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ECONOMIC COMMISSION FOR EUROPE

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

REPORT ON THE EXECUTIVE BODY ON ITS TWENTY-FIFTH SESSION HELD IN GENEVA FROM 10 TO 13 DECEMBER 2007

Addendum

Part Three: 2008 workplan for the implementation of the Convention¹

1. STRATEGIES AND POLICIES

1.1 STRATEGIES AND REVIEW

Description/objectives: Assessment of ongoing scientific and technical activities for the review of existing protocols or the preparation of new ones; to negotiate revisions of protocols, including their annexes; to promote the exchange of technology; and to prepare proposals for strategic developments under the Convention. The Working Group on Strategies and Review will assist the Executive Body in all policy-related issues.

Main activities and time schedule: Taking into account relevant activities under EMEP² and the Working Group on Effects, as well as the initiatives of the European Community and other

¹ The numbering and formatting in this workplan are consistent with that of past Executive Body workplans.

Parties, and on the basis of information received from its expert groups and task forces, the Working Group on Strategies and Review will, in particular:

(a) Initiate negotiations, in accordance with article 3, paragraph 12, on a revision of the Gothenburg Protocol, based on recommendations by the Executive Body and on the conclusions of the Protocol review; assess progress made in reducing acidification, eutrophication and ground-level ozone and the pollutants responsible for these effects, and in work carried out under items 1.4 (economic assessment) and 1.9 (nitrogen) below. It will also review work carried out under item 2.3 (integrated assessment modelling) of the EMEP workplan;

(b) Review current work under the Convention on particulate matter (PM) with due consideration to the reports of the Expert Group on PM, and consider, inter alia, the work of the Centre for Integrated Assessment Modelling (CIAM) on the scientific and technical requirements in developing further measures to reduce PM;

(c) Assess work on the review of, and possible amendments to, the Protocol on Persistent Organic Pollutants (POPs), taking into account progress under item 1.5 (review and assessment of POPs); and initiate negotiations on a revision/amendment to the Protocol, based on recommendations by the Executive Body;

(d) Assess work following the review of the Protocol on Heavy Metals, taking into account progress under item 1.6 (review and assessment of heavy metals);

(e) Review progress made in the exchange of information and technology, including work carried out under item 1.7 (techno-economic issues), also review information received on product-related measures to reduce emissions of volatile organic compounds (VOCs), POPs and heavy metals as well as progress in other work carried out under item 1.8 (exchange of information and technology);

(f) Implement the revised Action Plan to involve countries of Eastern Europe, Caucasus and Central Asia (EECCA) in the work of the Convention (ECE/EB.AIR/WG.5/2007/17) (see item 1.8 below);

(g) Develop, if necessary, a specific Action Plan to involve countries of South-Eastern Europe (SEE) in the work of the Convention (see item 1.8 below);

(h) Assess progress made in the Convention's communication strategy, and consider possible future needs in relation with the thirtieth anniversary of the Convention in 2009;

(i) Encourage further ratifications and explore ways to support and facilitate the countries' efforts towards the implementation and ratification of the protocols;

(j) Hold its forty-first session from 14 to 17 April 2008 and its forty-second session from 1 to 4 September 2008.

² The Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe.

1.2 COMPLIANCE REVIEW

Description/objectives: Review of compliance by the Parties with their obligations under the Protocols to the Convention.

Main activities and time schedule: Any submission or referral made under paragraph 3 (b) of the Implementation Committee's functions will be dealt with as a priority, and the Implementation Committee may have to adjust its workplan and time schedule accordingly. In this regard, the Committee will continue to review the progress made by the Parties in response to decisions taken by the Executive Body based upon the Committee's recommendations, as well as the need for possible additional measures for dealing with non-compliance on a case-by-case basis. The Implementation Committee will also evaluate the reporting by the Parties on their emissions data and their strategies and policies, including the reporting on technology-related obligations. It will start an in-depth review of compliance by the Parties with the 1998 Protocol on POPs and the 1998 Protocol on Heavy Metals, with a view to completing them in 2009. The Committee will continue its dialogue with appropriate bodies and experts. It will also continue to consider, as appropriate, compliance issues related to obligations in the protocols that are not subject to specific reporting requirements, such as provisions dealing with research and monitoring. Furthermore:

- (a) Twenty-first meeting of the Implementation Committee, tentatively scheduled to be held from 7 to 9 April 2008 in Dubrovnik, Croatia;
- (b) Twenty-second meeting of the Implementation Committee to be held from 14 to 16 July 2008 in Geneva;
- (c) Eleventh report by the Implementation Committee will be submitted to the Executive Body at its twenty-sixth session.

1.3 REVIEWS OF STRATEGIES AND POLICIES FOR AIR POLLUTION ABATEMENT

Description/objectives: To create an overview of air pollution abatement in the UNECE region, giving a comprehensive description of national and international strategies and policies, including legislation in force, emission levels and future priorities; and to provide, together with emission data, a basis for the Implementation Committee to review compliance by Parties with their obligations under the protocols to the Convention. Reviews for purposes of compliance are carried out every two years; a general policy review is carried out every four years.

Main activities and time schedule:

(a) A draft review of strategies and policies for air pollution abatement will be made available to the Executive Body in 2008. The draft review will be based on replies to the 2008 questionnaire, approved by the Executive Body at its twenty-fifth session, and made available by the secretariat through the Convention's website;

(b) If approved by the Executive Body, the draft review will be published on the website of the Convention.

1.4 ECONOMIC ASSESSMENT OF BENEFITS FROM AIR POLLUTION ABATEMENT AND ECONOMIC INSTRUMENTS

Description/objectives: To further develop the work on benefits and economic instruments; and to enable economic considerations to be taken into account in the discussion/review of the protocols to the Convention.

Main activities and time schedule: The Network of Experts on Benefits and Economic Instruments, led by the United Kingdom with Norway as rapporteur, will provide the framework and expertise for a series of workshops. The Network will meet only on the occasion of planned workshops and will include not only economists but also representatives from other specialist groups. The Network will initiate work on assessing experiences of Parties in using economic instruments for reducing air pollution and will update the Guidance Document on Economic Instruments to Reduce Nitrogen Oxides (NO_x), Sulphur, VOCs and Ammonia (EB.AIR/1999/2, chapter VI) in the revision process for the Gothenburg Protocol. The Network will hold a workshop on new developments in the economic valuation of the impacts of air pollution in June 2008 in Gothenburg, Sweden.

1.5 REVIEW AND ASSESSMENT OF PERSISTENT ORGANIC POLLUTANTS

Description/objectives: To work on the technical reviews of substances forwarded by the Executive Body and deemed acceptable by the Parties to the Protocol on POPs; and to continue the exploration of management strategies and options for those substances accepted as POPs by the Parties to the Protocol. The Task Force on POPs, led by Canada and the Netherlands, will carry out the technical work for these reviews and strategies.

Main activities/time schedule: The Task Force on POPs will:

- (a) Upon request, assist the Executive Body and the Working Group in the revision of the Protocol;
- (b) Hold its seventh meeting in 2008, if necessary (date and venue to be decided).

1.6 REVIEW AND ASSESSMENT OF HEAVY METALS

Description/objectives: To continue the technical work related to the sufficiency and effectiveness review of the Protocol on Heavy Metals; and to carry out work, if necessary, on the technical review of proposals for additional heavy metals, product control measures or products/product groups. The Task Force on Heavy Metals, led by Germany, will carry out the technical work.

Main activities and time schedule: The Task Force on Heavy Metals will:

- (a) Upon request, assist the Executive Body and the Working Group in a possible revision of the Protocol or its technical annexes;
- (b) Plan a workshop, to be held from 14 to 16 May 2008 in Yerevan, to promote ratification of the Protocol, to assess needs and constraints related to implementation, and to recommend future action;
- (c) Consider, from a technical point of view, options for updating best available techniques in line with state-of-the-art technologies for the reduction of emissions from heavy metals, and to include adequate flexibility in management options, in particular with a view to increasing ratifications;
- (d) Identify potential barriers from a technical point of view in annex IV of the Protocol on POPs, with the view to increasing ratifications;
- (e) Consider, from a technical point of view, potential implications for the other annexes of the options put forward in accordance with (c) and (d) above, taking account of comments received in particular from those Parties to the Convention that have not yet ratified the Protocol;
- (f) In considering items (c) to (e), explore the scope of options by putting forward the elements of options rather than by revising specific texts in the annexes;
- (g) Hold its fifth meeting from 4 to 6 June 2008 in London.

1.7 TECHNO-ECONOMIC ISSUES

Description/objectives: To explore further best available techniques (BAT) for emission abatement, including their efficiencies and costs; to continue to develop a techno-economic

database (ECODAT) and methodologies for evaluating uncertainties; and to draw up draft revisions of techno-economic items in annexes to protocols.

Main activities and time schedule: The Expert Group on Techno-economic Issues, with France and Italy as lead countries, will:

- (a) Revise the Expert Group's methodology on large combustion plants in the light of the final information provided by Sweden and the Czech Republic; revise the background document to explain the methodology better and to extend its applicability to all Parties to the Convention; make the Excel spreadsheets more user-friendly; and to this end, organize a technical meeting with the relevant experts;
- (b) Make available summaries in English of the outcomes of the German and Italian studies on small combustion plants, explore how the outcomes can be used for modelling purposes within CIAM and how the methodologies could be applied by other Parties, collect the cost-related data currently missing, make the information available to the Task Force on Emission Inventories and Projections as well as to CIAM, and carry out similar surveys in other countries, on voluntary basis, in order to verify the applicability of the results to other countries;
- (c) Initiate work on the possible revision of the annexes to the Gothenburg Protocol, and on revising the guidance documents (on sulphur dioxide (SO₂), NO_x and VOCs) associated with the Protocol;
- (d) Finalize the background document on refineries, making use of the data collected by Belgium, and organize a meeting for all stakeholders in Brussels;
- (e) Cooperate with the Task Force on Emission Inventories and Projections for the updating of the *EMEP/CORINAIR Atmospheric Emission Inventory Guidebook*;
- (f) Cooperate with the European Integrated Pollution Prevention and Control Bureau for the revision of BAT reference documents for the steel, glass and possibly cement industries, mainly on cost issues;
- (g) Contribute to the work of the ad hoc expert panel on stationary engines led by Finland;
- (h) Deliver a document on emerging technologies for large combustion plants;
- (i) Hold its thirteenth meeting from 28 to 29 April 2008 in Stockholm and its fourteenth meeting from 13 to 14 October 2008 in Sorrento, Italy.

1.8 EXCHANGE OF INFORMATION AND TECHNOLOGY

Description/objectives: To create favourable conditions for implementing technology-related obligations of the Convention and its protocols; to facilitate the implementation of existing protocols and the accession of non-Parties, particularly countries with economies in transition;

and to examine the needs for updating technical annexes and guidance documents to the protocols.

Main activities and time schedule: The Working Group on Strategies and Review will

- (a) Implement the revised Action Plan to involve EECCA countries in the work of the Convention;
- (b) Implement a possible new Action Plan to involve SEE countries in the work of the Convention;

1.9 NITROGEN

Description/objectives: To develop an integrated approach towards controlling nitrogen pollution in the framework of the Convention; and to improve coordination between the work of various Convention bodies on nitrogen compounds. A Task Force on Reactive Nitrogen, led by the Netherlands and the United Kingdom, will carry out tasks as outlined in decision 2007/1.

Main activities and time schedule: The Task Force on Reactive Nitrogen will develop a workplan in its first meeting to be held from 20 to 22 May 2008 in Wageningen, Netherlands, and report to the forty-second session of the Working Group on Strategies and Review.

1.10 PARTICULATE MATTER

Description/objectives: To initiate work on technical annexes aiming to reduce the exposure to primary PM within the UNECE region, also taking account of the objective to increase the number of ratifications of existing protocols; to liaise with other bodies under the Convention, e.g. the Task Force on Integrated Assessment Modelling; and to consider the reduction of PM exposure in any proposal for new national emission ceilings related to primary PM as well as precursors to secondary PM, i.e. SO₂, NO_x, VOCs and ammonia (NH₃).

Main activities and time schedule: The lead countries of the Expert Group on PM, Germany and the United Kingdom, will explore from a policy perspective options for addressing PM under the Convention. Based on document ECE/EB.AIR/WG.5/2007/18 and consulting with the Bureau and other bodies, where appropriate, they will report back to the Working Group at its forty-first session on this issue, proposing options that take into account recommendations from the Executive Body that should be further explored by the Expert Group.

2. COOPERATIVE PROGRAMME FOR MONITORING AND EVALUATION OF THE LONG-RANGE TRANSMISSION OF AIR POLLUTANTS IN EUROPE (EMEP)

2.1. EMISSIONS

Description/objectives: To further develop emission inventories; to improve the quality, transparency, consistency, completeness and comparability of reported emission and projection data; support the review of compliance; and to assist Parties with their emission reporting. The Task Force on Emission Inventories and Projections, led by Norway and co-chaired by Sweden and the European Environment Agency (EEA), provides a technical forum for sharing information, harmonizing emission factors, establishing methodologies for the evaluation of emission data and projections, and identifying and resolving reporting problems, with a view to harmonizing as far as possible reporting requirements with the United Nations Framework Convention on Climate Change and the European Union's National Emission Ceilings (NEC) directive.

Main activities and time schedule:

- (a) Submit emission data for 2006 and projections and updates regarding data for earlier years by 15 February 2008 and 1 March 2008 for gridded data and Informative Inventory Reports by the 15 March, in accordance with the Emission Reporting Guidelines³ (Parties);
- (b) Compile reported emission data, update the inventory database and make it available at <http://webdab.emep.int> by 15 June 2008, and provide tools for testing emission inventory quality, particularly to aid visualization of reported gridded data (Meteorological Synthesizing Centre-West (MSC-West), emission data centre);
- (c) Review reported data in line with the Stage I and Stage II review procedures and produce a synthesis and assessment report for data through 2006, and elaborate country-specific review reports. In 2008, the task will include implementation of improved tests as proposed by the Task Force on Emission Inventories and Projections (emission data centre, MSC-West, CIAM, Meteorological Synthesizing Centre-East (MSC-East), Chemical Coordinating Centre (CCC), EEA, the team of invited experts);
- (d) Implement Stage III review procedures, provide a list of eligible reviewers based on nominations from the Parties, agree to guidance for reviewers and templates for review reports, and perform a review of inventories from volunteering Parties (emission data centre⁴, MSC-West, Task Force on Emission Inventories and Projections, EEA, Parties);

³ The EMEP Emission Reporting Programme for 2007/2008 is presented in Table 1 below.

⁴ Subject to approval by the Steering Body (ECE/EB.AIR/GE.1/2007/9, annex II).

- (e) Consider further actions to improve the quality of emission data for heavy metals in the short and long term (Task Force, CCC, emission data centre, MSC-West, MSC-East, Parties);
- (f) Elaborate a data set of validated and complete emission data through 2006 by 10 April 2008 to be used in the EMEP 2006 assessments (emission data centre), and verify and review emission data for modelling purposes (MSC-East, MSC-West);
- (g) Facilitate implementation of the revised emission inventory Guidelines to be applied for the 2009 reporting round (emission data centre, MSC-West);
- (h) Develop guidance for use of non-Party estimates for EMEP modelling (emission data centre, MSC-West, Task Force);
- (i) Complete, review and publish the revised *EMEP/Corinair Atmospheric Emission Inventory Guidebook* (Task Force, EEA, emission data centre, MSC-West, MSC-East, CCC, CIAM);
- (j) Develop a plan for future maintenance of the *EMEP/Corinair Atmospheric Emission Inventory Guidebook* (Task Force, EEA);
- (k) Contribute to the development of the European Commission's web portal and support the development of a methodology to aid Parties in reporting their projected emission data in a transparent and consistent manner (Task Force, Parties);
- (l) Propose alternative ways to facilitate Parties' submissions of annual emission data to the Convention secretariat, including through the EIONET REPORTNET Central Data Repository (Task Force, secretariat);
- (m) Hold its twentieth meeting from 26 to 27 May 2008 in Tallinn and its twenty-first meetings in autumn of 2008.

2.2. ATMOSPHERIC MEASUREMENTS AND MODELLING

Description/objectives: To support the implementation of protocols to the Convention; to provide the measurement and modelling tools necessary for further abatement policies; compile and evaluate information on transboundary air pollution; and to implement the EMEP monitoring strategy adopted in 2004. The Task Force on Measurements and Modelling, led by France and co-chaired by the World Meteorological Organization (WMO): reviews and assesses the scientific and operational activities of EMEP related to monitoring and modelling; evaluates their contribution to the effective implementation and further development of the protocols; and reviews national activities related to measurement, modelling and data validation.

Main activities and time schedule for monitoring:

- (a) Submit monitoring data for 2007 to CCC by 1 October 2008, in accordance with the adopted monitoring strategy (EB.AIR/GE.1/2004/5) (Parties);

- (b) Review, store and make available the 2007 monitoring data (CCC, MSC-West, MSC-East), and assess uncertainties relating to, and the representativeness of, monitoring data on heavy metals and POPs (CCC, MSC-East);
- (c) Make efforts to fully implement the EMEP monitoring strategy, and report on progress to the Task Force in May 2008 (Parties, CCC);
- (d) Hold a workshop on the outcome of the EMEP Monitoring Strategy (Task Force on Measurements and Modelling);
- (e) Initiate discussions of a follow-up to the EMEP Monitoring Strategy after 2009;
- (f) Complete the evaluation of the results from the intensive measurements campaigns (June 2006 and January 2007) and other new observation data on PM and chemical speciation of different-size fractions; (CCC, MSC-West, Parties);
- (g) Improve the *EMEP Manual for Sampling and Analysis* (CCC) and update the section on quality assessment/quality control, expand the quality assessment information available on the Internet, implement the “level” approach of the monitoring strategy, and provide training/guidance to Parties to establish level II and III monitoring sites (CCC, Task Force);
- (h) Continue efforts to develop a reference method for improved sampling and chemical analysis of carbonaceous material in aerosols (CCC);
- (i) Evaluate flux measurements of nitrogen and sulphur species to improve dry deposition estimates, and compare the low-cost denuder with filterpack measurements and regular denuders to evaluate the quality of the different methods for separating gaseous and particulate nitrogen species (CCC);
- (j) Arrange laboratory intercomparisons for main components and heavy metals, carry out field intercomparisons at selected sites (CCC, Task Force), and arrange a laboratory intercomparison on elemental carbon/organic carbon (EC/OC) (CCC);
- (k) Review heavy metals and POPs monitoring data generated in the framework of the Working Group on Effects, and make recommendations for their use in model validation (CCC, MSC-East);
- (l) Consider nationally available measurements on dry deposition of mercury to forests to evaluate measurement uncertainties, and improve model parameterization (CCC, MSC-East, Parties);
- (m) Support the organization of using passive and active air samplers to monitor POPs across the EMEP domain to provide spatially and temporally resolved air concentration data (CCC, MSC-East, Parties);
- (n) Continue to evaluate the POPs passive measurements campaign on the hemispheric level and compare with modelling, evaluate the EMEP monitoring strategy in relation to the outcome of this campaign as well as the UNEP global monitoring strategy, and report conclusions to the Task Force (MSC-East, CCC);
- (o) Evaluate and extend the VOCs monitoring programme, audit national VOCs monitoring laboratories, and support training and assistance (CCC);

- (p) Continue support and training for countries in EECCA (CCC);
- (q) Explore, in collaboration with ongoing research efforts, the use of integrated data sets (from satellites, LIDAR, etc.) in EMEP as part of the regular reporting and model evaluation (CCC, Task Force);
- (r) Hold the ninth meeting of Task Force, to be held from 23 to 25 April 2008 in Bordeaux, France.

Main activities and time schedule for atmospheric modelling in general:

- (a) Promote urban and fine-scale assessment tools, in particular on ozone and PM, by linking urban exposure assessments with national/regional/local emission inventories and atmospheric models (Parties, Task Force);
- (b) Further develop and validate the regional as well as hemispheric/global scale EMEP models, and report on progress, taking into account the recommendations of the Task Force experts (MSC-East, MSC-West);
- (c) Explore possibilities for enhanced collaboration with the satellite, LIDAR and other remote sensing communities (CCC, Task Force, Parties);
- (d) Complement EMEP monitoring data with quality-checked data from other international programmes, and make a comprehensive comparison of observations with model results (CCC, MSC-East, MSC-West, Parties);
- (e) Initiate work for a common global modelling system for MSC-East and MSC-West by testing new meteorological drivers. MSC-East will test GEM and PUM meteorological weather prediction models, while MSC-West will test the ECMWF IFS and WRF meteorological weather prediction models;
- (f) Initiate work for a common global modelling system for MSC-East and MSC-West by compiling and unifying common model input data such as land use from MM5 (MSC-West), identify independent land-use sources and compare these sets if appropriate (MSC-East), start to compile the global data on soil properties, begin to compile soil chemical composition data for the EMEP region for validation purposes (MSC-East, MSC-West), prepare information on leaf area index (MSC-East), and present information on climatological data and spatial distribution of emission sources and population (MSC-West);
- (g) Initiate work on addressing the linkages between regional air quality and climate change, including regional and global modelling approaches (Task Force on Measurements and Modelling, Task Force on Hemispheric Transport of Air Pollution).

Main activities and time schedule for atmospheric modelling for acidifying and eutrophying compounds:

- (a) Provide validated data on concentrations, depositions and transboundary fluxes of sulphur and oxidized and reduced nitrogen for 2006, and update source allocation calculation (MSC-West, CCC);
- (b) Prepare individual country status reports; update web access to electronic source allocation information with validated data for main pollutants and PM (MSC-West);
- (c) Extend the EMEP domain, compile new meteorological data, and further develop the EMEP model to allow for source-receptor calculations for EECCA countries (MSC-West);
- (d) Evaluate the possibility of providing high resolution (20 x 20 km²) preliminary data on concentrations and depositions of sulphur and oxidized and reduced nitrogen, ozone and PM, using the most recent emission and meteorological data (MSC-West);
- (e) Evaluate and report trends relating to sulphur and nitrogen compounds across Europe to support the revision of the Gothenburg Protocol (MSC-West, CCC, Task Force);
- (f) Investigate the use of the Unified Eulerian model with different meteorological drivers to increase the spatial resolution of the model and facilitate ecosystem deposition analysis (MSC-West, the United Kingdom, Croatia).

Main activities and time schedule for atmospheric modelling for photo-oxidants:

- (a) Provide validated data on concentrations, depositions and transboundary fluxes of ozone, nitrogen oxides and VOCs for 2006, and update source allocation calculations (MSC-West, CCC);
- (b) Evaluate the hemispheric and global scale model for carbon oxide (CO) and ozone based on data from the **Acid Deposition Monitoring Network in East Asia** (EANET), and compile new measurement data for hemispheric and global model validation (MSC-West, CCC);
- (c) Calculate the short-term and long-term exposures of vegetation to photochemical oxidants for vegetation growing periods, and apply the revised dry deposition sub-routine, and develop methods to evaluate exceedance of critical levels (MSC-West, CIAM, Working Group on Effects);
- (d) Quantify uncertainties in modelled results related to vertical profiles of air pollution, and provide an evaluation for the Mediterranean area (MSC-West, France).

Main activities and time schedule for atmospheric modelling for heavy metals:

- (a) Prepare information on lead, cadmium, and mercury for 2006 at the regional scale for: air concentrations and ecosystem-dependent depositions over Europe, comparison of modelling results (concentration in air and precipitation, deposition fluxes) with monitoring data,

country-to-country deposition matrices, and estimates of depositions on regional seas (Mediterranean, Baltic, Black and North Seas) (MSC-East, CCC);

(b) Evaluate ecosystem-dependent depositions of heavy metals and contribute to the development of the effect-based approach (MSC-East, Coordination Centre for Effects (CCE));

(c) Improve the mercury (Hg) hemispheric/global model in accordance with recent scientific findings, and prepare information on Hg dispersion at the hemispheric scale for the evaluation of boundary conditions for the regional modeling (MSC-East);

(d) Improve the regional heavy metals model with respect to size-aggregated description of aerosol atmospheric transport and removal processes (MSC-East);

(e) Further develop and evaluate heavy metal re-suspension scheme for the regional heavy metals model (MSC-East);

(f) Prepare input data for the model application, employ the European Centre for Medium-Range Weather Forecasting (ECMWF) analysis data for meteorological pre-processing, and prepare mapped anthropogenic emission data for regional modelling based both on official and expert estimates (MSC-East).

Main activities and time schedule for atmospheric modelling for persistent organic pollutants:

(a) Prepare information on polycyclic aromatic hydrocarbons (PAHs) and toxic congeners of dioxins/furans (PCDD/Fs) for 2006 for air concentrations and depositions over Europe, comparison of modelling results (concentration in air and precipitation, deposition fluxes) with monitoring data, country-to-country matrices, and estimates of depositions on marginal seas (Mediterranean, Baltic, Black and North Seas) (MSC-East, CCC);

(b) Evaluate dispersion of polychlorinated biphenyls (PCBs), hexachlorobenzene (HCB) and γ -HCH (hexachlorocyclohexane) at the hemispheric scale, evaluate the EMEP regional pollution in 2006 by regional calculations with the use of boundary and initial conditions obtained by hemispheric modelling, and present the results to the Task Force on Hemispheric Transport of Air Pollution (MSC-East);

(c) Evaluate ecosystem-dependent depositions of POPs in cooperation with the Working Group on Effects (MSC-East, CCC);

(d) Support the work of the Task Force on POPs in the evaluation of possible new POPs (MSC-East);

(e) Further develop the POPs regional model in accordance with the recommendations of the model review, refine the datasets of physical-chemical properties used in modeling, and continue the development of the model parameterization for POPs re-suspension (MSC-East);

(f) Refine the spatial and temporal aerosol distribution with regard to its chemical speciation for more precise description of POPs particulate degradation and gas/particle partitioning (MSC-East);

- (g) Investigate possible approaches to the evaluation of the influence of climate change on the fate and behaviour of POPs (MSC-East);
- (h) Prepare input data for the model application, use the ECMWF re-analysis for the data preprocessing, and prepare POPs emission data set for modelling purposes on the basis of both official and expert estimates (MSC-East);
- (i) Prepare scientific papers on the results of the POPs model intercomparison study focused on the interpretation of similarities and differences of participating models (MSC-East, Parties);
- (j) Prepare meteorological and geophysical data for hemispheric/global modeling (MSC-East);

Main activities and time schedule for atmospheric modelling for fine particulates:

- (a) Prepare validated information for 2006 on transboundary transport and air concentrations fields of PM_{2.5} and PM₁₀ in the EMEP area (50 km × 50 km), and calculate 2006 source allocation matrices and evaluate health indicators (MSC-West, CCC);
- (b) Improve and validate the description of wind-blown dust presently used in the EMEP models, and carry out coordinated sensitivity studies for a common parameterization at both modelling centres (MSC-West, MSC-West);
- (c) Develop and improve the parameterization of coarse nitrate and validate through comparison with the EMEP intensive campaigns (MSC-West, CCC, Task Force on Measurements and Modelling);
- (d) Evaluate alternative methods to the calculation of water content in PM (MSC-West);
- (e) Continue the analysis of the chemical composition of PM in Europe, in particular for carbonaceous contributions, differentiation between primary and secondary organic aerosols, and assessment of the effect of biogenic versus anthropogenic emissions on the formation of organic aerosols (Task Force on Measurements and Modelling, MSC-West, CCC);
- (f) Continue work on source apportionment and chemical mass closure of PM using the output from the intensive measurement periods as well as available results from other advanced measurement campaigns (CCC, MSC-West, Parties).

2.3. INTEGRATED ASSESSMENT MODELLING

Description/objectives: To analyse scenarios on cost-effective reduction of acidification, eutrophication, tropospheric ozone and PM pollution. Modelling will cover: (a) abatement options for reducing sulphur, nitrogen oxides, ammonia, VOCs and primary PM, including structural measures in energy, transport and agriculture, and their costs; (b) projections of emissions; (c) assessments of the atmospheric transport of substances; and (d) analysis and

quantification of environmental and health effects and benefits of emission reductions. The Task Force on Integrated Assessment Modelling, led by the Netherlands, will guide the work of CIAM at the International Institute for Applied Systems Analysis (IIASA) and encourage and support national modelling activities by its National Focal Points.

Main activities and time schedule:

- (a) Contribute to the possible revision of the Gothenburg Protocol (Task Force on Integrated Assessment Modelling, CIAM, Parties);
- (b) Carry out integrated assessment of strategies to abate air pollution and greenhouse gases (Task Force, CIAM, Parties);
- (c) Explore non-binding “aspirational” targets for the year 2050 for emission scenarios and effects (Task Force, CIAM, Parties);
- (d) Start the second phase of the GAINS model review in collaboration with the European Commission (Task Force, CIAM);
- (e) Report on the workshop on integrated assessment modelling of nitrogen (28–30 November 2007, Laxenburg, Austria) and advise on further work on the integrated assessment of nitrogen under the Convention;
- (f) Hold the thirty-fourth meeting of the Task Force on Integrated Assessment Modelling from 7 to 9 May 2008 in Madrid;
- (g) Hold a workshop on integrated assessment modelling, tentatively in the end of 2008;
- (h) Hold the thirty-fifth meeting, tentatively in the end of 2008;
- (i) Submit appropriate reports to the EMEP Steering Body and the Working Group on Strategies and Review.

2.4. HEMISPHERIC TRANSPORT OF AIR POLLUTION

Description/objectives: To develop a fuller scientific understanding of the hemispheric transport of air pollution and to estimate the hemispheric transport of specific air pollutants, the Task Force on the Hemispheric Transport of Air Pollution, led by the United States and the European Community, coordinates activities, including collaboration with other international bodies, programmes and networks both within and outside the UNECE region with related interests.

Main activities and time schedule:

- (a) Prepare for the 2009 assessment report on intercontinental transport of air pollution for all the pollutants of concern of the Convention (Task Force on the Hemispheric Transport of Air Pollution);

- (b) Conduct further work on the policy-relevant science questions identified by the first meeting of the Task Force, including the linkages between hemispheric pollution and climate change;
- (c) Continue the HTAP (hemispheric transport of air pollution) Model Intercomparison and model evaluation exercise (Task Force; CCC, MSC-East, MSC-West);
- (d) Continue the work on an integrated observation system relevant for the assessment of intercontinental transport of air pollution, including the development of intercomparison tools and information infrastructure, and an observational database for model evaluation for ozone, PM, Hg and POPs, as well as improved emission inventories;
- (e) Continue the cooperation with the EMEP centres and individual Convention task forces, including the Task Force on Measurement and Modelling and the Task Force on Emission Inventories and Projections;
- (f) Continue outreach efforts directed at experts in countries outside the UNECE region;
- (g) Hold the fourth Task Force meeting and joint meeting with UNEP Global Partnership on Atmospheric Mercury Transport and Fate Research 7-11 April 2008 in Rome;
- (h) Hold a workshop to reach out to regional air pollution work, tentatively in the autumn of 2008 in Asia.

3. EFFECTS OF MAJOR AIR POLLUTANTS ON HUMAN HEALTH AND THE ENVIRONMENT

3.1. REVIEW OF EFFECTS OF MAJOR AIR POLLUTANTS

Description/objectives: Annual review of activities and results of the International Cooperative Programmes (ICPs) and the Task Force on the Health Aspects of Air Pollution. Appropriate reports to the sessions of the Executive Body on the reviews and revisions of Convention's protocols.

Main activities and time schedule:

- (a) Submission of relevant information by ICPs and the Task Force on Health to the secretariat (April/May 2008);
- (b) Submission of results to the secretariat for the 2008 joint report of the ICPs and the Task Force on Health to the Working Group on Effects (May 2008);
- (c) Submission of appropriate reports to the sessions of the Working Group on Effects and the Executive Body;
- (d) Report from the workshop on critical loads for heavy metals, held from 21 to 22 November 2007 in Windermere, United Kingdom, to the twenty-seventh session of the Working Group on Effects;

(e) Activities common to all ICPs, the Task Force on Health and the Joint Expert Group on Dynamic Modelling:

- (i) Updated review of the robustness of monitored and modelled air pollution impacts;
- (ii) Updated compilation of observed parameters, monitoring methodologies and intensities of effects-oriented activities;
- (iii) Updated summary of effects-oriented activities in EECCA countries.

3.2. INTERNATIONAL COOPERATIVE PROGRAMME ON EFFECTS OF AIR POLLUTION ON MATERIALS, INCLUDING HISTORIC AND CULTURAL MONUMENTS

Description/objectives: Quantification of the multi-pollutant effects on the corrosion of selected materials under different environmental conditions, inter alia, as a basis for economic evaluation of air pollution damage. A Programme Task Force led by Sweden and co-chaired by Italy, in cooperation with the Programme's main research centre (Corrosion and Metals Research Institute, Stockholm), is responsible for the detailed planning and coordination of the Programme.

Main activities and time schedule:

- (a) Map of zinc run-off due to corrosion in Europe;
- (b) Case study on stock at risk in Madrid;
- (c) Progress report on corrosion and air pollutant trends in the period 1987–2006;
- (d) Report on combined corrosive effects of climate change and air pollution on cultural heritage;
- (e) Twenty-fourth meeting of the Programme Task Force, to be held from 2 to 4 April 2008 in Tallinn.

3.3. INTERNATIONAL COOPERATIVE PROGRAMME ON ASSESSMENT AND MONITORING OF ACIDIFICATION OF RIVERS AND LAKES

Description/objectives: Identification of the state of surface water ecosystems and their long-term changes with respect to the regional variation and impact of selected air pollutants, and including effects on biota. A Programme Task Force led by Norway, which also provides the Programme's centre (the Norwegian Institute for Water Research, Oslo), is responsible for the detailed planning and coordination of the Programme.

Main activities and time schedule:

- (a) Annual chemical intercomparison (in collaboration with all ICPs);
- (b) Annual biological intercalibration (in collaboration with all ICPs);
- (c) Report on 20 years of surface water monitoring;
- (d) Twenty-fourth meeting of the Programme Task Force, to be held from 6 to 8

October 2008 in Budapest.

3.4. INTERNATIONAL COOPERATIVE PROGRAMME ON ASSESSMENT AND MONITORING OF AIR POLLUTION EFFECTS ON FORESTS

Description/objectives: Collection and assessment of comprehensive and comparable data on changes in forests under actual environmental conditions (in particular, air pollution, including acidifying and eutrophying deposition as well as other stresses) as well as determination of cause-effect relationships. A Programme Task Force led by Germany, in cooperation with the Programme's main coordinating centre (the Federal Research Centre for Forestry and Forest Products, Hamburg, Germany), is responsible for the detailed planning and coordination of the Programme. Extensive large-scale monitoring (level I), intensive monitoring of forest ecosystems on the permanent sample plots (level II), and integrated evaluation of results are carried out.

Main activities and time schedule:

- (a) Annual report on trends in sulphur and nitrogen deposition;
 - (b) Report on relationships between exceedance of critical loads and ecosystem responses;
 - (c) Report on dynamic modelling of deposition effects on plant species diversity;
 - (d) Report on ozone concentrations, impacts on vegetation and further development of the flux approach;
 - (e) Report on annual data quality assurance for defoliation assessment;
 - (f) Twenty-fourth meeting of the Programme Task Force, to be held from 24 to 28
- May 2008 in Larnaca, Cyprus.

3.5. INTERNATIONAL COOPERATIVE PROGRAMME ON EFFECTS OF AIR POLLUTION ON NATURAL VEGETATION AND CROPS

Description/objectives: Evaluate the effects of air pollutants and other stresses on (semi-)natural vegetation and crops. For ozone: identify dose/response functions; assess economic losses on crops; validate critical levels for (semi-)natural vegetation and crops and further develop the

flux-based approach; and evaluate (semi-)natural vegetation and crops as indicators of potential damage to natural ecosystems. Evaluate and map heavy metal deposition on vegetation. Evaluate the impacts of nutrient nitrogen on (semi-)natural vegetation. A Programme Task Force led by the United Kingdom, with the cooperation of the Programme's coordination centre (the Centre for Ecology and Hydrology, Bangor, United Kingdom), is responsible for the detailed planning and coordination of the Programme.

Main activities and time schedule:

- (a) Annual report on experimental responses of vegetation to ozone;
- (b) Report on the evidence for effects of current ambient ozone on vegetation in 1990–2006;
- (c) Flux-based maps of ozone damage risks to crop and tree species using local parameterizations (in collaboration with MSC-West
- (d) Progress report on flux-based methods for (semi-) natural vegetation;
- (e) Report on European heavy metals in the 2005–2006 mosses survey;
- (f) Report on the nitrogen concentration in mosses in the 2005–2006 mosses survey;
- (g) Twenty-first meeting of the Programme Task Force, to be held from 26 to 29 February 2008 in Oulu, Finland.

3.6. INTERNATIONAL COOPERATIVE PROGRAMME ON INTEGRATED MONITORING OF AIR POLLUTION EFFECTS ON ECOSYSTEMS

Description/objectives: Determination and prediction of the state of ecosystems and their long-term changes with respect to the regional variation and impact of selected air pollutants, with special attention to effects on biota. A Programme Task Force led by Sweden is responsible for planning, coordinating and evaluating the Programme. The Programme's centre (Finnish Environment Institute, Helsinki) is entrusted with collecting, storing, processing and analysing data from countries taking part in the Programme.

Main activities and time schedule:

- (a) Progress report on air pollution effects on biodiversity (in collaboration with the European Union Alter-Net project);
- (b) Interim report on modelled site-specific interactions between acidification and climate;
- (c) Report on links between climate change and air pollution effects using site-specific data;

(d) Sixteenth meeting of the Programme Task Force, to be held from 14 to 16 May 2008 in Pamplona, Spain.

3.7. INTERNATIONAL COOPERATIVE PROGRAMME ON MODELLING AND MAPPING OF CRITICAL LEVELS AND LOADS AND AIR POLLUTION EFFECTS, RISKS AND TRENDS

Description/objectives: Determine critical loads and levels and their exceedance for selected pollutants. Develop and apply other methods for effects-based approaches such as dynamic modelling. Model and map the present status of and trends in impacts of air pollution. A Programme Task Force led by Germany is responsible for the detailed planning and coordination of activities. The Task Force uses available and accepted data drawing on the work of other task forces, ICPs and EMEP. CCE provides scientific and technical support to the Task Force and to other effects-related activities, and develops methods and models for calculating critical loads and levels and for other effects-based approaches. It produces maps of critical loads and levels and their exceedance and other risk parameters related to potential damage and recovery.

Main activities and time schedule:

- (a) Report on modelling nitrogen effects on terrestrial ecosystems, including biodiversity (in collaboration with ICPs and other programmes);
- (b) Report on links between air pollution and climate change effects on European ecosystems (in collaboration with ICPs, EMEP and other programmes);
- (c) Report on modelling critical loads and risk trends for heavy metals, as appropriate (in collaboration with ICPs and other programmes);
- (d) Twenty-fourth meeting of the Programme Task Force, to be held from 21 to 25 April 2008 in Berne.

3.8. EFFECTS OF AIR POLLUTANTS ON HUMAN HEALTH

Description/objectives: Preparation of state-of-the-art reports on the direct and indirect effects of long-range transboundary air pollution on human health:

- (a) The World Health Organization (WHO) is invited to present relevant progress and technical reports to the Working Group on Effects, so that knowledge acquired by WHO can be applied in the further implementation of the Convention. Additional information/reports should be provided, when appropriate, by other international organizations, interested Governments and/or other subsidiary bodies under the Convention;

(b) To support the Working Group on Effects and the Executive Body in preparing and substantiating new and/or updating existing protocols, the joint Task Force of the WHO/European Centre for Environment and Health (ECEH) and the Executive Body, led by WHO/ECEH Bonn Office, will evaluate and assess the health effects of long-range transboundary air pollution and reports on the subject.

Main activities and time schedule:

- (a) Annual progress report on health impacts of particulate matter;
- (b) Interim report on health impacts of ozone;
- (c) Final report on health risks of heavy metals;
- (d) Eleventh meeting of the Task Force on the Health Aspects of Air Pollution, to be held from 17 to 18 April 2008 in Bonn, Germany.

3.9. DYNAMIC MODELLING

Description/objectives: Recovery of ecosystems is an important consideration for the development of air pollution strategies, and work on various ecosystems at different scales is carried out by several ICPs. A Joint Expert Group on Dynamic Modelling, led by the United Kingdom and Sweden, collaborates with ICPs by bringing together experts from these programmes to share knowledge and produce joint reports on all aspects of dynamic modelling.

Main activities and time schedule:

- (a) Assessment report of the 2007 dynamic model data submission and other national modelling activities;
- (b) Scenario assessments at site, national and European levels;
- (c) Progress report on recent dynamic model developments;
- (d) Report on strategies to incorporate climate change in dynamic models at all spatial scales;
- (e) Report on the consistency in dynamic model methodologies;
- (f) Report on interpretation and presentation of dynamic model outputs;
- (g) Report of the eighth Joint Expert Group meeting to the twenty-seventh session of the Working Group on Effects;
- (h) Ninth meeting of the Joint Expert Group, tentatively scheduled to be held in autumn 2008.

Table 1. The EMEP Emission Reporting Programme for 2007/2008

Emission data should be submitted to the secretariat by **15 February 2008**, accompanied by an informative inventory report (IIR) by 15 March 2008. Gridded data should reach the secretariat no later than **1 March 2008**. This table is a summary of the information contained in the Emission Reporting Guidelines.

Description of contents	Components	Reporting years ¹
YEARLY: MINIMUM (and ADDITIONAL)		
A. National totals:		
1. Main pollutants	SO _x , NO _x , NH ₃ , NMVOCs, CO	1980–2005
2. PM	PM _{2.5} , PM ₁₀ , TSP	2000–2005
3. Heavy metals	Pb, Cd, Hg / (<i>As, Cr, Cu, Ni, Se, Zn</i>)	1990–2005
4. POPs	(See note 2)	1990–2005
B. Sector emissions:		
1. Main pollutants	SO _x , NO _x , NH ₃ , NMVOCs, CO	1980–2005
2. PM	PM _{2.5} , PM ₁₀ , TSP	2000–2005
3. Heavy metals	Pb, Cd, Hg / (<i>As, Cr, Cu, Ni, Se, Zn</i>)	1990–2005
4. POPs	(See note 2)	1990–2005
5-YEARLY: MINIMUM REPORTING		
C. Gridded data in the EMEP 50 × 50 km² grid		
1. National totals	Main pollutants, PM, Pb, Cd, Hg, PAHs, HCB, dioxins/furans	1990, 1995, 2000 and 2005 (PM for 2000 and 2005)
2. Sector emissions	Main pollutants, PM, Pb, Cd, Hg, PAHs, HCB, dioxins/furans	1990, 1995, 2000 and 2005 (PM for 2000 and 2005)
D. Emissions from large-point sources	Main pollutants, HM, PCDD/F, PAHs, HCB, PM	2000
E. Historical and projected activity data and projected national total emissions		
1. National total emissions	See Table IV 2A in the Emission Reporting Guidelines	2010, 2015 and 2020
2. Energy consumption	See Tables IV 2B and 2C in the Emission Reporting Guidelines	1990, 1995, 2000, 2010, 2015 and 2020
3. Energy consumption for transport sector	See Table IV 2D in the Emission Reporting Guidelines	1990, 1995, 2000, 2010, 2015 and 2020
4. Agricultural activity	See Table IV 2E in the Emission Reporting Guidelines	1990, 1995, 2000, 2010, 2015 and 2020
5-YEARLY: ADDITIONAL REPORTING FOR REVIEW AND ASSESSMENT PURPOSES		
VOC speciation / Height distribution / Temporal distribution	Parties are encouraged to review the information used for modelling at the Meteorological Synthesizing Centres, available at http://webdab.emep.int/ and http://www.emep.int/index_data.html	
Land-use data / Hg breakdown		
Percentage of toxic congeners of PCDD/F emissions		
Pre-1990 emissions of PAHs, HCB, PCDD/F and PCBs		
Information on natural emissions		

^{1/} As a minimum, data for the base year of the relevant protocol and from the year of entry into force of that protocol to the latest year should be reported.

^{2/} Aldrin, chlordane, chlordecone, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene (HCB), Mirex, toxaphene, hexachlorocyclohexane (HCH), hexabromobiphenyl, polychlorinated biphenyls (PCBs), dioxins/furans (PCDD/F), polycyclic aromatic hydrocarbons (PAHs), and as additional information: short-chain chlorinated paraffins (SCCP) and pentachlorophenol (PCP). (See Emission Reporting Guidelines.)

Annex**Provisional calendar of meetings for 2008**

14-17 April 2008 Geneva	Working Group on Strategies and Review (Forty-first session)
1-5 September 2008 Geneva	Working Group on Strategies and Review (Forty-second session)
8-10 September 2008 Geneva	EMEP Steering Body (Thirty-second session)
24-26 September 2008 Geneva	Working Group on Effects (Twenty-seventh session)
15-19 December 2008 Geneva	Executive Body for the Convention (Twenty-sixth session)
26-29 February 2008 Oulu, Finland	Programme Task Force, International Cooperative Programme (ICP) on Effects of Air Pollution on Natural Vegetation and Crops (twenty-first meeting)
2-4 April 2008 Tallinn	Programme Task Force, ICP on Effects of Air Pollution on Materials, Including Historic and Cultural Monuments (twenty- fourth meeting)
7-9 April 2008 (tentative) Dubrovnik, Croatia	Implementation Committee (twenty-first meeting)
7-11 April 2008 Rome	Joint meeting of Task Force on Hemispheric Transport of Air Pollution and UNEP Global Partnership on Atmospheric Mercury Transport and Fate Research
10 April 2008 Rome	Task Force on Hemispheric Transport of Air Pollution (fourth meeting)
17-18 April 2008 Bonn, Germany	Joint Task Force on the Health Aspects of Air Pollution (eleventh meeting)
21-25 April 2008 Berne	Coordination Centre for Effects (CCE) workshop (eighteenth meeting); Programme Task Force, ICP on Modelling and Mapping of Critical Levels and Loads and Air Pollution Effects, Risks and Trends (twenty-fourth meeting)
23-25 April 2008 Bordeaux, France	Task Force on Measurements and Modelling (ninth meeting)
28-29 April 2008 Stockholm	Expert Group on Techno-economic Issues (thirteenth meeting)
7-9 May 2008 Madrid	Task Force on Integrated Assessment Modelling (thirty-fourth meeting)
14-16 May 2008 Yerevan	Workshop on the promotion of the ratification of the Protocol on Heavy Metals (Task Force on Heavy Metals)
14-16 May 2008 Pamplona, Spain	Programme Task Force, ICP on Integrated Monitoring of Air Pollution Effects on Ecosystems (sixteenth meeting)
20-22 May 2008 Wageningen, Netherlands	Task Force on Reactive Nitrogen (first meeting)
24-28 May 2008 Larnaca, Cyprus	Programme Task Force, ICP on Assessment and Monitoring of Air Pollution Effects on Forests (twenty-fourth meeting)

26-27 May 2008 Tallinn	Task Force on Emission Inventories and Projections (twentieth meeting)
4-6 June 2008 London	Task Force on Heavy Metals (fifth meeting)
June 2008 Gothenburg, Sweden	Workshop on new developments in the economic valuation of the impacts of air pollution (Network of Experts on Benefits and Economic Instruments)
June 2008 (tentative) United States	Workshop of the Task Force on Hemispheric Transport of Air Pollution
14-16 July 2008 Geneva	Implementation Committee (twenty-second meeting)
6-8 October 2008 Budapest	Programme Task Force, ICP on Assessment and Monitoring of Acidification of Rivers and Lakes (twenty-fourth meeting)
13-14 October 2008 Sorrento, Italy	Expert Group on Techno-economic Issues (fourteenth meeting)
October 2008 (tentative) Asia	Workshop of the Task Force on Hemispheric Transport of Air Pollution
Autumn 2008 (tentative)	Task Force on Emission Inventories and Projections (twenty-first meeting)
Autumn 2008 (tentative)	Joint Expert Group on Dynamic Modelling (ninth meeting)
November 2008 (tentative)	Workshop on integrated assessment modelling (in collaboration with the Task Force on Integrated Assessment Modelling and the Centre for Integrated Assessment Modelling)
November 2008 (tentative)	Task Force on Integrated Assessment Modelling (thirty-fifth meeting)
