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ECONOMIC COMMISSION FOR EUROPE

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

Working Group on Effects

Twenty-eighth session
Geneva, 23–25 September 2009
Item 7 of the provisional agenda

FURTHER DEVELOPMENT OF EFFECTS-ORIENTED ACTIVITIES

DRAFT 2010 WORKPLAN

Note by the Bureau of the Working Group on Effects

INTRODUCTION

1. The Executive Body, at its twenty-sixth session, continued the procedure for the workplan to compile Convention's workplan as one document, made available as an addendum to its session report (ECE/EB.AIR/96/Add.2). At its meeting held from 18 to 19 February 2009 in Geneva, the Extended Bureau of the Working Group on Effects, comprising the Bureau of the Working Group, the Chairs of the Task Forces and Expert Group and the representatives of the programme centres of the International Cooperative Programmes (ICPs), agreed to prepare a draft workplan for 2010. The numbering follows that of the Convention workplan for 2009.

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 ICPs and the Task Force on the Health Aspects of Air Pollution (Task Force on Health). 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 and reports by the ICPs and the Task Force on Health to the secretariat, in particular the contributions to the revision of the 1999 Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (April/May 2010);

(b) Submission of results to the secretariat for the 2010 joint report of the ICPs, the Task Force on Health and the Joint Expert Group on Dynamic Modelling to the Working Group on Effects (May 2010);

(c) Submission of appropriate reports to the sessions of the Working Group on Effects and the Executive Body;

(d) Submission of reports on the activities common to all ICPs, the Task Force on Health and the Joint Expert Group on Dynamic Modelling, namely on:

- (i) The development of targets for 2020 and 2050 and application in ex-post integrated assessment using harmonized data on concentrations and depositions, in collaboration with the Task Force on Integrated Assessment Modelling;
- (ii) The updating of robustness of air pollution effects in integrated assessment modelling;
- (iii) The links between air pollution effects and biological diversity.

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 (the Corrosion and Metals Research

Institute, Stockholm), is responsible for the detailed planning and coordination of the Programme.

Main activities and time schedule:

- (a) Report on corrosion from the 2008–2009 exposure programme for trend analysis;
- (b) Report on validity of dose-response functions for different climatic conditions;
- (c) Report on economic evaluation of corrosion of materials including cultural heritage;
- (d) Report on combined stock at risk and mapping for Italy at the national level;
- (e) The twenty-sixth meeting of the Programme Task Force, tentatively scheduled to be held from 14 to 16 April 2010 in London, and the submission of its report.

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) Final report on nutrient effects of nitrogen deposition to acid sensitive surface waters;
- (b) Report on recovery from acidification: trends in surface water chemistry and biology up to 2008;
- (c) Finalize the revised and updated ICP Waters *Programme Manual*;
- (d) The twenty-sixth meeting of the Programme Task Force, tentatively scheduled to be held in autumn 2010, and the submission of its report.

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) and the 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 will be carried out.

Main activities and time schedule:

- (a) Report on comparing trends in sulphur and nitrogen deposition with deposition modelled by the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP);
- (b) Report on links between trends in sulphur and nitrogen deposition, soil acidification and eutrophication and vegetation effects;
- (c) Report on the development of acidification and eutrophication of forest soils under different deposition scenarios;
- (d) The twenty-sixth meeting of the Programme Task Force to be held from 29 May to 2 June 2010 in Garmisch-Partenkirchen, Germany, and the submission of its report.

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; 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) Report on ozone biomonitoring experiment with bean in 2009;
- (b) Report on ozone impacts in Mediterranean areas;
- (c) Review of ozone flux modelling methods and their application to different climatic regions;
- (d) Report on the workshop on flux-based assessment of ozone effects for air pollution policy;
- (e) Progress report on European heavy metals and nitrogen in mosses survey 2010;
- (f) Report on the relationship between heavy metal concentration in mosses and deposition modelled by EMEP;
- (g) The twenty-third meeting of the Programme Task Force, tentatively scheduled to be held from 1 to 3 February 2010 in Tervuren, Belgium, and the submission of its report.

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) Final report on the calculation of site-specific critical loads for acidification and eutrophication;
- (b) Progress report on biodiversity issues;
- (c) Eighteenth meeting of the Programme Task Force, tentatively scheduled to be held in May 2010, and the submission of its report.

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 exceedances 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, the ICPs and EMEP. The Coordination Centre for Effects (CCE, at the Netherlands Environmental Assessment Agency, Bilthoven, Netherlands) provides scientific and technical support to the Task Force and to other effects-related activities. It develops methods and models for calculating critical loads and levels and for other effects-based approaches, and 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) Progress report on indicators linking air pollution and multiple effects, in particular related to reactive nitrogen, and their application within the GAINS (Greenhouse Gas and Air Pollution Interactions and Synergies) model and in ex-post integrated assessment (in collaboration with ICPs and the Task Force on Reactive Nitrogen);
- (b) Report on the call for input data for the dynamic modelling of vegetation change;
- (c) Report on the revision of methods and data to derive empirical critical loads, including a workshop in collaboration between the CCE, Germany and Switzerland, and its report;
- (d) The twenty-sixth meeting of the Programme Task Force and twentieth workshop of the Coordination Centre for Effects, to be held from 19 to 23 April 2010 in Paris, and the submission of the two respective reports.

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 WHO/European Centre for Environment and Health (ECEH) and the Executive Body, led by the WHO/ECEH Bonn Office, evaluates and assesses the health effects of long-range transboundary air pollution and reports on the subject.

Main activities and time schedule:

- (a) Progress report on health impacts of particulate matter and ozone;
- (b) Review report of the evidence on impacts of various air pollution management options on health;
- (c) Reporting on monitoring and modelling of health effects of air pollution;
- (d) The thirteenth meeting of the Task Force on the Health Aspects of Air Pollution, tentatively scheduled to be held on 26 and 27 April 2010 in Bonn, Germany, and the submission of its report.

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. The Joint Expert Group on Dynamic Modelling, led by the United Kingdom and Sweden, brings together experts from these programmes to share knowledge and produce joint reports on all aspects of dynamic modelling.

Main activities and time schedule:

- (a) Examine progress in dynamic modelling of acidification and nutrient nitrogen, including the interactions between climate change and air pollution, biological response and terrestrial carbon sequestration;
- (b) Report of the tenth meeting of the Joint Expert Group to the twenty-ninth session of the Working Group on Effects in September 2010;
- (c) The eleventh meeting of the Joint Expert Group, tentatively scheduled to be held in autumn 2010, and the submission of its report.
