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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 for Air Pollutants in Europe (EMEP)  
(Twenty-seventh session, Geneva, 8-10 September 2003)  
Item 6 of the provisional agenda

**DRAFT WORK-PLAN FOR 2004**

Note prepared by the secretariat in consultation with the Bureau

1. This work-plan for EMEP will become part of the work-plan for the Convention. The numbering of items has been kept as for the Convention's work-plan, which will be adopted by the Executive Body. The draft has been based on the priorities for the work up to 2004 (EB.AIR/GE.1/2001/9) adopted by the EMEP Steering Body at its twenty-fifth session.
2. All work items listed below will be undertaken in close cooperation with Parties and national experts, and, where relevant, with other bodies under the Convention. Wherever relevant and possible, the EMEP centres (Chemical Coordinating Centre (CCC), Centre for Integrated Assessment Modelling (CIAM), Meteorological Synthesizing Centre-East (MSC-E) and Meteorological Synthesizing Centre-West (MSC-W)) will cooperate with other organizations, programmes and projects, including the Arctic Monitoring and Assessment Programme (AMAP), the East Asian Acid Deposition Network (EANET), the European Commission's Clean Air for

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Europe (CAFE) programme, the European Environment Agency (EEA) (including its Topic Centre for Air and Climate Change), the International Geosphere-Biosphere Programme (IGBP) and its International Global Atmospheric Chemistry (IGAC) activity, the marine commissions, the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO), including its Global Atmosphere Watch (GAW) programme.

## **2.1 EMISSIONS**

Description/objectives: Further develop the EMEP emission inventory, based on data submitted by Parties, provide information on emissions and projections that is transparent, consistent, comparable, complete and accurate, assist in the review of compliance, and provide assistance to Parties to help them fulfil their reporting tasks. The Task Force on Emission Inventories and Projections, with assistance from the centres and in cooperation with the European Environment Information and Observation Network (EIONET), will provide a technical forum and expert network to share information, harmonize emission factors, establish methodologies for the evaluation of emission data and projections, and identify and resolve problems related to reporting.

### Main activities and time schedule:

(a) The Task Force on Emission Inventories and Projections will continue to maintain and promote the Atmospheric Emission Inventory Guidebook, in close collaboration with EEA. The Task Force will work with Parties to improve the quality, consistency and completeness of emission reporting with a focus on validation and good practice. The Task Force in cooperation with the EMEP centres, EEA and the European Commission's Joint Research Centre (JRC) will develop an emission inventory improvement programme. The Task Force will hold its twelfth meeting jointly with EIONET in Warsaw on 22-24 September 2003. CIAM and MSC-W, together with the European Topic Centre on Air and Climate Change, will support the Task Force in its work on emission data review;

(b) By 15 February 2004, or 1 March 2004 for gridded data, as requested by the secretariat and in accordance with the Guidelines for Estimating and Reporting Emissions Data (EB.AIR/GE.1/2002/7 and Corr.1), Parties should submit 2002 emission data and projections and updates to data for earlier years as summarized in the table below;

(c) MSC-W will compile the data and assure data consistency, update the inventory database and make the emission database available at <http://webdab.emep.int>. It will establish and document procedures for testing the comparability and accuracy of the reported emissions, their trends and spatial distribution. It will present a report on 1980-2002 emissions to the Task Force.

CIAM will support work on projections. MSC-E and CCC will support work on heavy metal and POP emission data.

## **2.2 ATMOSPHERIC MEASUREMENTS AND MODELLING**

Description/objectives: Assess the results of implementing the protocols to the Convention and develop and ensure support for the atmospheric measurement and modelling tools necessary for further international air pollution abatement policies, including the review of protocols. The Task Force on Measurements and Modelling, led by the United Kingdom and co-chaired by WMO, with the assistance of the centres, supports the Steering Body and its Bureau by: (i) reviewing and assessing the scientific and operational activities of EMEP related to monitoring and modelling; (ii) evaluating their contribution to the effective implementation and further development of the protocols; and (iii) drawing up specific proposals. It provides for closer collaboration among the Parties to the Convention, the centres, other bodies under the Convention, other international bodies and the scientific community in strengthening scientific communication and cooperation in air pollution monitoring and modelling.

### Main activities and time schedule:

(a) The Task Force on Measurements and Modelling will investigate the trends in transboundary fluxes, concentrations and depositions over the lifetime of EMEP in different regions, making use of measurements and modelling results in preparation of an assessment report. MSC-W will coordinate the input from national experts. The Swedish editor of the report, supported by CCC, MSC-E and MSC-W, will finalize the drafting of the report, including part 2 on the overall European perspective with the following chapters: (1) acidification and eutrophication, (2) ozone, (3) heavy metals and persistent organic pollutants (POPs), (4) particulate matter, (5) summary. A final draft will be presented to the Task Force for comment before the end of February 2004. The assessment report will be presented to the Steering Body in September 2004;

(b) The Parties will report to CCC monitoring results for 2003 by 1 October 2004 in accordance with the adopted monitoring strategy (EB.AIR/GE.1/2003/3/Add.1). CCC will continue to collect the monitoring data and evaluate and store them in the EMEP database. CCC will make the data available via the Internet once they have been checked. It will evaluate the data and report thereon to the Task Force with a specific focus on policy-relevant aspects. Data will be marked provisional until their approval at the Steering Body's session. CCC will inform the Task Force on Measurements and Modelling of progress in further harmonizing reporting between EMEP and EEA, with the focus upon promoting the quality and consistency of data and reducing the burden on Parties;

(c) CCC, in consultation with the Task Force on Measurements and Modelling, will continue work to improve the EMEP Manual for Sampling and Chemical Analysis. It will update the quality assessment (QA) / quality control (QC) part of the Manual and expand the QA information available through the Internet;

(d) The Task Force on Measurements and Modelling, supported by CCC, will assist Parties to implement the adopted monitoring strategy. This work will aim at consolidating the EMEP monitoring network as outlined in the adopted strategy, taking into account the requirements of the protocols and the relevant EC directives. CCC, in cooperation with MSC-E and MSC-W, will further examine the approaches to combining modelling data with observations, such as data assimilation techniques. CCC will intensify collaboration with other national and international programmes to implement the 'level' approach adopted in the monitoring strategy. It will provide training and guidance to Parties to establish advanced monitoring sites for level 2 and 3 monitoring. Parties, supported by CCC, will continue their efforts to improve the EMEP network in the Mediterranean region and in Central and Eastern Europe. The Task Force will hold its fifth meeting in March/April 2003 and report on progress to the Steering Body at its twenty-eighth session;

(e) MSC-W, in collaboration with interested Parties and the other centres, will continue to assist the Task Force in the evaluation of the unified (photo-oxidants, acid deposition, particles) Eulerian model, including validation, model intercomparison, and the comparison of model results and observations. The Task Force will hold a workshop on the review of the unified Eulerian model in November 2003. MSC-W, together with the workshop's Chair, will prepare a report on the workshop and the model evaluation by January 2004 for discussion at the fifth meeting of the Task Force. The Task Force will present its conclusions and recommendations on this work to the Steering Body at its twenty-eighth session. MSC-W will prepare a version of the Lagrangian model to be accessible to Parties' experts via the Internet;

(f) The centres, in consultation with the Task Force, will cooperate on extending the modelling work to cover the whole Northern hemisphere. MSC-W will compile the meteorological data for hemispheric modelling and present initial hemispheric model simulations focusing on the analysis of the influence from the free troposphere on ozone levels in Europe. CCC will develop a strategy to derive three-dimensional fields of priority substances on the basis of surface and satellite observations, remote sensing and other sensors. It will collaborate with monitoring networks outside the EMEP area to link measurements at regional and hemispheric scales. The Bureau will review the status and potential of this work, and prepare a note on its policy-related aspects for discussion initially by the Bureau of the Executive Body. An EMEP workshop on hemispheric air pollution, as follow-up to the one held on 7-9 October 2002 in Bad Breisig (Germany), will be held in autumn 2004;

(g) The Centres in consultation with the Task Force, and in cooperation with EEA and JRC will assess the links between regional scale pollution and that at the urban and local scales, in particular for PM and ozone. They will take into account inter alia the findings of the City Delta project and report their findings to the EMEP Steering Body.

### **2.3 INTEGRATED ASSESSMENT MODELLING**

Description/objectives: Analyse scenarios on cost-effective reduction of acidification, eutrophication, tropospheric ozone, particulate matter (PM) pollution and related phenomena, including POPs and heavy metals pollution and the links between regional air pollution and climate change. Modelling will cover: (i) abatement options for reducing sulphur, nitrogen oxides, ammonia, volatile organic compounds (VOCs) and primary particulate matter, including structural measures in energy, transport and agriculture, and their costs; (ii) projections of emissions; (iii) assessments of the atmospheric transport of substances (including hemispheric transport); and (iv) analyses and quantification of environmental and health effects and benefits of emission reductions. Modelling will draw upon the results from other subsidiary bodies. 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). All activities will be conducted in close collaboration with related work led by the European Commission.

Main activities and time schedule:

(a) The Task Force on Integrated Assessment Modelling will continue to discuss modelling work by CIAM and other national and international initiatives. It will review progress in the preparation of the baseline scenarios for the review of the Gothenburg Protocol covering all model elements and liaise with the responsible bodies under the Convention to this end. It will encourage and support national modelling activities carried out by National Focal Points for Integrated Assessment Modelling and promote the sharing of data, and experience with integrated assessment modelling, outside the EMEP region. The Task Force will hold a workshop, possibly on the review of the RAINS model, in the winter of 2003/2004 at IIASA in Laxenburg (Austria). It will hold its twenty-ninth meeting in May 2004;

(b) CIAM will pursue work on the baseline scenarios covering all Parties in the EMEP region. Priority will go to an overall analysis of uncertainty using error propagation. Work done in collaboration with MSC-W will focus on uncertainties in atmospheric transport models and related non-linearities in the source-receptor relationships and investigate the inter-annual variability of source-receptor relationships;

(c) CIAM will develop, in cooperation with the Coordination Center for Effects, methods for covering the results of dynamic modelling in integrated assessment modelling;

(d) CIAM, in cooperation with MSC-W, will develop methods to cover, in integrated assessment models, the systematic differences in response to emission changes between regional and urban-scale models, based on the results of the City Delta project and on work by MSC-W to nest urban meso-scale models in the regional model. CIAM will investigate abatement measures to address urban pollution and report to the Task Force or to a special workshop on the topic;

(e) CCC, in cooperation with CIAM, will further develop emission projections for certain POPs and heavy metals to prepare abatement scenarios covering the whole Northern hemisphere;

(f) CIAM, in cooperation with MSC-W, will use the set of emission projections prepared for the whole Northern hemisphere to examine the effects of hemispheric background pollution on source-receptor relationships in Europe. It will evaluate the cost-effectiveness of measures to reduce regional air pollutants taking into account their impacts on climate change. CIAM will also prepare for an evaluation of sectoral trends and discussion of scenarios of maximum feasible emission reductions taking into account the potential of non-technical measures and new emerging technologies.

#### **2.4 ACIDIFYING AND EUTROPHYING COMPOUNDS**

Description/objectives: Provide monitoring and modelling data on concentrations, depositions and transboundary fluxes of sulphur and nitrogen compounds over Europe. Analyse past, present and future exceedances of critical loads of acidifying and eutrophying depositions in Europe. Refine and complete emission data with specific focus on the spatial resolution. Support the preparations for the review of the Gothenburg Protocol.

Main activities and time schedule (see also items 2.1-2.3 above):

(a) MSC-W will calculate the transport of sulphur and nitrogen compounds for 2002. It will analyse the effect of improvements in the spatial distribution of emissions and calculate ecosystem-allocated deposition fields. Together with the other centres, it will present a status report (also covering photo-oxidants) to the Steering Body at its twenty-eighth session;

(b) MSC-W will estimate trends in sulphur and nitrogen air concentrations since 1980 and study the influence of co-deposition of ammonia and sulphur dioxide. It will evaluate the need for refining ammonia emission estimates in the EMEP unified Eulerian model by comparing model results with observations, including flux measurements. The results will be presented to the Task Force for Measurements and Modelling in spring 2004;

(c) CCC will arrange for laboratory comparisons of the main components in air and

precipitation. These will be open to laboratories participating in monitoring programmes under the Working Group on Effects. CCC will continue field comparisons for air chemistry for three sites and finalize and evaluate field comparisons for three other sites. CCC will investigate new methods for long-term flux monitoring for sulphur and nitrogen compounds, including dry and total deposition. It will continue to update metadata in the database;

(d) Sweden will host a workshop on the emissions, transport, deposition and effects of base cations in relation to acidification on 26-28 November 2003;

(e) MSC-W, in cooperation with CCE, will prepare, on a European scale, ecosystem-specific acidity and nitrogen depositions maps and preliminary maps for base cation deposition.

## **2.5 PHOTO-OXIDANTS**

Description/objectives: Provide monitoring and modelling data on concentrations and transboundary transport of ozone, NO<sub>x</sub> and VOCs. Evaluate short- and long-term exposures to photochemical oxidants. Refine and complete emission data with specific focus on the spatial resolution. Analyse scenarios of ground-level ozone and exceedances of critical levels. Support the preparations for the review of the Gothenburg Protocol.

Main activities and time schedule (see also items 2.1-2.3 above):

(a) MSC-W will calculate the short- and long-term exposures of vegetation to photochemical oxidants for vegetation growing periods, as well as the potential exposure of humans. It will apply the revised ozone level II dry deposition sub-routine and, in cooperation with CIAM, evaluate the influence of refined emission data;

(b) CCC will increase its links with national and other existing monitoring networks to improve the geographic coverage of ozone and VOC monitoring data, including data for trend analysis. CCC will also evaluate the QA/QC procedures and prepare a proposal on parameters to be measured as part of the draft monitoring strategy (item 2.2 (d) above). In collaboration with participating laboratories, it will arrange for campaigns with parallel sampling and analyses of VOCs. CCC and MSC-W, as well as other national and international modelling teams, will report on measurements and modelling of VOCs for discussion by the Task Force on Measurements and Modelling at its fifth meeting;

(c) CIAM, in cooperation with MSC-W, will continue to evaluate the effects of control measures on photo-oxidants, paying particular attention to effects of scale. They will, following the decision by the Working Group on Effects on the level II and revised level I approach, develop methods to evaluate exceedances of critical levels. CIAM will work on a revised approach to

include effects of ozone on human health in integrated assessment modelling, taking into account recent recommendations of the Task Force on the Health Aspects of Air Pollution;

(d) MSC-W, in cooperation with CCC, will study the vertical distribution of ozone across Europe validating estimates against radiosonde information and research campaign data. The analysis will support the study of ozone trends and the evaluation of the effects of free tropospheric ozone.

## **2.6 HEAVY METALS**

Description/objectives: Provide monitoring and modelling data on concentrations, depositions and transboundary fluxes of cadmium (Cd), lead (Pb) and mercury (Hg). Develop further the Pb, Cd and Hg transport models in parallel with the development of heavy metal critical limits under the Working Group on Effects. Develop reliable emission data for Cd, Pb and Hg, as well as a preliminary data set for other metals. Support preparatory work for the review of the Protocol on Heavy Metals, in particular the work of the Expert Group on Heavy Metals.

Main activities and time schedule (see also items 2.1-2.3 above):

(a) MSC-E will prepare information for 2002 for Pb, Cd and Hg on: deposition and air concentrations fields in Europe with a resolution of 50 km x 50 km; country-to-country deposition matrices; and deposition to the regional seas. It will compare of model results for concentrations in air and precipitation and deposition fluxes with measurements, and study model sensitivity and uncertainty. It will, furthermore, present estimates for Hg atmospheric transport on a hemispheric scale and, in cooperation with CCE, critical load exceedance maps for Pb and Cd. In cooperation with CCC, it will prepare a report on new model developments and model evaluation for discussion by the Task Force on Measurements and Modelling at its fifth meeting and present a status report to the Steering Body at its twenty-eighth session;

(b) MSC-E will further develop its models and its input databases. It will, in particular, improve the parameterization of ocean and soil modules for the hemispheric multi-compartment modelling of Hg transport. It will also initiate work for the modelling of other metals (arsenic, copper, chromium, nickel and zinc). Work on data will include: meteorological data (including sea currents and ice dynamics) and, together with CCC, emission data (including on gridded and natural emissions) and measurement data (including concentrations in different media);

(c) MSC-E will continue the Hg model intercomparison study. At stage III, the modelled annual and monthly mean concentrations will be compared with measurements. At stage IV export-import balances for Italy, Poland and the United Kingdom will be compared. A fifth expert meeting will be organized in Moscow;



(d) In cooperation with Parties, CCC will enhance the establishment of new sites to meet the requirements of the new monitoring strategy. Together with MSC-E, it will complement EMEP data with data from other international programmes. CCC will report on the intercomparison for sampling and analytical techniques for seven heavy metals measured in precipitation.

## **2.7 PERSISTENT ORGANIC POLLUTANTS (POPs)**

Description/objectives: Improve the monitoring and modelling data on concentrations, depositions and transboundary fluxes of selected POPs. Study further the physico-chemical processes of POPs in different environmental compartments, taking into account their transport within the EMEP region and on the hemispheric/global scale. Develop reliable emission data for the POPs listed in the Protocol, as well as a preliminary data set for other substances. Support preparatory work for the review of the Protocol on POPs.

Main activities and time schedule (see also items 2.1-2.3 above):

(a) MSC-E will prepare information for 2001 on: source-receptor relationships for Benzo[a]pyrene (BaP), deposition and concentration fields for benzo [b] fluoranthene (BbF) and benzo [k] (BkF); transport and accumulation of all toxic congeners of PCDD/Fs (back to 1970), the spatial variability, including hemispheric transport, and pollution levels of PCBs and HCB; and transport of selected POPs to the regional seas. It will contribute to work to explore a possible effects-based approach under the Working Group on Effects;

(b) MSC-E will further develop its models with respect to: the redistribution between different phases and sedimentation in the marine environment; the gas/aerosol partitioning process in the atmosphere; and the distribution in the atmosphere taking into account spatial and temporal variations of OH radical concentrations. It will complete the first stage of the model intercomparisons and prepare the second phase;

(c) In cooperation with Parties, CCC will enhance the establishment of new sites to meet the requirements of the new monitoring strategy. In cooperation with MSC-E, it will complement EMEP monitoring data with data from other international and national programmes for comparison with model results. Both centres will cooperate with UNEP to harmonize the global monitoring strategy with the one of EMEP;

(d) CCC and MSC-E, in consultation with the Task Force on Emission Inventories and Projections and with Parties, will improve the POPs emission data quality with specific emphasis on PAHs, PCDD/Fs, PCBs and HCB. They will adjust European emission inventories for POPs to the modelling requirements. CCC will develop profiles of chemical species of the selected POPs

and collate information on the height of major point sources.

## **2.8 FINE PARTICULATES**

Description/objectives: Provide an evaluation of concentrations, transboundary fluxes and cost-effective abatement strategies. Develop a reliable emission inventory for primary particulate matter (PM). Evaluate experience with reporting and review guidance for emission estimation and monitoring of air concentrations. Support the investigations on fine particulates in preparation of the review of the Gothenburg Protocol.

Main activities and time schedule (see also items 2.1-2.3 above):

(a) MSC-W will investigate further the chemical composition of particulate matter in Europe and, in cooperation with CCC, it will analyse the contribution of organic aerosol to total particulate mass, carry out sensitivity tests on the influence of different assumptions on the chemical composition of emission data, and study the effect of wind-blown PM sources and natural dust in total particulate matter mass. It will study methods to include the effects of re-suspension in urban areas in regional simulations. MSC-W will continue the evaluation of the research aerosol model and report to the Task Force on Measurements and Modelling on the comparison of the aerosol model results against observations;

(b) CCC will evaluate the status of monitoring and quality assurance activities, in particular with a view to providing monitoring data for model validation. It will continue work on source apportionment and chemical mass closure in cooperation with national experts. CCC will further improve the implementation of the PM monitoring strategy by advising Parties on setting up additional sites and applying new methodologies. It will report the results of its elemental carbon/organic carbon (EC/OC) measurement campaign to the Task Force on Measurements and Modelling. CCC will strengthen cooperation with other research projects for level 2 and 3 monitoring as defined in the PM monitoring programme;

(c) CIAM, in collaboration with MSC-W, will further develop the framework for integrated assessment modelling of fine particulates, in particular to incorporate advances in atmospheric transport models. Based on decisions by the Task Force on the Health Aspects of Air Pollution, the centres will prepare integrated assessment modelling scenarios using different health indicators. The centres will present a status report to the Steering Body at its twenty-eighth session.

**Table. The EMEP Emission Reporting Programme for 2003/2004**

Emissions data should be submitted to the secretariat by 15 February 2004. Gridded data should reach the secretariat no later than 1 March 2004. This table is a summary of the reporting information contained in the Guidelines for Estimating and Reporting Emissions Data (EB.AIR/GE.1/2002/7 and Corr. 1).

Description of contents	Components	Reporting years <sup>1</sup>
<b>YEARLY: MINIMUM (and ADDITIONAL)</b>		
<b>A. National totals:</b>		
1. Main pollutants	SO <sub>x</sub> , NO <sub>x</sub> , NH <sub>3</sub> , NMVOC, CO	From 1980 to 2002
2. Particulate matter	PM <sub>2.5</sub> , PM <sub>10</sub> , TSP	For 2000 to 2002
3. Heavy metals	Pb, Cd, Hg / ( <i>As, Cr, Cu, Ni, Se, Zn</i> )	From 1990 to 2002
4. POPs	(See note 2)	From 1990 to 2002
<b>B. Sector emissions:</b>		
1. Main pollutants	SO <sub>x</sub> , NO <sub>x</sub> , NH <sub>3</sub> , NMVOC, CO	From 1980 to 2002
2. Particulate matter	PM <sub>2.5</sub> , PM <sub>10</sub> , TSP	For 2000 to 2002
3. Heavy metals	Pb, Cd, Hg / ( <i>As, Cr, Cu, Ni, Se, Zn</i> )	From 1990 to 2002
4. POPs	(See note 2)	From 1990 to 2002
<b>5-YEARLY: MINIMUM REPORTING</b>		
<b>C. Gridded data in the EMEP 50x50 km<sup>2</sup> grid</b>		
1. National totals	Main pollutants, PM, Pb, Cd, Hg, PAHs, HCB, dioxins/furans	For 1990, 1995 and 2000 (PM for 2000)
2. Sector emissions	Main pollutants, PM, Pb, Cd, Hg, PAHs, HCB, dioxins/furans	For 1990, 1995 and 2000 (PM for 2000)
<b>D. Emissions from large point sources</b>	Main pollutants, HM, PCDD/F, PAH, HCB, PM	For 2000
<b>E. Historical and projected activity data and projected national total emissions</b>		
1. National total emissions	See table IV 2A in EB.AIR/GE.1/2002/7	For 2010, 2015 and 2020
2. Energy consumption	See tables IV 2B, 2C in EB.AIR/GE.1/2002/7	For 1990, 1995, 2000, 2010, 2015 and 2020
3. Energy consumption for transport sector	See table IV 2D in EB.AIR/GE.1/2002/7	For 1990, 1995, 2000, 2010, 2015 and 2020
4. Agricultural activity	See table IV 2E in EB.AIR/GE.1/2002/7	For 1990, 1995, 2000, 2010, 2015, 2020
<b>5-YEARLY: ADDITIONAL REPORTING/FOR REVIEW AND ASSESSMENT PURPOSES</b>		
VOC speciation / Height distribution / Temporal distribution	Parties are encouraged to review the information used for modelling at the Meteorological Synthesizing Centres available for review at <a href="http://webdab.emep.int/">http://webdab.emep.int/</a> and <a href="http://www.emep.int/index_data.html">http://www.emep.int/index_data.html</a>	
Land-use data / Mercury breakdown		
% of toxic congeners of PCDD/F emissions		
Pre-1990 emissions of PAHs, HCB, PCDD/F and PCB		
Information on natural emissions		

<sup>1/</sup> 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.

<sup>2/</sup> 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), pentachlorophenol (PCP). (See EB.AIR/GE.1/2002/7 and Corr.1).