



**Economic and Social  
Council**

Distr.  
GENERAL

ECE/EB.AIR/2007/1  
1 October 2007

Original: ENGLISH

---

**ECONOMIC COMMISSION FOR EUROPE**

**EXECUTIVE BODY FOR THE CONVENTION ON LONG-RANGE  
TRANSBOUNDARY AIR POLLUTION**

Twenty-fifth session  
Geneva, 10–13 December 2007  
Item 6 of the provisional agenda

**PROGRESS IN CORE ACTIVITIES**

Note by the secretariat

**INTRODUCTION**

1. This note has been prepared to assist the Executive Body in its review and assessment of progress made in the following areas of cooperation within the scope of the Convention:

(a) The Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), encompassing the two core activities:

(i) atmospheric monitoring and modelling; and (ii) integrated assessment;

(b) The effects of major air pollutants on human health and the environment, the third core activity identified by the Executive Body.

2. This note provides the basis for, and lists, recommendations to the Executive Body as required under article 10, paragraph 2 (b) of the Convention, as well as reviewing implementation as required under article 10, paragraph 2 (a).
3. Progress in cooperation should be evaluated in relation to the 2007 workplan for the implementation of the Convention, as adopted by the Executive Body at its twenty-fourth session (<http://www.unece.org/env/lrtap/Workplan%202007.htm>).
4. At its twenty-fourth session, the Executive Body for the Convention took note of the updated workplan for the further development of the effects-oriented activities (EB.AIR/WG.1/2006/4), as amended in the twenty-fifth session of the Working Group on Effects, and invited the Working Group on Effects and the Steering Body of EMEP to continue their close cooperation in implementing the priority tasks of the Convention (ECE/EB.AIR/89, paras. 15 (i) and 19 (e)).
5. The Bureau of the Steering Body of EMEP had proposed that the Chair of the Working Group on Effects prepare updated required inputs for discussion at Bureaux meetings. The Extended Bureau of the Working Group collected the necessary requests for data from the effects-oriented programmes and forwarded them to the EMEP Bureau to update the medium-term workplans for the period 2007–2010.
6. A number of Parties have contributed significantly to the core activities by leading task forces, hosting coordinating centres, organizing workshops and seminars, and designating experts to assist the secretariat in the preparation of draft documents for submission to relevant bodies or meetings. The number of Parties playing an active role in these areas has increased.

## **I. COOPERATIVE PROGRAMME FOR MONITORING AND EVALUATION OF THE LONG-RANGE TRANSMISSION OF AIR POLLUTANTS IN EUROPE**

7. The EMEP Steering Body held its thirty-first session in Geneva from 3 to 5 September 2007 (ECE/EB.AIR/GE.1/2007/2).
8. The Steering Body reviewed the progress in the work of its centres and task forces. It expressed its satisfaction with the progress achieved in all areas of work and identified the directions for future work. The Steering Body, in particular:
  - (a) Agreed on the need to extend the geographical scope of EMEP to include the countries in Eastern Europe, Caucasus and Central Asia (EECCA), and invited the Meteorological Synthesizing Centre (MSC) East and MSC-West to include them in their

calculations from 2008. It invited MSC-West and MSC-East to proceed with a common plan for extending their work to the global scale and recommended that they switch to longitude-latitude projections as a second step. The Steering Body recognized the unresolved issues and biases in modelling and monitoring and invited MSC-West and the Chemical Coordinating Centre (CCC) to initiate work to address these.

(b) Noted with concern that there were still discrepancies between the model results and measured concentrations of heavy metals when using data reported by Parties, and invited MSC-East and CCC to explore the issue further in close collaboration with the Task Force on Measurements and Modelling and the Task Force on Emission Inventories and Projections. It welcomed the steps taken by MSC-East to implement the recommendations of the workshop for the review of the MSC-East model for heavy metals, and welcomed the further work on the extension of the model to the global scale.

(c) Took note of Status Report 4/07 and the Particulate Matter (PM) Assessment Report. The Steering Body noted that there were still considerable uncertainties with PM emission inventories and urged Parties to enhance their efforts to improve the quality of their PM emission reporting. It also noted the high degree of mass closure achieved in monitoring and the significant progress achieved in PM modelling. It noted that the main limitations were now the primary emissions (e.g. wood combustion, traffic) in winter and secondary organic aerosol in summer, and agreed with the need for supplementary measurements when interpreting model-measurement comparisons. The Steering Body agreed that despite remaining uncertainties in PM emissions and modelling, available data could be utilized in integrated assessment modelling to identify cost-effective emission reduction strategies to reduce PM exposure. It welcomed the cooperation with the Expert Group on Particulate Matter and encouraged the centres to continue to contribute to its work.

(d) Invited MSC-East to take all necessary steps to implement the recommendations of the workshop on the review of its model on persistent organic pollutants (POPs). It noted the gaps in monitoring in different environmental compartments, and urged Parties, in collaboration with CCC, to make efforts to fill in these gaps. In view of the considerable uncertainties in the emission data, Parties were invited to enhance their efforts to report reliable data. The Steering Body encouraged MSC-East and CCC to continue their cooperation with the Task Force on POPs, the Stockholm Convention on POPs, the European Community (EC) in the context of the REACH<sup>1</sup> regulation, and other relevant organizations on issues related to POPs.

---

<sup>1</sup> EC regulation on the registration, evaluation, authorization and restriction of chemical substances.

9. The Steering Body expressed its gratitude to the United Kingdom for leading the Task Force on Measurements and Modelling and to Mr. R. Derwent for his valuable contribution as its Co-Chair, and welcomed the proposal by France to lead the Task Force. It welcomed the progress achieved in the national implementation of the monitoring strategy, including its extension to the EECCA countries, and urged Parties to continue their efforts towards full implementation of the strategy by 2009. The Steering Body further invited the Task Force to scrutinize the implementation of the current strategy and identify gaps as a basis for revising it and welcomed a proposal to hold a workshop on the synthesis of the new monitoring data obtained through the strategy and the modelling activities of the EMEP centres to mark its completion. The Bureau of the Steering Body was invited to review the EMEP strategy with a view to identifying the needs for revising it, and to report back at its thirty-second session.

10. The Steering Body took note of the progress in integrated assessment modelling, and in particular the background document for the review of the Gothenburg Protocol prepared by the Task Force on Integrated Assessment Modelling. It took note of the results of the first phase of the review of the GAINS model and the methodological changes made to it, while keeping compatibility with earlier results from the RAINS model, and welcomed preparations for a full review (phase 2) of the GAINS model. The Steering Body encouraged a stronger involvement of the EECCA countries in integrated assessment modelling and invited the Executive Body to urge non-European Union (EU) countries to provide up-to-date validated national information for use in the development of the emission control scenarios. It also took note of the recommendations of the workshop on cost-effective control of urban air pollution, in particular the need to further scrutinize the assumptions and the data used in the city-delta approach and the need for further information. It welcomed the plans to hold a workshop on integrated assessment modelling of nitrogen from 28 to 30 November 2007 at IIASA in Laxenburg, Austria, and recommended to the Bureau of the Executive Body that it include the workshop in its workplan for 2007.

11. The Steering Body welcomed the proposals by its Bureau regarding the reorganization of the emissions work under the Convention and the establishment of a new EMEP centre for emissions, and recommended that the Executive Body accept the offer of the Umweltbundesamt Wien to host the new centre. It invited MSC-W and Umweltbundesamt Wien to cooperate closely during 2008 to ensure a smooth transition and continuity for the Parties.

12. The Steering Body stressed the importance of reviewing the emission data and approved the proposals on the scope, responsibilities, methods and procedures for the

emission inventory reviews, noted that the review process would have resource requirements, and invited Parties to contribute. The enhanced focus on projections was also welcomed.

13. The Steering Body welcomed the progress in revising the *EMEP/CORINAIR Atmospheric Emission Inventory Guidebook* and the support for this process from the EC and Germany, and recommended the endorsement of the updated chapters on PM, emissions from cars and road transport. EMEP would benefit from mandatory reporting of PM<sub>10</sub> and PM<sub>2.5</sub> and a mandatory requirement to prepare Informative Inventory Reports (IIRs).

14. The Steering Body recommended that the Executive Body adopt the revised *Emission Reporting Guidelines*, bearing in mind that further discussions on non-technical issues would take place at fortieth session of the Working Group on Strategies and Review and that the revised *Guidelines* and its templates would be the basis of reporting as of 2009.

15. The Steering Body expressed interest in further work on capacity-building in air emission inventories in EECCA countries through the CAPACT<sup>2</sup> project and European Environment Agency (EEA)/Technical Assistance to the Commonwealth of Independent States (TACIS) initiatives. It noted that reliable and robust emission data were a prerequisite for including this region in atmospheric modelling activities within EMEP.

16. The Steering Body endorsed the findings of the interim report of the Task Force on Hemispheric Transport of Air Pollution (ECE/EB.AIR/GE.1/2007/13), and agreed to forward it to the Executive Body. A more active participation of national experts in the work of the Task Force was encouraged.

17. The Steering Body discussed and approved the relevant conclusions of the Gothenburg Protocol review documents and invited the secretariat to submit them as amended to the Executive Body at its twenty-fifth session.

18. The Convention was invited by the Group on Earth Observations (GEO) secretariat to become a participating organization of GEO. The Steering Body noted the common interests of GEO and the Convention and the willingness of GEO to support the mission of the Convention. Cooperation had already been established at the working level with the Task Force on

---

<sup>2</sup> Capacity-Building for Air Quality Management and the Application of Clean Coal Combustion Technologies in Central Asia.

Hemispheric Transport of Air Pollution through its co-hosting with GEO of the Workshop on Integrated Observations for Assessing Hemispheric Air Pollution in January 2007. It was agreed that a more formal relationship between GEO and the Convention would benefit EMEP and the Task Force. The Steering Body welcomed the offer by the GEO secretariat and recommended to the Executive Body to accept the invitation to join GEO as an official participating organization.

19. The Steering Body amended and agreed upon its workplan for 2008 (ECE/EB.AIR/GE.1/2007/10/Rev.1) prepared on the basis of the priorities of the Executive Body as reflected in recent workplans with input from the Task Forces and centres.
20. The Steering Body also agreed on increasing the total budget of the Centre for Integrated Assessment Modelling (CIAM) for 2008 to \$395,000 and on keeping the provisional budgets for 2009 and 2010 at the same level. It also considered the financial and budgetary matters of EMEP (ECE/EB.AIR/GE.1/2007/11) that are reported in ECE/EB.AIR/2007/2.
21. The Executive Body may wish, inter alia, to:
  - (a) Take note of the report of the thirty-first session of the EMEP Steering Body (ECE/EB.AIR/GE.1/2007/2);
  - (b) Take note of the contributions of the EMEP centres and task forces to the review of the Gothenburg Protocol;
  - (c) Note the progress made in the modelling and monitoring of heavy metals, POPs and PM;
  - (d) Welcome the progress made in the national implementation of the EMEP monitoring strategy, including its extension to the EECCA countries, and urge Parties to make efforts toward its full implementation by 2009;
  - (e) Take note of the progress made in integrated assessment modelling and urge non-EU Parties in the EMEP domain to provide the up-to-date validated national information for use in the development of emission control scenarios;
  - (f) Welcome the proposal for the reorganization of the work on emissions under the Convention and accept the offer of Umweltbundesamt Wien to host a new centre on emissions;
  - (g) Welcome progress in updating the *EMEP/CORINAIR Emission Inventory Guidebook*, in particular the updated chapter on PM, emissions from cars and road transport;
  - (h) Adopt the revised Emission Reporting Guidelines;
  - (i) Take note of the interim 2007 assessment report by the Task Force on the Hemispheric Transport of Air Pollution;
  - (j) Invite the Steering Body of EMEP and the Working Group on Effects to continue close cooperation in implementing the priority tasks of the Convention;

(k) Welcome the continued and useful cooperation of EMEP with other international organizations;

(l) Take note with satisfaction of the work accomplished by CIAM that was partially funded by the Trust Fund for core activities not covered by the EMEP Protocol; approve the increase of the total budget of CIAM for 2008 to \$395,000; and agree to keeping the provisional budgets for 2009 and 2010 at the same level; and call upon Parties to make every effort to provide the necessary funding for work on integrated assessment modelling to be conducted as foreseen in the workplan;

(m) Accept the invitation of GEO to become an official participating organization.

## **II. EFFECTS OF MAJOR AIR POLLUTANTS ON HUMAN HEALTH AND THE ENVIRONMENT**

22. The Working Group on Effects held its twenty-sixth session in Geneva from 29 to 31 August 2007 (ECE/EB.AIR/WG.1/2007/2).

23. The Working Group reviewed the results of the effects-oriented activities, as presented in the 2007 joint report of the International Cooperative Programmes (ICPs) and the Task Force on the Health Aspects of Air Pollution (ECE/EB.AIR/WG.1/2007/3). It welcomed the growing participation of countries in the effects-oriented activities; noted the positive results of closer and more effective cooperation between ICPs, as well as with EMEP and other bodies under the Convention; and stressed the continuing need to communicate the results of the effects-oriented activities to policy and decision-makers, to the professional community (including that outside the Convention), and to the general public, in order to maintain the necessary awareness and support.

24. The Working Group reviewed the work of the ICP on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests), in particular on the deposition trends and continuing work on critical loads and their exceedance at monitoring sites, and took note of the summary report on the results of monitoring forest conditions in Europe (ECE/EB.AIR/WG.1/2007/6).

25. The Working Group congratulated the ICP on the Assessment and Monitoring of Acidification of Rivers and Lakes (ICP Waters) on its work, taking note of evidence of a biological response to reduced surface water acidification, but noted that responses were not uniform and hardly existed in the most acidified sites (ECE/EB.AIR/WG.1/2007/7).

26. The Working Group considered the recent results of ICP on Effects of Air Pollution on Materials, including Historic and Cultural Monuments (ICP Materials), and noted the recent corrosion maps in high spatial resolution in Central Europe for selected pollutants as well as the

detailed work on the stock at risk along the banks of River Seine in Paris (ECE/EB.AIR/WG.1/2007/8).

27. The Working Group expressed its satisfaction with the progress achieved in implementing the ICP on Effects of Air Pollution on Natural Vegetation and Crops (ICP Vegetation) and took note of the Ellenberg modelling approach to identify (semi-)natural vegetation at risk from ozone (O<sub>3</sub>) (ECE/EB.AIR/WG.1/2007/9). It also adopted the flux-based parameterization for generic crop and tree species and welcomed the work on updating chapter 3 of the *Manual on Methodologies and Criteria for Modelling and Mapping Critical Loads and Levels and Air Pollution Effects, Risks and Trends* relating to O<sub>3</sub>, prepared in cooperation by ICP Modelling and Mapping, ICP Vegetation and ICP Forests.

28. The Working Group congratulated the ICP on Integrated Monitoring of Air Pollution Effects on Ecosystems (ICP Integrated Monitoring) on its work on carbon-nitrogen interactions in forest ecosystems where data from ICP Integrated Monitoring and ICP Forests were key sources of information. Carbon sequestration, which might be lower in soils than previously estimated, was closely linked to the nitrogen cycle; thus nitrogen emission reductions were important also for climate policy (ECE/EB.AIR/WG.1/2007/10). It also noted that results from several ICPs and EMEP were used in an assessment report on acidifying pollutants, arctic haze and acidification in the Arctic region prepared for the Arctic Monitoring and Assessment Programme (AMAP).

29. The Working Group expressed its satisfaction with the recent important results of the ICP on Modelling and Mapping of Critical Loads and Levels and Air Pollution Effects, Risks and Trends (ICP Modelling and Mapping) and the Coordination Centre for Effects (CCE), and took note of the updating and evaluating of critical loads for acidification and eutrophication and on dynamic models based on the voluntary 2006/2007 call for data from national focal centres (ECE/EB.AIR/WG.1/2007/11 and Corr.1). It noted in particular that possible emissions trading in Europe would conflict with the effects-based approach for pollutants which have spatially dependent effects. It also approved the proposal of ICP Modelling and Mapping to request CCE to make a call for data for empirical and computed critical loads for nitrogen and dynamic modelling parameters as preparation for use in a possible revision of the 1999 Gothenburg Protocol. It took note of the recently developed dynamic modelling procedure using a few selected deposition scenarios, which now allows faster additional scenario analysis compared to the target load approach.

30. The Working Group reviewed the work of the Task Force on the Health Aspects of Air Pollution and took note that recent epidemiological studies have confirmed that O<sub>3</sub> was

associated with acute adverse health effects and new information on the increase in the total daily number of deaths in days during a heatwave in regions with high O<sub>3</sub> concentration levels (ECE/EB.AIR/WG.1/2007/12). It also welcomed the progress made in assessing health impacts of O<sub>3</sub> and PM in EECCA.

31. The Working Group took note of the conclusions of the report of the seventh meeting of the Joint Expert Group on Dynamic Modelling (ECE/EB.AIR/WG.1/2007/13), noting the Joint Expert Group's continuing work, and encouraged active participation of ICPs and national experts in the Expert Group activities. The Working Group noted the results, based on model simulations, that some natural ecosystems might be irreversibly changed because of nitrogen deposition. Chemical and biological recovery would take many decades even with currently agreed legislation on emission reductions.

32. The Working Group welcomed the conclusions of the workshop "Confounding factors in long-term trends of acidification", conducted in collaboration between ICP Waters and ICP Integrated Monitoring (ECE/EB.AIR/WG.1/2007/7, annex), and noted in particular that confounding factors, i.e. those other than acidifying deposition, delayed both chemical and biological recovery. It also took note of the report from the workshop "Protection of cultural heritage from air pollution – the need for effective local policy, maintenance and conservation strategies" (ECE/EB.AIR/WG.1/2007/8, annex). The Working Group endorsed the results from the workshop "Effects of low-level nitrogen deposition" (ECE/EB.AIR/WG.1/2007/15), indicating that current empirical critical loads might be too high for ecosystems in areas with low-level nitrogen deposition, and welcomed the work to include updates of critical loads for nitrogen in the *Modelling and Mapping Manual*. It also welcomed the conclusions from the World Health Organization workshop "Health relevance of particulate matter from various sources", held prior to the meeting of the Task Force on Health (ECE/EB.AIR/WG.1/2007/12), concluding that despite the fact that the different chemical characteristics of PM seemed to have different relative risks based on the particle mass, the attribution of health effects to specific characteristics remained limited. The Working Group also endorsed the relevant results of the workshop "Atmospheric ammonia: detecting emission changes and environmental impacts" (ECE/EB.AIR/WG.5/2007/3), and welcomed the inclusion of the revised critical levels of ammonia in the *Modelling and Mapping Manual* in collaboration between ICP Modelling and Mapping and ICP Forests. It also took note of the results of the workshop "Air pollution and its relations to climate change and sustainable development (Saltsjöbaden 3)" (ECE/EB.AIR/WG.1/2007/16).

33. The Working Group on Effects acknowledged the importance of the collaborative work on cross-cutting issues, in particular on the workplan items common to all programmes. In particular, it expressed appreciation for the report on the review of the 1999 Gothenburg Protocol

(ECE/EB.AIR/WG.1/2007/14) coordinated by the Bureau, and decided to submit it to the Executive Body at its twenty-fifth session. It asked the Bureau, with the assistance of the secretariat, to ensure that all aspects of the dose-response functions, stock at risk, and links between observations and critical thresholds, loads and levels would be evaluated and jointly documented in detail for the twenty-seventh session of the Working Group. It also urged that the work proposed in the 2008 workplan be completed on the robustness of monitored and modelled air pollution impacts; the summary of observed parameters, methodologies, spatial and temporal extent of effects-oriented monitoring; and the effects-oriented activities in EECCA.

34. The Working Group noted the Convention's emphasis on encouraging participation of EECCA Parties with the aim of assisting them in implementing the Convention and its more recent protocols. Many countries in EECCA region had participated in one or more of the effects-oriented programmes, but some had no ongoing effects-oriented activities. The Working Group invited the secretariat to initiate discussions with the Executive Body and its Bureau to prepare collaborative meetings.

35. The Working Group stressed the importance of continuing collaboration with the EMEP Steering Body, in particular with its Bureau and programme centres, to ensure that the Convention's priorities were addressed effectively. The Chair of the Working Group noted that in the past year, upon the request of the Bureau of the EMEP Steering Body, no joint Bureau meeting was held but necessary requests for data were collected from the programmes and forwarded to the EMEP Bureau.

36. The Working Group approved the updated 2008 workplan (ECE/EB.AIR/WG.1/2006/4/Rev.1) as amended for the further development of the effects-oriented activities. A medium-term workplan for the period 2007–2010 was made available as an informal document. It agreed that workplan could be used as a basis for setting up contracts under the Trust Fund.

37. The Working Group took note of the proposals of the EC to plan for the monitoring of effects under a revised EU national emission ceilings directive. The Working Group stated its willingness to help put in place appropriate obligations in the EU national emission ceilings directive, currently under revision, and to monitor and assess the effects of the air pollutant emission reductions on health and environment. It further invited the Executive Body and its Bureau to look further into this matter.

38. The Working Group considered the note on the funding of effects-oriented activities (ECE/EB.AIR/WG.1/2007/5), in particular the tables showing the 2008 international coordination costs of different effects-oriented activities. The Working Group approved the note

as amended, including an agreed budget for effects-oriented programmes and integrated modelling activities for 2008 of \$2,152,700, and decided to submit it to the Executive Body. It also decided to request the Executive Body to adopt the 2007 United Nations scale of assessments at its twenty-fifth session for use in calculating the recommended contributions. The Working Group reiterated its appreciation for the essential support rendered by countries leading the programmes or hosting programme centres, and reiterated its invitation to all Parties which had not yet done so to provide without undue delay the contributions outlined by the Executive Body in its decision 2002/1 to the Trust Fund. The Working Group took note with satisfaction of the work accomplished by ICPs and the Task Force on Health and partially funded by the Trust Fund (ECE/EB.AIR/WG.1/2007/5). It noted that a small ad hoc group devising alternatives for distributing non-earmarked funds among the eight centres supported by the Trust Fund for core activities not covered by the EMEP Protocol had not yet reported on its work, but an informal document was being drafted by some members of the group that could be discussed at the twenty-fifth session of the Executive Body.

39. The Executive Body may wish, inter alia, to:

- (a) Take note of the report of the twenty-sixth session of the Working Group on Effects (ECE/EB.AIR/WG.1/2007/2);
- (b) Note the further progress in developing the effects-oriented activities and the important results achieved by the ICPs and the Task Force on Health in implementing the Convention (ECE/EB.AIR/WG.1/2007/3);
- (c) Express appreciation for the document on the review of the Gothenburg Protocol prepared by the Working Group (ECE/EB.AIR/WG.1/2007/14);
- (d) Invite CCE to make a call for European critical and target loads data as preparation for use in a possible revision of the Gothenburg Protocol;
- (e) Note with satisfaction the continued progress achieved in the application of dynamic modelling (ECE/EB.AIR/WG.1/2007/13);
- (f) Welcome the progress achieved in cooperation between the bodies under the Convention, and invite the Working Group on Effects and the Steering Body of EMEP to continue their close cooperation in implementing the priority tasks of the Convention;
- (g) Reiterate the importance of active participation by all Parties to the Convention, as well as of effective cooperation among the programmes, task forces and coordinating centres and their close collaboration with EMEP, and welcome the further development of close links with relevant institutions and organizations outside the Convention;
- (h) Reiterate its invitation to Parties to nominate national focal centres for those effects-oriented activities/programmes in which they do not yet actively participate;

(i) Note the importance of continuing the communication of the results and findings of the effects-oriented activities to the scientific community, policymakers and the general public, both nationally and internationally;

(j) Take note of the updated 2008 workplan for the further development of the effects-oriented activities (ECE/EB.AIR/WG.1/2007/4/Rev.1);

(k) Note document ECE/EB.AIR/WG.1/2007/5, as amended, on the financing of the effects-oriented activities;

(l) Note with satisfaction the work accomplished by ICPs and the Task Force on Health and partially funded by the Trust Fund (ECE/EB.AIR/WG.1/2007/5);

(m) Revise decision 2002/1 by adding the new Parties to the Convention and adopting the 2007 United Nations scale of assessments at its twenty-fifth session for use in calculating the recommended contributions;

(n) Note the need for an improved approach to securing sufficient and stable funding for effects-oriented and integrated assessment modelling activities, and consider further action to implement its decision 2002/1 to secure long-term funding for the core activities not covered by the EMEP Protocol.

-----