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**ECONOMIC COMMISSION FOR EUROPE**

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

Working Group on Strategies and Review

Forty-second session  
Geneva, 1–5 September 2008  
Item 5 of the provisional agenda

**FOLLOW-UP ON THE REVIEW OF THE PROTOCOL ON HEAVY METALS**

Report by the Chair of the Task Force on Heavy Metals

1. This report, mandated by item 1.6 of the 2008 workplan for the implementation of the Convention (ECE/EB.AIR/91/Add.2) and Executive Body decision 2004/2, presents the results of the fifth meeting of the Task Force on Heavy Metals, held from 4 to 6 June 2008 in London and, in its annex, the conclusions from its Workshop to Promote the Ratification of the Protocol on Heavy Metals across the Entire UNECE Region, held from 14 to 16 May 2008 in Yerevan.
2. Ms. K. Kraus (Germany) chaired the meeting, which was hosted by the United Kingdom.
3. Experts from the following Parties to the Convention attended the meeting of the Task Force: Austria, Belarus, Bulgaria, Canada, the Czech Republic, Finland, France, Georgia, Germany, Italy, the Netherlands, Norway, Poland, Spain, Sweden, Ukraine, the United Kingdom of Great Britain and Northern Ireland, and the United States of America. The United Nations Environment Programme (UNEP) was represented at the session. Also present were

representatives from the Dutch Information Centre for the Environment (InfoMil), the Lead Development Association International, the International Cadmium Association, and the Meteorological Synthesizing Centre-East (MSC-E) of EMEP<sup>1</sup> and the Stockholm Environment Institute at York (SEI-Y). A member of the UNECE secretariat also attended.

4. Mr. M. Williams, the Chair of the Executive Body, opened the meeting on behalf of the United Kingdom's Department of Environment, Food and Rural Affairs (DEFRA), drawing attention to the main tasks to be accomplished by the Task Force in accordance with the decisions of the Executive Body at its twenty-fifth session.

## **I. OBJECTIVES AND SUMMARY OF THE MAIN CONTENTS OF THE MEETING**

5. In line with the 2008 workplan of the Convention, the Task Force focused in particular on:

(a) Considering, from a technical point of view, options for updating best available techniques (BAT) in line with state-of-the-art technologies for the reduction of emissions from heavy metals, and for including adequate flexibility in management options, in particular with a view to increasing ratifications;

(b) Identifying potential barriers from a technical point of view in annex IV of the Protocol, with the view to increasing ratifications;

(c) Considering the outcomes of a workshop held in Yerevan (14-16 May 2008) to promote the ratification of the Protocol, to assess needs and constraints related to implementation and to recommend future action (see annex);

6. The information presented and discussed at the meeting of the Task Force is summarized below. The background papers and presentations are available on the Task Force website at: <http://www.unece.org/env/wgs>.

(a) A representative of the Convention secretariat reviewed the conclusions made by the Working Group on Strategies and Review and the Executive Body at their recent meetings, including on the Task Force's mandate, and presented activities undertaken under the Convention to promote ratifications of the protocols by the countries in Eastern Europe,

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<sup>1</sup> The Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe.

Caucasus and Central Asia (EECCA) and South-Eastern Europe (SEE). These included: (i) the UNECE CAPACT<sup>2</sup> project implemented during the period 2004–2007 to build capacity for air quality management and for developing monitoring in Central Asia; (ii) the adoption and implementation of an EECCA action plan (ECE/EB.AIR/WG.5/2007/17); and (iii) the preparation of implementation guides for the three most recent protocols to the Protocols (i.e. the Protocol on Heavy Metals, the Protocol on Persistent Organic Pollutants (POPs) and Gothenburg Protocol<sup>3</sup>), to be made available in English and in Russian by the end of 2008. Furthermore, the Parties and Convention bodies had been urged to: (i) identify funds for organization of training workshops; (ii) to assist countries in development of national implementation plans; (iii) to make more material available in Russian; and iv) to financially assist the participation of delegates from EECCA and SEE countries in the Convention's meetings;

(b) Mr. I. Ilyin (EMEP/MSC-E) presented information about the available emission data of lead (Pb), cadmium (Cb) and mercury (Hg), as well as about the activities carried out under EMEP to assist countries in EECCA, involving the extension of the EMEP domain to cover Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan as well as the expansion of the monitoring network and the model calculations of transboundary transport over the extended EMEP domain. In addition, Mr. Ilyin presented possible further EMEP activities that could be undertaken to address the needs expressed by representatives of EECCA countries at the Yerevan workshop, including: (i) increasing the exchange of information between EMEP and the national experts, e.g. by means of a webpage (or a "clearing house") in Russian; (ii) organization of training workshops on emission inventories and on monitoring issues; and (iii) preparing relevant materials in Russian;

(c) Mr. M. Jakubowski (Nofer Institute of Occupational Medicine of Poland) presented findings from the 2007 WHO<sup>4</sup> publication, *Health risk of heavy metals from long-range transboundary air pollution*<sup>5</sup>, which he had contributed to preparing. He stressed that exposure to methylmercury was particularly dangerous for young children and pregnant women. In addition, he pointed out the evidence on increasing levels of methylmercury in marine fish

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<sup>2</sup> Capacity Building for Air Quality Management and the Application of Clean Coal Combustion Technologies in Central Asia, financed from the UN Development Account. Further information on CAPACT is available at: <http://www.unece.org/ie/capact/>.

<sup>3</sup> The 1999 Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone.

<sup>4</sup> World Health Organization.

<sup>5</sup> Available at: [www.euro.who.int](http://www.euro.who.int).

and mammals in the Arctic as an indication of the impact of a long-range transport of Hg emissions. Moreover, although fish consumption in general has important beneficial effects for human health, in some populations that consume large amounts of fish, the intake of Hg can reach hazardous levels. Cadmium and lead were reported to be persistent in the environment and subject to bioaccumulation in food chains. Mr. Jakubowski concluded that reducing the emissions into the atmosphere and long-range transport of pollution would be of great importance;

(d) Mr. M. Ashmore (United Kingdom) presented a joint project of the SEI-Y and of the United Kingdom's Centre for Ecology and Hydrology, which aimed at evaluating the benefits of reductions in heavy metal emissions over time. To appropriately assess the qualitative and, if possible, quantitative information on ecosystem benefits of the reduction measures, the project would consider dynamics of responses of environmental concentrations of the metals of concern, and hence their impacts. Under the project, the exceedance of critical loads would not be considered in isolation in evaluating the need for policies to reduce deposition of metals, but would be evaluated alongside information on exceedance of critical limits and the results of simple dynamic models. He stressed the very long-term effects of the deposition of heavy metals in soils;

(e) Mr. J. Whitelaw (UNEP), reported on the UNEP Global Mercury Partnership and the related six strategies concerning Hg, Cd and Pb, as well as on the work of an ad hoc open-ended working group of Governments that had been set up to review and to assess options for enhancing the voluntary measures and those for possible negotiation of an international legal instrument on Hg. The report from the Group would be available in August 2008. Finally, he informed the meeting about the updating of the report on atmospheric emissions that would be published in late 2008 for consideration by the UNEP Governing Council at its twenty-fifth session in February 2009;

(f) The Chair of the Task Force reported on the outcomes of the Yerevan workshop (14–16 May 2008). She stressed that the workshop had been successful in terms of participation, networking and exchange of information and experience between the members of the Task Force and the representatives from EECCA and SEE, and that it could constitute the first in a series of similar future events possibly focusing on specific topics of relevance to the Protocol. The Chair encouraged the experts to explore opportunities to fund or to co-fund further workshops in the region. As part of its main conclusions, the Yerevan workshop had highlighted that adding flexibility into the Protocol obligations with respect to countries with economies in transition would facilitate their ratification process. In line with this conclusion, workshop participants had put forward a list of recommendations and proposals for follow-up activities and assistance. (See the full report of the workshop in the annex to the present report.)

(g) On the basis of the replies to the questionnaire survey carried out by the secretariat among the non-Parties to the protocols and the additional information gathered at the Yerevan workshop, Mr. J. Sliggers (Netherlands) summarized the difficulties expressed by the countries in EECCA and SEE vis-à-vis implementing the Protocol on heavy metals as well as the POPs and the Gothenburg protocols. These difficulties related to: (i) political interest; (ii) insufficient administrative capacity; (iii) a need for further financial means, technical assistance and implementation guidance; and (iv) different approaches to BAT and emission limit values (ELVs). Mr. Sliggers reviewed the basic obligations under the Protocol on Heavy Metals and its annexes as well as presented possibilities for relaxing them for EECCA and SEE countries through adding flexibility in terms of timescales, levels (emission ceilings and ELVs) and scope (e.g. applying obligations only to new or stationary sources);

(h) Mr. V. Morozov (Ukraine) and Mr. A. Pilipchuk (Belarus) reported on the national emissions of heavy metals as well as existing obstacles and next steps to be taken for the implementation and ratification of the Protocol in their respective countries, as follows:

(i) Mr. Morozov explained that Ukraine was a highly industrialized country but had great difficulties in controlling the heavy metals emissions because of the high investment costs for the abatement measures and the lack of capacity to enforce them. He highlighted the current importance given to the harmonization of the Ukrainian legislation with that of the EU and stressed the differences in methodologies of sampling and monitoring of data;

(ii) In Belarus, the national preparatory steps for acceding to the Protocol, included the preparation of a national action plan, a detailed inventory of heavy metals emissions, definition of the main sources of pollution, characterization of the trends of the heavy metals emissions, scientific research, expert evaluation and estimation of critical loads and the development and improvement of a monitoring system and a database. Mr. Pilipchuk assured participants that the political will for ratifying the Protocol existed, but that the country lacked the expert advice and support for accomplishing the national preparatory steps. The current economic growth and the ensuing increase in emissions of air pollutants made it particularly difficult for Belarus to fulfil all the obligations;

(i) Ms. N. Allemand (France) informed the Task Force about the work assigned to the Expert Group on Techno-economic Issues for the revision of the annexes to the Gothenburg Protocol (annexes IV, V and VI specifying limit values for sulphur, nitrogen oxides and volatile organic compounds (VOCs) for stationary sources, and annex VIII setting limit values for

mobile sources) and of the guidance documents on control techniques for the emissions of sulphur, nitrogen and VOCs from stationary and selected mobile sources, as well as on economic instruments. In addition, the Expert Group had been mandated to draft an annex on limit values for emissions of particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>) from stationary sources, in collaboration with the Task Force on Particulate Matter. The Task Force had been invited to consider the possibilities for contributing to this work regarding PM;

(j) Mr. M. Suhr (Germany) presented in detail proposals of elements for updating annex III to the Protocol, on BAT for controlling emissions of heavy metals for major stationary sources, as well as proposals for including new sources into the Protocol. The proposals were based on the background report agreed on by the Task Force in 2006<sup>6</sup> during the sufficiency and effectiveness review, as well as on other documents prepared since then. In addition to presenting the proposals orally, Mr. Suhr had summarized them in a document he had made available in advance to the meeting, entitled “Options for updating BAT from a technical point of view and implications for other annexes” (available on the the Task Force website).

## II. CONCLUSIONS ON OPTIONS FOR FURTHER REDUCING EMISSIONS OF HEAVY METALS

### A. Options for increasing the flexibility in the Protocol on Heavy Metals to promote its ratification

7. In line with the work plan of the Convention, and with a view to increasing ratifications of the Protocol by EECCA and SEE countries, the Task Force on Heavy Metals identified obligations in the annexes to the Protocol which were perceived as the most difficult for EECCA and SEE countries to implement. Furthermore, it identified options for including adequate flexibility in the Protocol and its annexes that could be considered by the Working Group on Strategies and Review at its forty-second session.

8. The Task Force put forward options for relaxing the basic obligations in the Protocol, as follows:

(a) Base year. Definition of a base year for the period 1985–1995 was deemed difficult for most of the non-Parties due to the lack of data and the profound changes in the

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<sup>6</sup> “Assessment of technological developments: best available techniques and limit values”, available at: [http://www.unece.org/env/tfhm/third%20meeting/Background\\_BAT-ELV\\_060407.doc](http://www.unece.org/env/tfhm/third%20meeting/Background_BAT-ELV_060407.doc).

economic and political situation that had taken place during this period. Therefore, the Task Force put forward the following options:

- (i) Allow new Parties to specify the reference year for the calculation of emission reduction in their instrument of ratification, acceptance, approval or accession, without this being restricted to the 1985–1995 period;
  - (ii) No base years, but requirements to reduce emissions;
  - (iii) Require improvement of the national emission inventories prior to the definition of the base year;
- (b) Inclusion of ELVs in the national legislation. Include no obligation to implement ELVs in the national legislation for industrial sectors that do not exist in the ratifying country (Note: However, if a new category is added into the Protocol, ELV should be included into national legislation);
- (c) Transition periods for BAT and ELVs. Allow transition periods (taking into account the national economical conditions) for the implementation of BAT and ELVs for the existing sources;

## **B. Technical options for updating best available technologies**

9. The Task Force considered from a technical point of view options for updating BAT in line with state of the art technologies for the reduction of emissions from heavy metals. In addition, it considered their potential implications for the other annexes.

10. The Task Force put forward the following technical options for updating BAT for consideration by the Working Group on Strategies and Review at its forty-second session:

- (a) Annex III:
  - (i) Updating BAT would be technically feasible for all sources, in line with the work carried out by the Task Force during and since the 2006 sufficiency and effectiveness review (see in particular the 2006 background document and other documents available on the website of the Task Force);
  - (ii) New sources had been identified during the sufficiency and effectiveness review that were important for heavy metal emissions but currently not included

in the annex III (manganese production and secondary aluminium production). If these sources were added to the Protocol, the corresponding BAT for them could be updated accordingly;

(b) Potential implications for other annexes of the updates to BAT:

(i) Annex II: Implications of the identified new sources to this annex should be assessed and taken into account (see para. 10 (a) (ii) above);

(ii) Annex IV: time frames needed adjustments (to increase flexibility and due to addition of new dates);

(iii) Annex V: As a result of the updating of the BAT, it was technically feasible to update ELVs.

**C. Input from the Task Force for the regulation of particulate matter by the Expert Group on Techno-economic Issues under the revised Gothenburg Protocol**

11. At its forty-first session, the Working Group on Strategies and Review had mandated the Expert Group on Techno-economic Issues, in collaboration with the Task Force on PM, to propose how to address PM (PM<sub>2.5</sub> and PM<sub>10</sub>) in an annex to the Gothenburg Protocol, and had invited the Task Force on Heavy Metals to consider the possibilities for the Task Force's contributions to this work, as needed.

12. The Task Force agreed to provide information to the Expert Group relevant to PM sources to be regulated under a revised Gothenburg Protocol, and to assist it as needed;

13. In accordance with the decision of the Working Group, primary PM would be incorporated into the revised Gothenburg Protocol and 10 of the 11 source categories of the Protocol on Heavy Metals would be covered by the revised Gothenburg Protocol. The Task Force considered the potential implications of this decision to the Protocol on Heavy Metals and on the Task Force's future work. It estimated that: (a) inclusion of six sources (out of the eleven sources) was driven by the necessity to control PM; and (b) inclusion of four sources was driven by the necessity to control both PM and Hg.

14. The Task Force recommended that PM be addressed in a holistic manner (considering for example that some sources have considerable Hg emissions), and taking into account the relationship between PM<sub>2.5</sub> and PM<sub>10</sub> and total suspended particles;



15. The Task Force invited the Working Group to provide its views on the future of the Protocol as well as on the role of the Task Force.

### **III. FURTHER WORK OF THE TASK FORCE ON HEAVY METALS**

16. Following discussion on its further work, the Task Force on Heavy Metals:

(a) Agreed to carry out further work in 2009 as required by the Executive Body on the basis of the recommendations of the Working Group on Strategies and Review. The Task Force could continue exploring options for a revised or a new Protocol on Heavy Metals, should such a mandate be provided on the basis of the work presented in chapter II of the present document;

(b) Proposed organizing a follow-up workshop in an EECCA country to discuss further the specific challenges identified regarding implementation of the Protocol's obligations in EECCA and SEE, with a view to promoting the ratification of the Protocol by these countries;

(c) Proposed holding its next meeting in April or May 2009, back-to-back to the second EECCA workshop, so as to increase participation, raise awareness of local policymakers, and better involve experts from EECCA in the activities of the Task Force;

(d) Agreed to assist the Expert Group on Techno-economic Issues as needed, and to provide information relevant to PM for sources of the Protocol on Heavy Metals.

## **Annex**

### **WORKSHOP TO PROMOTE THE RATIFICATION OF THE PROTOCOL ON HEAVY METALS ACROSS THE ENTIRE UNECE REGION**

1. This report was prepared by the Chair of the Task Force on Heavy Metals in cooperation with the secretariat. The workshop took place from 14 to 16 May 2008 in Yerevan. It was organized and financed by the German Federal Environment Agency, and the Armenian Ministry of Nature Protection hosted the meeting.
2. Thirty experts attended the workshop, representing the following Parties to the Convention: Armenia, Belarus, Bulgaria, Germany, Georgia, Kyrgyzstan, Moldova, Montenegro, the Netherlands, the Russian Federation and Ukraine. Also present were representatives of the Coordination Centre for Effects (CCE) and the MSC-East. A member of the UNECE secretariat also attended.
3. Mr. Simon Papyan, First Deputy Minister of Nature Protection, welcomed the participants on behalf of the Armenian Ministry of Nature Protection. Ms. Katja Kraus (Germany), Chair of the Task Force on Heavy Metals, opened the meeting, thanking Armenia for hosting the workshop. She stressed the importance for the countries in EECCA and in SEE to ratify the Protocol on Heavy Metals so as to further reduce emissions of heavy metals, and highlighted the willingness of the Task Force to assist them in these efforts. Mrs. A. Turlikyan (Armenia) chaired the meeting.

#### **I. OBJECTIVES**

4. In recent years, the Convention bodies and Parties have increasingly focused on the needs of countries with economies of transition, acknowledging the serious difficulties they face in complying with the obligations of the protocols in spite of their willingness to accede. It was against this background that Germany provided funding for the Task Force on Heavy Metals to organize a workshop to build capacity and to exchange experiences of EECCA and SEE countries regarding the implementation and ratification of the Protocol on Heavy Metals.
5. The objectives of the workshop were to:
  - (a) Promote the ratification of the Protocol on Heavy Metals in EECCA and SEE;

- (b) Raise awareness and interest of the countries in these regions and involve them further in the activities of the Convention;
- (c) Provide information on the Protocol's requirements and on the technical and legal measures needed for their implementation;
- (d) Supply information on exceedance of heavy metals' critical loads (impacts on health and environment) in the EECCA and SEE subregions;
- (e) Provide information on the relevant guidance materials and other sources of information, on support mechanisms and funding opportunities available to assist countries to ratify and implement the Protocol, and on the benefits to be gained from acceding to the Protocol;
- (f) Exchange experiences and identify difficulties in the national implementation process within the EECCA and SEE countries;
- (g) Identify future steps towards the implementation of the Protocol;
- (h) Discuss further possibilities of supporting the countries in their efforts to ratify the Protocol.

## **II. SUMMARY OF THE MAIN CONTENTS**

6. The following information was presented and discussed at the workshop:

- (a) The difficulties for EECCA and SEE countries related to the implementation and ratification of the Convention's protocols, as well as the steps to be taken to address these problems under the Convention;
- (b) The main obligations of the protocols, in particular the following basic obligations of the Protocol on Heavy Metals:
  - (i) Emission ceilings: Reduction of total annual emissions of cadmium, lead and mercury from the emission levels in 1990 (or using an alternative base year between 1985 and 1995);
  - (ii) Application of ELVs and BAT to new and existing stationary sources;

- (iii) Application of control measures on products such as unleaded gasoline and batteries;
  - (iv) Development and maintenance of inventories of emissions and projections (for Cd, Pb and Hg);
  - (v) Reporting obligations on emissions (yearly) and on strategies and policies (biennial);
- (c) Experiences in transposing the obligations of the Protocol into national law;
- (d) Evaluation of concentrations of air pollutants and depositions of heavy metals over the EECCA subregion;
- (e) Technical measures to reduce heavy metal emissions;
- (f) Emission reductions and control costs in the European territory of the UNECE region;
- (g) Critical loads and exceedance in SEE and EECCA countries.

### **III. CONCLUSIONS AND RECOMMENDATIONS**

#### **A. General conclusions**

7. The participants appreciated the openness of the debate during the workshop. They welcomed the opportunity to exchange experiences and to address difficulties in ratifying the Protocol on Heavy Metals, which were similar for many countries in EECCA and SEE subregions. A number of the Protocol's obligations were perceived as too challenging, and therefore hindering the ratifications of the instrument by these countries. The workshop recommended that the specific needs and concerns of the countries with economies in transition be better taken into account within the possible future revision of the Protocol's obligations.

8. The workshop contributed to confirming and supplementing the information received through the questionnaire to EECCA and SEE countries on the implementation and ratification of protocols to the Convention, sent out by the secretariat. This information can be summarized as follows:

(a) To facilitate the national preparatory steps for ratifying the Protocol, EECCA and SEE countries need technical assistance, guidance on implementation and methodologies on emission inventories and ELVs;

(b) Emission inventories and activity data in EECCA and SEE countries were based on statistics which differed significantly from that in use in other UNECE member countries. Moreover, in some cases these statistics were no longer available. This caused difficulties with regard to the definitions of the baseline for the emission ceiling under the Protocol;

(c) Many EECCA and SEE countries have a different approach or methodology for applying BAT and ELVs (weight/time or weight/production unit), as compared to the approach in use by Parties under the Convention protocols ( $\text{mg}/\text{m}^3$ );

(d) The Protocol's time frames for introducing ELVs and BAT for existing stationary sources were too limited to be transposed into national regulations;

(e) BAT and ELVs for mobile sources were not compatible with the national legislation in place in many EECCA and SEE countries;

(f) Many countries lacked of supportive administrative capacity for the implementation activities;

(g) Political interest at the highest level was insufficient or lacking in many of the countries;

(h) Financial support for institution-building within the environmental administration and for industrial restructuring was considered essential.

9. On the final day of the workshop, the experts presented problems encountered at the national level with regard to the implementation of the Protocol and suggested solutions that could contribute to speeding up its ratification. Some of the more unexpected challenges raised vis-à-vis ratification related to waste disposal of Hg-polluted activated carbon, to considerable amounts of not treated heavy metals containing waste and to the (unauthorized) use of leaded petrol. Participants recommended steps to be undertaken by their own Governments independently as well as actions that could be accomplished in cooperation with the current Parties to the Protocol and with the secretariat. The participants agreed that adding flexibility to the Protocol obligations for countries with economies in transition would facilitate their efforts to ratify the Protocol.

10. Many of the problems facing the EECCA and SEE countries relating to the implementation of the current obligations of the Protocol were similar, because in most of them domestic legislation was still based on the former air pollution legislation of the Soviet Union as well as on the methodologies and statistics used under the Soviet regime. Moreover, the economical and political changes since the dissolution of the Soviet Union made it difficult for them to derive emission ceilings, especially with respect to base years.

11. The workshop agreed on key findings and conclusions on a number of specific issues, problems and difficulties encountered as well as suggested possible solutions and future work. These findings and conclusions are summarized in the sections B to I below.

## **B. Emission ceilings and inventories**

12. The workshop concluded that:

(a) Emission inventories of EECCA and SEE needed to be improved and the methodological approach harmonized with the one used under the Convention and its protocols;

(b) For the improvement of the data, a common methodology and reference methods for the monitoring of the emissions were needed. As most of the EECCA and SEE countries shared similar problems, they could join forces to develop a common methodology or an inter-State standard for the implementation of the emission inventories relevant to the Protocol on Heavy Metals and to other protocols;

(c) Further guidance on how to report activity and emission data to EMEP was needed. The workshop appreciated the offer made by the Russian Federation to present and share emission data for the entire Russian territory, as well as for previous years for the former Soviet Union;

(d) The revised *Guidebook on Emission Inventories* should be translated into Russian. The quality of the Russian translation should be checked by Russian-speaking experts.

## **C. Emission limit values**

13. The workshop concluded that:

(a) The relevant EECCA and SEE emission standards and national environmental regulations needed to be compared and harmonized with the provisions of the Protocol on Heavy Metals and other protocols to the Convention;

(b) The development of a common methodology and reference methods were necessary for the implementation of the ELVs of the Convention protocols through national legislation. A common methodology for the implementation of ELVs could be developed through joint work by EECCA and SEE countries.

#### **D. Best available techniques**

14. The workshop concluded that:

(a) Currently, most of the EECCA and SEE countries lacked a mechanism for the introduction and implementation of BAT in the national legislation. Therefore, it was necessary to harmonize the relevant national legislation with international regulations to implement BAT;

(b) For the introduction and implementation of BAT obligations in the national legislation, countries in EECCA and SEE should jointly develop a common methodology and reference methods;

(c) To assist EECCA and SEE countries in the application of BAT, translation of the Reference Documents on Best Available Techniques (BREFs) of the European Union (or parts of them) would be useful, as these would provide tools for industries and national ministries and agencies to evaluate the appropriate methods to be used.

#### **E. Air-quality monitoring and modelling**

15. The workshop concluded that:

(a) Although monitoring of the air quality was not a basic obligation of the Protocol on Heavy Metals or of other protocols to the Convention, countries were, for many reasons, keen on having monitoring stations in their national networks and taking part in the EMEP monitoring network. The countries in EECCA and SEE needed assistance to improve the national monitoring systems and to upgrade monitoring stations to allow for sampling and analysis of the heavy metal components, e.g. by atomic absorption spectrophotometry. It would be important to extend the operations of one or more of the domestic monitoring stations to include EMEP monitoring, to calibrate the national network and to increase the availability of (the currently scarce) data from the EMEP stations in the EECCA and SEE subregions. This would also be beneficial for modelling activities under EMEP. The workshop noted with appreciation the already existing donor and methodological assistance for the development of the monitoring

network in the EECCA and SEE, provided for example by the Chemical Coordinating Centre (CCC) of EMEP and by Norway;

(b) EECCA and SEE countries would need to jointly develop a common methodology and reference methods for monitoring of emissions and air quality, possibly in collaboration with CCC. In addition, participants expressed a need for guidance on how to report monitoring data to CCC;

(c) Activities of EMEP to assist EECCA countries were useful, in particular the extension of the EMEP domain eastwards to include all Central Asian countries in regular model calculations of heavy metals atmospheric transboundary transport. A further extension of the model into a global EMEP model would improve the calculations of concentrations, deposition and transboundary fluxes in the EMEP domain. Improvement of the emission data from EECCA and SEE was seen necessary. Furthermore, MSC-East would welcome non-official information or expert estimates on emissions, measurements and soil concentrations of heavy metals available in EECCA and SEE countries.

16. The workshop took note of the offer from CCE (the Coordination Centre for Effects) to review data from EECCA and SEE regarding critical loads, noting also that this had so far only tentatively been assessed by CCE, and opportunities should be sought to build the capacity of experts from EECCA and SEE countries. The objective of capacity-building activities would be to establish National Focal Centre capabilities in these countries, to allow them to collaborate on effect oriented activities under the Working Group on Effects.

#### **F. Flexibility of the Protocol(s)**

17. The workshop concluded that:

(a) Many obligations of the Protocol on Heavy Metals and other protocols were difficult to meet for EECCA and SEE countries. Ratification of the Protocol would be easier for these countries if their situation and specific needs had been initially reflected within the Protocol text;

(b) To ease the ratification of the Protocol on Heavy Metals for EECCA and SEE countries, the following options to increase the flexibility of the Protocol obligations could be considered by the current Parties within the possible revision of the Protocol:

(i) Allowing for less stringent emission ceilings and ELVs;



- (ii) Making the provisions non-binding for some individual sectors or existing sources;
- (iii) Extending the timeline for reaching emission ceilings and ELVs;
- (iv) Allowing for the implementation of BAT and ELVs only for the sources existing in a country. Not having to implement BAT and ELVs for all sources of the protocols would be particularly helpful for the smaller countries;
- (v) Gradually strengthening the Protocol's obligations for countries with economies in transition.
- (vi) Negotiating a new Protocol that included differentiated obligations or annexes for North America, for Western Europe and for EECCA and SEE countries; in view of the number of participants, it would be easier to reflect the needs of the EECCA and SEE through the negotiation of a new Protocol than through revising the obligations of the current Protocol.

#### **G. Waste issues**

18. The workshop concluded that:

- (a) Assistance and guidance would be needed to define and implement a mechanism for the safe disposal or recycling of hazardous waste, in particular to:
  - (i) Secure safe storage of waste or the manage hazardous waste (e.g. accumulators), for which a common methodology and integrated approach was needed;
  - (ii) Ensure safe disposal of Hg-containing lamps;
  - (iii) Re-use and dispose of the harmful components in used catalytic converters. To this end, methodological guidance would be needed;
  - (iv) Ensure disposal of dust from electrostatic precipitators and fabric filters containing heavy metals, and of activated coal containing Hg;
  - (v) Neutralize the environmental impact of Hg.

(b) Assistance was needed in some EECCA countries for the disposal of significant quantities of heavy metal-containing waste.

## **H. Financial and other support**

19. The workshop noted the information provided on the EECCA Action Plan adopted under the Convention and on a number of activities that were financed by the donor countries through the Convention's Trust Fund or bilaterally, including through (a) covering the costs for representatives from these countries to participate at the meetings under the Convention, (b) organization of capacity-building workshops, (c) development of implementation guides, and (d) translation of documentation into Russian (see also para. 6 (a) of the present report). The workshop noted a three-year project financed by the Netherlands (with a budget close to €700,000) to assist the Governments of five SEE countries in implementing and ratifying the three most recent protocols to the Convention (the Protocols on POPs and Heavy Metals and the Gothenburg Protocol). The countries were invited to express their needs as well as to request help in identifying financial assistance for specific projects at the meeting of the Convention bodies and through contacting the secretariat.

20. The workshop concluded that:

(a) In general terms, to promote implementation of the obligations of the Protocol on Heavy Metals and the other protocols in EECCA and SEE, financial support would be needed for two main purposes:

(i) For technical questions (e.g. implementing ELVs, BAT and monitoring);

(ii) For building and maintaining capacity in governmental institutions, with a view to ensuring adequate permitting, implementing and controlling of improvements in national air-quality management. Institution-building could involve bilateral projects between a Western European country or European Commission and an EECCA or SEE country.

(b) Other necessary support involved: (i) organization of capacity-building workshops; (ii) guidance and assistance for the preparation of national implementation plans; (iii) identification of a focal point for EECCA and SEE countries, to facilitate communication with representatives of the Convention bodies and of the Governments; and (iv) translation of documentation into Russian.

### **Further workshops**

21. Participants considered it important to ensure follow-up to the workshop, so as not to lose momentum. They recommended continued capacity-building workshops on a regular basis in an EECCA country to address specific topics of the Protocol, emission inventories, ELVs, BAT, etc., with the assistance and/or participation of the Task Force on Heavy Metals. Donor countries were invited to consider possibilities to fund similar workshops in the future. (The cost of the Yerevan workshop amounted to approximately €25,000.)

22. The participants welcomed the invitation to take part in the meetings of the “Working group on scientific and informational exchange in the field of atmospheric air protection” set up and coordinated by the Scientific Research Institute for Atmospheric Air Protection (SRI Atmosphere) of the Russian Federation. The platform provided by the working group could be used increasingly, in particular for discussing methodological aspects of amending the former Soviet Union air pollution legislation by the EECCA and SEE countries. The working group’s next meeting would be held at the end of September 2008 in Eupatoria, Ukraine. In February 2009, SRI Atmosphere could host a follow-up workshop to the Yerevan workshop in St. Petersburg within the framework of the “Atmosphere 2009” Conference.

### **National implementation plans**

23. Participants from a number of EECCA and SEE countries expressed the need for assistance in preparing national implementation plans for ratification of the Convention’s protocols; these involved assessment of their capacities to fulfil the Protocol’s obligations as well as guidance on the steps to be taken to fully implement the Protocol’s obligations, inter alia, to determine the need for changes in domestic legislation or administrative practice, specify the responsible authorities for the implementation of the obligations as well as coordination mechanisms for shared responsibilities, determine administrative arrangements, and assess the capacity of existing enforcement structures and needs for training and enforcement tools. To these ends, the development of a regionwide capacity-building project for non-Parties from the EECCA and SEE subregion would be welcomed.

### **EECCA and SEE focal point**

24. Workshop participants considered it useful to identify a contact person or focal point for the EECCA and SEE countries, to consult about, inter alia, data collection, data transmission (e.g. the activity data, emissions and emission projections and monitoring), and to whom they could address further requests (e.g. concerning the establishment of an EMEP monitoring station). Participants recommended that funds or twinning arrangements for funding a post of

focal point be identified, which could be based either at the Convention secretariat in Geneva or at MSC-East in Moscow.

### **Translation of documents**

25. The workshop participants emphasized the urgent need for translation of important documentation, especially the implementation guides, into Russian. The Russian Federation could possibly assist with the translations and with checking the quality of the translated texts. Participants recommended establishing a technical body or working group that would be responsible for controlling the quality of the translations carried out outside of the United Nations document processing services.

#### **I. Raising political awareness in EECCA and SEE countries**

26. Participants acknowledged that political support at a high level was a prerequisite for effective implementation of legal commitments by governmental institutions. The generally low interest of the public and politicians in environmental matters and the absence of national strategies for ratification of the Protocols in EECCA and SEE were considered problematic. To move things forward, the workshop recommended actions aimed at increasing political will and public awareness, including through highlighting (if possible in monetary terms) the explicit public health and environmental benefits to society that accompany accession to the Protocol on Heavy Metals and to other protocols.

27. The workshop considered it important to highlight that the reduction of heavy metal emissions would also result in a reduction of PM, which would positively demonstrate the clear relationship between improvement of air quality and human health. WHO work as well as studies under the Convention and by the European Union and the United States all showed a positive benefit-to-cost ratio. Cost-benefit analysis calculations of measures to abate air pollution indicated that air pollution abatement was well worth it.

28. Another means proposed for boosting political interest in EECCA and SEE countries was hold, in 2009 in one of these countries, the next Executive Body or other high-level meeting, possibly accompanied by a signing ceremony for a protocol. This event could last up to two weeks and could encompass technical workshops on emission inventories, ELVs, BAT and air-quality monitoring, as well as events of high-level political interest focusing on environmental problems and ways to solve them, through implementation of protocols to the Convention.

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