$ 175,205). It had sent a letter to Ukraine on 26 January inviting it to provide up-to-date information in time for the Bureau meeting, but had received no reply.

#### **C. Use of resources in 2006 and the detailed budget for 2008**

29. The Bureau considered the yearly financial statements of MSC-E, MSC-W and CCC for 2006. The Bureau was satisfied that the resources for 2006 were used as budgeted.

30. The Bureau, without the participation of the centres, discussed the distribution of the budget for 2008. The Bureau suggested some amendments compared to the 2007 budget, taking into account priorities of the work in 2008 and the need for reorganization of the emissions work. In view of this, it also proposed an increase of the EMEP budget (ECE/EB.AIR/GE.1/2007/11, table 3).

#### **IV. COOPERATION WITH THE WORKING GROUP ON EFFECTS AND OTHER NATIONAL AND INTERNATIONAL PROGRAMMES**

31. The Bureau discussed and agreed on the harmonized workplan with the Working Group on Effects, as presented by Mr. Schneider.
32. The Bureau also discussed the invitation to the Convention to become a formal member of the Group on Earth Observations (GEO). It noted the common interests of GEO and the Convention and appreciated the willingness of GEO to support the mission of the Convention. The cooperation has already been established at the working level with the Task Force on Hemispheric Transport of Air Pollution, through the co-hosting with GEO of the Workshop on Integrated Observations for Assessing Hemispheric Air Pollution in January 2007. The Bureau agreed that a more formal relationship between GEO and the Convention would be beneficial to EMEP and the Task Force on Hemispheric Transport of Air Pollution.
33. The Steering Body might wish to welcome the offer by the GEO secretariat, and to recommend to the Executive Body to accept the invitation to join GEO as an official Participating Organization.

## Annex I

### **Proposal for extension of the EMEP model grid to include the countries of Eastern Europe, Caucasus and Central Asia (EECCA)**

This annex considers the requirements for the extension of the EMEP grid to include EECCA countries in the routine EMEP model calculations. The goal is for EECCA countries to receive information on transboundary fluxes with the same level of accuracy as other EMEP countries. A two-step approach is proposed here.

The extension of the EMEP modelling domain is linked to the requirements on the compilation of official emissions. It is also linked to the definition of the geographical scope of EMEP and the compliance with the Protocols. The EMEP Steering Body is invited to consider the proposed changes in the EMEP grid domain, projection and resolution.

#### **Step 1: Extension of the existing EMEP grid to the East (operational from 2008)**

The first-step solution involves the combination of the available EMEP regional and hemispheric models. For this aim, the current EMEP 50 x 50 km<sup>2</sup> grid should be extended eastward to cover the EECCA countries and the hemispheric model is to be used for calculation of boundary conditions for this region. As an interim solution, the regional EMEP model could be applied for routine calculations of transboundary pollution on the extended area as tentatively indicated in figure 1. This solution has the advantage that it can be easily implemented. MSC-E and MSC-W would carry out calculations of transboundary fluxes in the interim extended EMEP grid in their routine calculations starting from 2008. The main disadvantage is that important sources in Asia, India and the Middle East are outside the modelling domain, and are only considered through boundary conditions to the hemispheric models.

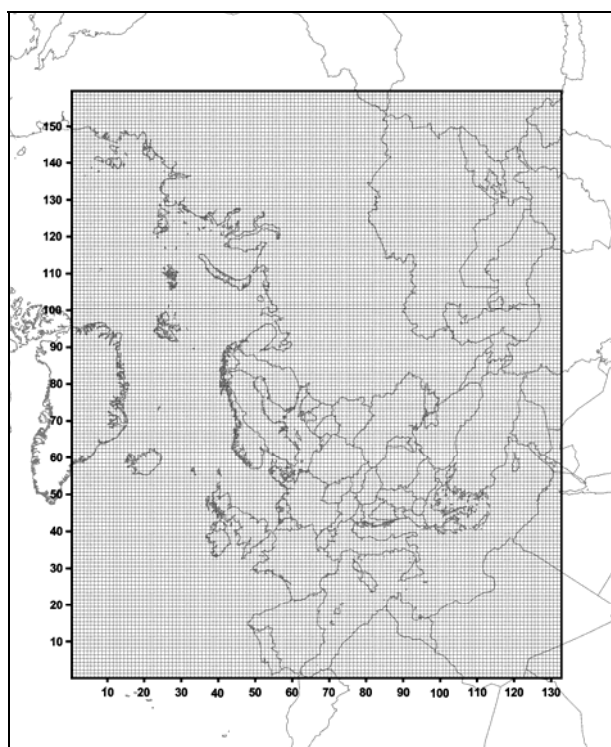
#### **Step 2: Future change of the EMEP grid projection to LONG-LAT(operational by 2012)**

In the long-term, source-receptor analysis for EECCA countries should involve global simulations providing the boundary conditions to the EMEP regional domain. The development of the global model advocates for a change of projection of the EMEP grid. Instead of using the traditional polar stereographic projection, adequate for studies of transport to northern areas and the Arctic, it is proposed to change to geographical coordinates that support better global scale applications. For the future, by 2012, the proposal is to change the projection of the EMEP grid to a longitude-latitude grid, with the regional domain covering a similar domain as in Step 1. A

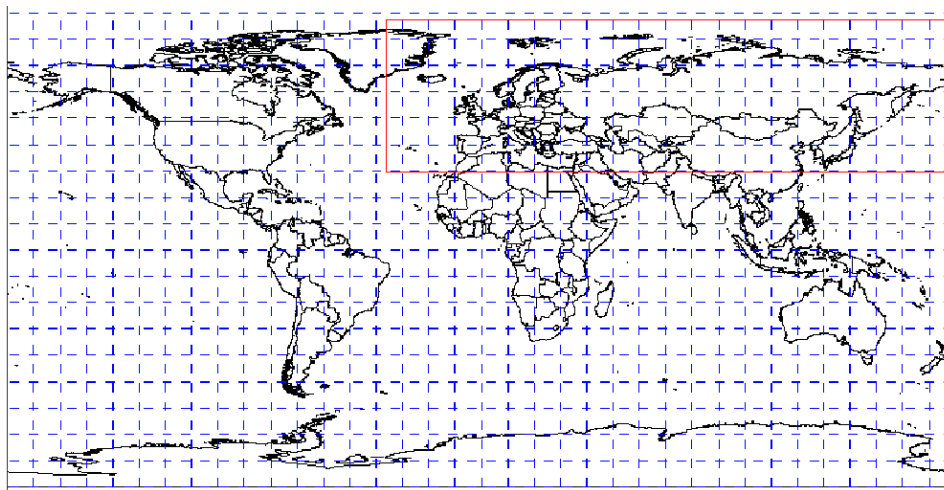


tentative extension and projection of the new EMEP domain is presented in figure 2. It is at the moment an open question whether the resolution of the new EMEP calculations would still be  $50 \times 50 \text{ km}^2$  or if it should be more refined, for instance, down to  $10 \times 10 \text{ km}^2$ .

**Figure 1.** Extended EMEP  $50 \times 50 \text{ km}$  grid ( $132 \times 159$  grid cells) suggested to include EECCA countries. (Step 1, operational from 2008).



**Figure 2.** Tentative future EMEP grid in geographical LONG-LAT coordinates (Step 2, operational by 2012). The proposal box indicated is for the EMEP domain for routine calculations, extending from 40W, 180E - 25N, 90N.



## Annex II

### **Reorganization of the emission-related work within EMEP**

1. At present, important parts of the emission-related work are carried out by MSC-W. Its tasks include compilation of reported emission data, quality control (in cooperation with Parties and the secretariat) and providing tools for such control, updating of the emission database and making this database available in the Internet, and support in the reporting of the data by Parties (in cooperation with the secretariat).

2. MSC-W is essentially a meteorological modelling centre, its main task being to quantify the atmospheric transboundary transport of pollution within the area covered by EMEP. MSC-W is located at the Norwegian Meteorological Institute, an institution with high competence on atmospheric processes and numerical modelling, but with few experts having emission-relevant competence.

3. The emission work has been consistently growing in volume and complexity ever since EMEP was started. Due to this development, the responsibility for the emission database, which originally was placed with the secretariat, was moved to MSC-W about 20 years ago. It was felt that a technical centre would be a more appropriate place for this task. Since MSC-W also was an important user of these data, this would help to keep a focus on quality control as well.

4. This work has now attained levels of volume and complexity that require at least three full-time experts to reach an acceptable level of quality and completeness. It is highly probable that this trend will continue, with the resource requirements steadily increasing over time. At the same time, modelling of transboundary air pollution is also getting more complex. EMEP/MS-CW is, for example, expected to be able to model transports occurring on scales ranging from urban to global, and to develop models that can predict the concentration of atmospheric particles sufficiently well so that the results can be used to support the development of particle-relevant international emission control measures.

5. In this situation, it seems logical to let MSC-W concentrate on the modelling of transboundary air pollution, and to move the responsibility for the emission database to a more suitable institution with relevant expertise already in place. A further development of the emission work at MSC-W would mean to build up a larger group for this work, with competence far away from the main competence profile of the institute as a whole. Recognizing the increasing importance this emission work will have for the Convention and for Europe as a whole, it does not seem natural to build up such a function at a meteorological institute.

6. At the thirtieth session of the Steering Body of EMEP, a representative of MSC-W proposed that the MSC-W focus its work on issues related to the modelling of air pollution, and that a more relevant institution carry out the emission work now being done by MSC-W. The proposal was based on the analysis given above. The Steering Body, accordingly, invited its Bureau to explore further the issue of reorganizing emissions-related work within EMEP and to report back to its thirty-first session. (ECE/EB.AIR/GE.1/2006/2, para. 10. (f).)

7. The Bureau discussed this issue at two subsequent meetings, a meeting of the Core Bureau in Vienna on 15 November 2006, and a meeting of the extended Bureau 28 March 2007. After analysing several options, the Bureau agreed that the preferred solution would be to establish a new EMEP emission centre. The main tasks of this centre could include: (a) compilation and reporting of emission data; (b) data management; (c) work on scientific and methodological issues related to emissions; (d) review of emission data and gap filling; (e) training and dissemination of methods; and (f) collaboration with IPCC/UNDP/UNFCCC groups. Concrete work items will be laid down in the annual work plan.

8. In this new setup, the MSC-W work on emissions would be limited to preparing emission data for input to the atmospheric modelling work.

9. Umweltbundesamt Wien has indicated that it would host a new EMEP emission centre. The Umweltbundesamt already carries out similar work by being responsible for the data base for greenhouse gas emissions for EU-27, as well as data compilation and reporting in this connection. If the EMEP emission centre were to be co-located with this work, one would create a strong unit working on various aspects of European air pollution emissions, and in an institution where such work was of high relevance for its main tasks. This would strengthen the emission work within EMEP, and create new possibilities of developing it further, for example by utilizing other sources of financing for related emission work.

10. The Bureau is presently not aware of other offers for hosting a new EMEP emission centre.

11. The Bureau therefore invites the Steering Body to:

- (a) Propose the establishment of an EMEP emission centre; and
- (b) Recommend accepting the offer from Umweltbundesamt Wien to host this new centre (pending the receipt of a formal offer in writing).

12. It is proposed that the EMEP emission centre have an initial annual budget of US\$ 220.000. This would be achieved by allocating funds from emission-related work at other EMEP centres: US\$ 140,000 from MSC-W, US\$ 20,000 from CCC and US\$ 60,000 from a proposed increase in the EMEP budget. The budget proposal from the Bureau for 2008 is prepared on this assumption, but realizing that 2008 will be a transition year in which a part of this funding also might be spent at MSC-W, the exact amount depends on how the transfer of work actually is carried out. Formally, the EMEP emission centre would be subcontracted under MSC-W, in the same way as CIAM. The Steering Body is invited to approve this mode of financing.

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