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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 of Air Pollutants in Europe

Working Group on Effects

Fourth joint session
Geneva, 10–14 September 2018

Report of the fourth joint session of the Steering Body to the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe and the Working Group on Effects

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I. Introduction

1. The Steering Body to the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) and the Working Group on Effects under the United Nations Economic Commission for Europe (ECE) Convention on Long-range Transboundary Air Pollution (Air Convention) held their fourth joint session in Geneva, from 10 to 14 September 2018.

A. Attendance

2. The session was attended by representatives from the following Parties to the Convention: Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Cyprus, Czechia, Denmark, European Union, Finland, France, Georgia, Germany, Hungary, Ireland, Italy, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Netherlands, North Macedonia, Norway, Poland, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Spain, Sweden, Switzerland, Ukraine, United Kingdom of Great Britain and Northern Ireland and United States of America. A delegate from Tajikistan also attended the meeting.

3. Also participating were representatives of the following five EMEP centres: the Chemical Coordinating Centre (CCC); the Centre for Integrated Assessment Modelling (CIAM); the Centre on Emission Inventories and Projections (CEIP); the Meteorological Synthesizing Centre-East (MSC-E); and the Meteorological Synthesizing Centre-West (MSC-W). Representatives from the following scientific centres and bodies under the Working Group on Effects participated: the International Cooperative Programme on Modelling and Mapping of Critical Levels and Loads and Air Pollution Effects, Risks and Trends (ICP Modelling and Mapping) and its Coordination Centre for Effects (CCE); the Joint Expert Group on Dynamic Modelling (JEG DM); the Joint Task Force on the Health Aspects of Air Pollution (Task Force on Health); the Programme Centre of the International Cooperative Programme on Assessment and Monitoring of the Effects of Air Pollution on Rivers and Lakes (ICP Waters); the Programme Centre of the International Cooperative Programme on Effects of Air Pollution on Materials, including Historic and Cultural Monuments (ICP Materials); the Programme Centre of the International Cooperative Programme on Effects of Air Pollution on Natural Vegetation and Crops (ICP Vegetation); the Programme Centre of the International Cooperative Programme on Integrated Monitoring of Air Pollution Effects on Ecosystems (ICP Integrated Monitoring); and the Programme Coordinating Centre of the International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests). Also in attendance were the Chairs of the Executive Body and the Working Group on Strategies and Review.

4. Also present were representatives of the following international organizations: the Arctic Monitoring and Assessment Programme (AMAP); the European Commission Joint Research Centre; the European Environment Agency (EEA); the European Environmental Bureau; the Institute for Advanced Sustainability Studies; the secretariat of the Minamata Convention on Mercury; the Network Centre for the Acid Deposition Monitoring Network in East Asia (EANET); the United Nations Environment Programme (UNEP); the World Health Organization (WHO) and its Regional Office for Europe; and the World Meteorological Organization.

B. Organizational matters

5. Ms. Laurence Rouîl (France), Chair of the EMEP Steering Body, and Ms. Isaura Rábago (Spain), Chair of the Working Group on Effects, co-chaired the session. At the

invitation of the Co-Chairs, participants adopted the agenda for the session (ECE/EB.AIR/GE.1/2018/1–ECE/EB.AIR/WG.1/2018/1).[1]

6. The EMEP Steering Body and the Working Group on Effects subsequently adopted the report of their third joint session (ECE/EB.AIR/GE.1/2017/2–ECE/EB.AIR/WG.1/2017/2).

C. Elections of officers

7. Following elections, Ms. Rouîl was re-elected as Chair of the EMEP Steering Body. Mr. Xavier Querol (Spain), Ms. Sonja Vidič (Croatia) and Mr. Rudolf Weber (Switzerland) were re-elected as Vice-Chairs. All Bureau members were elected for a two-year term.

8. Following elections, Ms. Rábago (Spain) was re-elected as Chair of the Working Group on Effects. Ms. Alessandra De Marco (Italy) and Ms. Vidič (Croatia) were elected as new Vice-Chairs, and Ms Sabine Augustin (Switzerland), Mr. Jesper Bak (Denmark), Thomas Dirnböck (Austria) and Ms. Gudrun Schuetze (Germany) were re-elected as Vice-Chairs. All Bureau members were elected for a two-year term.

II. Matters arising from recent meetings of the Executive Body and its subsidiary bodies and activities of the Bureaux of the Steering Body and the Working Group on Effects

9. Presenting highlights of the thirty-seventh session of the Executive Body for the Convention (Geneva, 11–14 December 2017), the Executive Body Chair noted that an ad hoc expert group (policy review group) had prepared a draft policy response to the 2016 assessment report under the Convention,[2] which would provide input to the revision of the long-term strategy for the implementation of the Convention. It was expected that the draft strategy would be discussed and approved by the Executive Body at its thirty-eighth session (Geneva, 10–14 December 2018). Parties provided updates on their progress towards ratification of the three most recent Protocols to the Convention.

10. The Chair of the Working Group on Strategies and Review reported on the Working Group's fifty-sixth session (Geneva, 22–25 May 2018), highlighting the discussions on: progress in the implementation of the 2018–2019 workplan; the status of ratification of the Protocols to the Convention; the update of the long-term strategy for the Convention; information sharing by Parties on good practices in air pollution-related policies, strategies and measures; and the draft revised mandates of the Task Force on Techno-economic Issues and the Task Force on Reactive Nitrogen. With respect to current policy issues, a thematic session on residential wood combustion and air pollution was held.

11. The Co-Chairs presented a summary of the work of the Bureaux of the EMEP Steering Body and the Working Group on Effects (see ECE/EB.AIR/GE.1/2018/9–ECE/EB.AIR/WG.1/2018/20), highlighting the implementation of the 2018–2019 workplan and emerging scientific and budgetary issues.

[1] Information and documentation for the meeting, including informal documents and presentations, is available on the meeting web page: www.unece.org/index.php?id=45539.

[2] United Nations Economic Commission for Europe (ECE), *Towards Cleaner Air. Scientific Assessment Report 2016* (Odder, Denmark, Naryana Press, 2016).

III. Call for data

12. The Co-Chair of ICP Materials provided an update on the ongoing call for data on the inventory and condition of stock of materials at risk at United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites. An assessment had been carried out of the risk of corrosion and soiling due to air pollution for twenty-one unique monuments at sites on the UNESCO World Heritage List located in six countries in Europe: Croatia, Germany, Italy, Norway, Sweden and Switzerland. Limestone corrosion was a risk factor at five monuments, limestone soiling at nine monuments, copper corrosion at six monuments and glass soiling at thirteen of the twenty-one monuments included in the study. Particulate matter (PM_{10}) was identified as a risk factor both for corrosion and soiling of limestone, while nitric acid (HNO_3) was identified only for corrosion. The combined effect of sulphur dioxide and ozone was identified as a risk factor for copper. PM_{10} and nitrogen oxide were identified as important risk factors for soiling of glass at most sites. Output of the EMEP/MSC-W model at the new resolution of 0.1° x 0.1° longitude/latitude had been part of the assessment. The good agreement observed between damage predicted by using local data and modelled data suggested that EMEP data could reasonably be used for similar risk assessments.

13. The EMEP Steering Body and the Working Group on Effects:

(a) Welcomed the information on the considerable progress made regarding the call for data launched by ICP Materials;

(b) Noted that the risk assessment report was useful for further assessment of the cost of material damage at UNESCO World Heritage Sites.

IV. Progress in activities in 2018 and further development of effects-oriented activities

A. Air pollution effects on health

14. A representative of the Task Force on Health/WHO provided highlights of the twenty-first meeting of the Task Force (Bonn, Germany, 16 and 17 May 2018), which had focused on updates on: relevant national and international policies; progress in research on health impacts of air pollution; communication and public health messages for air pollution, methods, tools and capacity-building; and activities under the 2018–2019 workplan. Achievements had included progress in the update of the WHO global air quality guidelines. The meeting had also discussed progress in research on health impacts of air pollution, including member States' work on nitrogen oxide in the context of health impact. Moreover, a new study on the Global Exposure Mortality Model and modelled future air quality in Europe had been presented. Regarding the implementation of the Declaration of the Sixth Ministerial Conference on Environment and Health, "improving indoor and outdoor air quality for all" remained a priority for action in member States, including the implementation of the Convention and the promotion of ratification and implementation of its relevant Protocols. She also reported on the establishment of a working group to liaise with WHO Headquarters and other Working Group on Effects groups to discuss streamlining of methodological approaches to assessing the health impacts of air pollution.

15. The Steering Body and the Working Group noted the progress of the ongoing project to update the WHO global air quality guidelines and identified further opportunities for enhanced collaboration between the Convention and WHO.

B. Critical loads and other issues related to modelling and mapping

16. Germany reported on progress in setting up a successor of CCE at the German Environment Agency (UBA). The successor of CCE would become operational in 2019. The transfer of data and the web page between the National Institute for Public Health and the Environment (RIVM, Netherlands, – former host of CEE) and UBA was under way. All the data submitted in response to the 2017 call for data had been taken care of. A technical meeting on data assessment would be held in October 2018.

17. The Chair of the ICP Modelling and Mapping Task Force reported on the outcomes of the thirty-fourth Task Force meeting organized jointly with the eighteenth meeting of JEG DM (Bern, 18–20 April 2018). The meeting had focused on assessments of impacts of air pollution and interactions with climate change, biodiversity and ecosystem services. The Task Force Chair noted that current empirical critical loads for nitrogen data dated back to 2010–2011 and recommended that a revision of the critical loads be included in the Convention 2020–2021 workplan.

18. The Steering Body and the Working Group:

(a) Welcomed the information provided by Germany on progress in setting up a successor to CCE and reiterated the importance of the work of CCE for the entire Convention;

(b) Recommended that a revision of the empirical critical loads for nitrogen be included in the science part of the Convention workplan for 2020–2021;

(c) Recommended further development and research on biodiversity critical loads by national focal centres and the successor to CCE.

C. Air pollution effects on materials, the environment and crops

19. The Head of ICP Materials reported on developments and the outcomes of the thirty-fourth meeting of the ICP Materials Task Force (Zagreb, 25–27 April 2018). The main items discussed at the meeting had been:

(a) The call for data on UNESCO World Heritage Sites;

(b) Trends in pollution, corrosion and soiling;

(c) Future activities, focusing on cooperation with EMEP.

20. The exposure for trend analysis initiated in 2017 had included: four new materials for quantification of soiling effects – limestone, marble and two coil-coated materials coloured white and brown; and two new test sites in Split, Croatia, and Zagreb. Future activities identified as important for ICP Materials had been: the updating of the mapping manual to include dose-response functions and target levels for soiling and the updating of dose-response functions for zinc considering new data from recent exposures. During the discussion on further cooperation with EMEP, it had been concluded that it would be very useful if EMEP could provide the pH of precipitation data as a model output.

21. A representative of the ICP Forests Programme Coordinating Centre summarized the results presented at the thirty-fourth Task Force Meeting (Riga, 23–25 May 2018) and the seventh scientific conference of ICP Forests (Riga, 21–23 May 2018). At the Task Force meeting, the first two issues of “ICP Forests Brief” had been presented and the brief had been accepted as a condensed information medium. The Programme Coordinating Centre’s

contribution to the European Union National Emission Ceilings Directive[3] had been acknowledged and appreciation expressed for its continuing support. Lastly, it had been decided to prepare an open set of ICP Forests plot metadata promoting access to monitoring data. Outreach activities regarding EANET would be intensified in the future by common activities. Members of ICP Forests had published 21 scientific papers between May 2017 and June 2018 that included data from the ICP Forests database. Some of the conclusions of those papers had been highlighted in the progress report of the Programme Coordinating Centre as being particularly relevant to recent environmental policy issues (ECE/EB.AIR/GE.1/2018/11–ECE/EB.AIR/WG.1/2018/4, para. 15). The Chair reported on progress in setting up a common Working Group on Effects web portal,[4] developed by Aarhus University (Denmark) in collaboration with all the ICPs and the Task Force on Health.

22. The Head of the ICP Waters Task Force presented the highlights of the third joint Task Force meeting organized with ICP Integrated Monitoring (Warsaw, 7–9 May 2018) focusing on the most recent ICP Waters reports. The recommendations from the 2017 thematic report on mercury[5] had been used to provide monitoring guidelines for freshwater fish under the Minamata Convention and the report had been used as a contribution to sessions on mercury monitoring held at the Conference of the Parties (COP-1) of the Minamata Convention (Geneva, 24–29 September 2017). The usefulness of ICP Waters regarding the National Emission Ceilings Directive had been highlighted, as it was the only monitoring network specifically targeted at monitoring air pollution impacts on freshwaters. In many countries, ICP Waters network stations were used to meet the obligations under the Directive. Both the ICP Waters and ICP Integrated Monitoring communities had found the joint meeting useful and had decided to hold their next meetings jointly in Helsinki, from 4 to 6 June 2019.

23. The Head of the ICP Waters Programme Centre gave a briefing on the most recent ICP-Waters report – on regional assessment of the current extent of acidification of surface waters in Europe and North America.[6] The current status of surface water acidification had been assessed using country reports, monitoring data, critical loads and exceedance data, acid sensitivity and deposition maps and data reported under the European Union Water Framework Directive.[7] Acidification was still observed in many countries, but the extent and severity varied. Maps of acid sensitivity and deposition suggested that surface water acidification was present in regions and countries for which no data or reports had been delivered for the current assessment. Existing national monitoring varied in the ability to assess the spatial extent of acidification and the recovery responses of acidified sites. The monitoring requirements under the National Emission Ceilings Directive were expected to

[3] Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC, *Official Journal of the European Union*, L. 344 (2016), pp. 1–31.

[4] See www.unece-wge.org/.

[5] Hans Fredrik Veiteberg Braaten and Staffan Åkerblom, “Spatial and temporal trends of mercury in freshwater fish in Fennoscandia (1965–2015)”, International Cooperative Programme (ICP) Waters report No. 132/2017 (Oslo, Norwegian Institute for Water Research, 2017). Available at www.icp-waters.no/category/reports.

[6] Kari Austnes and others, “Regional assessment of the current extent of acidification of surface waters in Europe and North America”, ICP Waters report No. 135/2018 (Oslo, Norwegian Institute for Water Research, 2018). Available at www.icp-waters.no/category/reports.

[7] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, *Official Journal of the European Union*, L. 327 (2000), pp. 1–72.

reverse the recent decline in the number of monitoring sites observed in some countries. Chemical recovery in response to reductions in acid deposition could be slow, and biological recovery could lag severely behind. Despite major and effective efforts across Europe and North America to reduce surface water acidification, air pollution continued to constitute a threat to freshwater ecosystems.

24. A Co-Chair of ICP Integrated Monitoring presented its main activities, progress related to the 2018–2019 workplan and activities planned for the near future. The main scientific output had included two published scientific papers on:

(a) Long-term changes in atmospheric deposition and run-off water chemistry of sulphate, inorganic nitrogen and acidity for forested catchments in Europe in relation to changes in emissions and hydrometeorological conditions;

(b) Modelled soil carbon, nitrogen and pH response to air pollution and climate change. In addition, two more scientific papers had been submitted, one concluding that the decrease in nitrogen deposition under current legislation emission reduction targets until 2030 would not result in a release from eutrophication in the plant community.

25. The planned activities in 2018–2019 included a report on dynamic modelling on the impacts of deposition and climate change scenarios on ground vegetation, and three scientific papers on:

(a) The relationship between critical load exceedances and empirical ecosystem impact indicators;

(b) Heavy metal trends in concentrations and fluxes across ICP Integrated Monitoring sites in Europe, in cooperation with ICP Waters;

(c) Impacts of catchment characteristics, climate and hydrology on nitrogen processes. Further developments would include: increased cooperation and use of EMEP data in evaluations of ICP Integrated Monitoring data; and deepened cooperation with Long-term Ecosystem Research (LTER)-Europe, including invitations to countries not included in the LTER programme to join using established and operational national LTER sites.

26. The Chair of the ICP Vegetation Task Force reported on progress with 2018 workplan items and planned items for 2019 and beyond, including:

(a) Progress with validation of the soil moisture index included in the EMEP model using site-specific soil moisture measurements (with MSC-W);

(b) Available evidence of ozone impacts on crops in developing regions;

(c) Global flux-based risk assessment of crop yield losses due to ozone pollution (with MSC-W) in comparison with the risk of yield losses due to other stresses;

(d) Establishment of an ICP Vegetation-Asia network, in the first instance to monitor ozone impacts on crops (outreach activity);

(e) Results of the 2015/16 survey on heavy metals, nitrogen and persistent organic pollutant (POP) concentrations in mosses;

(f) Contributions of ICP Vegetation to the implementation of monitoring of air pollution impacts on ecosystems as part of the revised National Emission Ceilings Directive.

27. The Chair of JEG DM reviewed the progress made by the Expert Group over the past 12 months and summarized some key messages from its seventeenth meeting (Sitges, Spain, 25–27 October 2017) and its eighteenth meeting in April 2018, which had been organized jointly with the thirty-fourth Task Force meeting of the ICP Modelling and Mapping. The Expert Group worked with dynamic modelling of eutrophication and acidification and even

intended to cover modelling of heavy metals and the effects of ozone. To date, the focus had been on modelling the effects of nitrogen deposition on biodiversity in habitats amply covered by current monitoring under the Convention, such as freshwaters and forests, as well as other habitats that were less well covered (such as several Natura 2000 types, including sand dunes, heathlands and bogs). The Expert Group Chair pointed out that the Group had been operating with participation from several ICPs and that organizing joint meetings was a successful concept that further enhanced cooperation within the Working Group on Effects.

28. The Steering Body and the Working Group:

(a) Noted that the reports relevant for the evaluation of progress in implementation of the workplan for 2018–2019 had been prepared by the centres under the Working Group on Effects on time and were all available on their respective websites;

(b) Welcomed and highly valued the key messages and deliverables of the work carried out by all the ICP centres and task forces and by JEG DM in implementing the 2018–2019 workplan, as presented during the current session and in related publications and reports and summarized in the 2018 joint report (ECE/EB.AIR/GE.1/2018/3−ECE/EB.AIR/WG.1/2018/3), and supported the continuation of their work in following years;

(c) Noted the request from ICP Materials that EMEP consider the possibility of providing pH data as a modelling output;

(d) Welcomed the valuable and fruitful cooperation with the European Union on ecosystem monitoring within the framework of the National Emission Ceilings Directive;

(e) Recommended further work on a common Working Group web portal to better promote effects-oriented work and to improve access to relevant information, data and publications, and requested that the issue be further investigated and discussed at the next meeting of the Bureaux of the Steering Body and the Working Group in March 2019.

V. Thematic sessions

29. Joint thematic sessions were held to discuss three issues: lessons learned from the thematic sessions held in 2017 (on linking different spatial scales from the hemispheric to the regional, national, local and urban scales and on long-term ecosystem monitoring); impacts of ammonia emissions and mitigation strategies; and heavy metal pollution, with a focus on mercury. The sessions gave centres, task forces and international cooperative programmes the opportunity to present results and conclusions from their work relevant to the key issues considered.

A. Lessons learned from the 2017 thematic sessions

30. In a discussion on lessons learned from the thematic sessions held in 2017 moderated by Ms. Rouîl (France), participants highlighted the following:

(a) *Linking the scales*: Following the discussion during the thematic session on linkages between scales, work on both the local and the hemispheric scales was currently included in the workplan of the Task Force on Integrated Assessment Modelling. During its fifty-sixth session, the Working Group on Strategies and Review supported the suggestion to broaden the Task Force mandate to include multi-scale/multi-objective assessment modelling. Such modelling would be aimed at cost-effective policy strategies that combined international, national and local actions, and included links between air quality policy and other policy processes (for example, on Sustainable Development Goals, climate,

biodiversity and food). Furthermore, the ozone flux approach was currently included in the Greenhouse Gas and Air Pollution Interactions and Synergies (GAINS) model;

(b) *Ecosystem monitoring*: Following the discussion during the thematic session on ecosystem monitoring, the future of effects monitoring, including reporting under the National Emission Ceilings Directive, was discussed at the Saltsjöbaden VI workshop (Gothenburg, Sweden, 19–21 March 2018). The discussions underlined the need to expand the coverage of ecosystem types to include light-open nature like heathland, grassland, bogs and dunes. Furthermore, in future work it would be important to include experimental data, coordinate with reporting under the Directive, link to other networks like LTER and cooperate with the European Strategy Forum on Research Infrastructures. Some of those priorities had been included in the proposed revised long-term strategy for the Convention to be discussed at the thirty-eighth session of the Executive Body.

31. Participants discussed the outcome of the 2017 thematic sessions, underlined the usefulness of focused in-depth discussions, with contributions from several centres and task forces, and recommended various further actions to be included in the science part of the 2020−2021 workplan.

B. Impacts of ammonia emissions and mitigation strategies

32. The main goal of the session was to gather suggestions and input for an ammonia assessment report that had been requested by the Executive Body. The issue of what such an assessment report could add to the documents produced by the Task Force on Reactive Nitrogen in the past was raised. Compared to sulphur and nitrogen oxides, emission reductions of ammonia in the past 20 years had been very limited and the amended Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Gothenburg Protocol) only foresaw modest additional ammonia emission reductions. The issues of the cost of inaction (i.e. no further reductions) and the information needed to trigger action were raised.

33. In a discussion on ammonia — moderated by Mr. Rob Maas (Netherlands, Co-Chair of the Task Force on Integrated Assessment Modelling) – participants:

(a) Noted that there was currently robust evidence for, and solid scientific understanding of, the role of ammonia in the formation of secondary particulate matter. Ammonia emissions led to both biodiversity loss and, via exposure to secondary particulate matter, to health risks. Due to that link with health damage, the costs of inaction were expected to be substantially higher than those of abatement measures. Measures to reduce the loss of nutrients and to substitute chemical fertilizer use by low emission manure application could even save money and contribute to more efficient farming;

(b) Recommended including in the ammonia assessment report the lessons that could be learned from the Parties that had already successfully substantially reduced ammonia emissions. Reported ammonia emission data by the Parties were frequently revised and were less reliable than, for example, those for sulphur or nitrogen oxides emissions. Therefore, ammonia emission estimates should be improved, especially in the eastern region of the Convention.

34. Contributions to the session were provided by representatives of CCC, Denmark, MSC-W and the Task Force on Measurements and Modelling.

C. Heavy metal pollution with a focus on mercury

35. The main goal of the session was to improve understanding of the effects of heavy metals from source to accumulation. The session explored how science-policy could interact with focus on the Air Convention and the Minamata Convention and what type of synergies could be found. One of the main aims of the session was to identify gaps in knowledge, focusing on atmospheric modelling, terrestrial-aquatic ecosystems and human health. The session summarized the work under the Air Convention on heavy metals, with a focus on monitoring and modelling.

36. During the discussion moderated by Mr. Salar Valinia (Sweden, Co-Chair of ICP Integrated Monitoring), participants:

(a) Noted that heavy metals and mercury were a global problem and affected large parts of the ECE region. The effects on ecosystem, biodiversity and human health were well established, although there were many knowledge gaps, with the harmonization of health measurement methods, the long lag-effect in ecosystems and the potential interaction with climate change and other anthropogenic sources of pollution. There were many areas in which the Working Group on Effects and EMEP should collaborate to better use the different areas of expertise to increase knowledge in the area of heavy metals. The session recommended that areas such as high-resolution modelling, ecosystem effects, including lag-effect and mobilization, bioaccumulation in fish and effects on human health, should be prioritized, with special attention to the combined effects of multiple stressors;

(b) Noted that there were many opportunities for synergies between the Air Convention and the Minamata Convention. For instance, the Air Convention had long experience in monitoring of terrestrial and aquatic ecosystem, including effects on biodiversity and humans. The long experience of those issues could provide knowledge under article 19 and the effectiveness evaluation in the Minamata Convention. Furthermore, harmonization of methods used by the Air Convention and the Minamata Convention would provide benefits, such as better historical data and a larger spatial expansion of monitoring sites within and outside the ECE region. The session recommended that the Air Convention should invite Parties to include experts in the different ad-hoc groups in the Minamata Convention to ensure knowledge sharing, harmonization of methods and improved mutual process understanding in the two Conventions;

(c) Found that high-resolution modelling of hemispheric transport of heavy metals provided new insights into hotspots and areas with high pollution levels. Fine resolution modelling could provide a better assessment of adverse ecosystem and human effects when combined with monitoring data. One of the issues that needed addressing was how secondary emissions of, for instance, mercury, affected total deposition and effects on ecosystems and health;

(d) Concluded that substantial benefits could be gained from continued and increased cooperation between the Working Group on Effects and EMEP on heavy metals cycling, with a focus on source to accumulation.

37. Contributions to the session were provided by Ms. Anna Engleryd (Chair of the Executive Body), Mr. Eisaku Toda (Secretariat of the Minamata Convention) and representatives of ICP Integrated Monitoring (with inputs from ICP Forests and ICP Vegetation), ICP Waters, MSC-E and the Task Force on Health/WHO.

38. The Steering Body and the Working Group on Effects:

(a) Welcomed the thematic sessions as being useful in identifying the priorities for future research;

(b) Recommended that thematic sessions continue to be part of future joint Working Group and Steering Body sessions.

VI. Information sharing by Parties and cooperation with international organizations and programmes

39. The information presented by Parties, other organizations and programmes could be found in the informal document under agenda item 11.

VII. Adjustments under the Protocol to Abate Acidification, Eutrophication and Ground-level ozone

40. The Head of CEIP presented the outcome of the review of Parties' adjustment applications under the Gothenburg Protocol to inventories for the purposes of comparing them with total national emissions (see ECE/EB.AIR/GE.1/2018/10–ECE/EB.AIR/WG.1/2018/21).[8] In 2018, two Parties (Hungary and the United Kingdom of Great Britain and Northern Ireland) had submitted new applications, for one Party (Spain) there had been an adjustment with "open" status left over from 2017, and seven Parties (Belgium, Denmark, Finland, France, Germany, Luxembourg and Spain) had submitted adjustment applications approved prior to 2018 (28 cases)). In all cases, the additional technical guidance adopted in 2014 (ECE/EB.AIR/130) had helped countries to prepare their applications, but additional information had still been needed to assess all the applications.

41. The adjustment review had been performed alongside the stage 3 review. CEIP had named two lead reviewers and eight sectoral experts from the roster of emission experts. Each reviewed sector had been analysed by two independent reviewers, while the lead reviewer had coordinated the work, ensuring that a consistent approach had been used for all sectors, Parties and years.

42. When submitting their requests for adjustments, Parties had voluntarily prepared and submitted the "Declaration on consistent reporting of approved adjustments". It was recommended that Parties continue to submit such statements on an annual basis along with the submitted data.

43. The Head of CEIP underscored that, in 2018, Parties that had submitted adjustment applications had supported the review process in kind, by providing an expert. Such technical support was appreciated and Parties should continue to provide similar support in future years. Otherwise, it might not be possible to carry out the adjustment review owing to an insufficient number of reviewers.

44. As set out in document EB.AIR/GE.1/2018/10−ECE/EB.AIR/WG.1/2018/21, the expert review team recommended that:

(a) The 2018 new adjustment applications submitted by Hungary (Agriculture/non-methane volatile organic compounds) and the United Kingdom of Great Britain and Northern Ireland (Road transport/nitrogen oxides) be accepted;

(b) The 2017 adjustment application of Spain with regard to 3.B Manure management, 3.D.a.2.a Animal manure applied to soils and 3.D.a.3 Urine and dung deposited during grazing (ammonia) be rejected;

[8] See also documentation provided on the CEIP website: www.ceip.at/adjustments_gp/adj_country_data/.

(c) The adjustment applications of Belgium, Denmark, Finland, France, Germany and Spain approved in 2014–2017 be accepted.

45. A representative of Spain made a statement on the review report regarding the ammonia emission adjustment of Spain. In the statement, Spain called for attention on two issues:

(a) The current approach of the adjustment procedure set by the Technical Guidance did not seem to be applicable to the Spanish case (as was stated in the report). However, Spain believed that its case met the requirements for adjustment applications set by Executive Body decisions 2012/3, 2012/4 and 2012/12. It would be desirable to clarify any eventual doubt on the legal approach before taking any further decision;

(b) It should, furthermore, be noted that, should the adjustment application be finally rejected, Spain would end up in a non-compliance situation that would be impossible to resolve until the new relative ceilings were applicable in 2022. It would be impossible to comply because the current absolute ceiling had been underestimated by 40 per cent twenty years previously and compliance was certainly not feasible. It should be recalled that, in his presentation, Mr. Markus Amman (Head of CIAM) had foreseen an ammonia reduction potential for Spain at 10–15 per cent, far away from the currently expected 30 per cent effort resulting from the implementation of the latest methodologies. Paradoxically, Spain would currently comply with the 2020 emission reduction ceiling (which, just for information, happened to be 37 per cent higher than the 2010 ammonia ceiling).

46. Taking all the above into consideration, Spain suggested further exploring options to clarify technical and legal concerns regarding the adjustment procedure.

47. The EMEP Steering Body and the Working Group took note of the presentations concerning the expert review of the requests for adjustments to emission inventories (adjustment applications) and:

(a) Took note of the statement of Spain – as made during the current session – and the positive reactions from some delegations regarding the recommendation by the expert review team to reject the application cases submitted by Spain with open status from 2017 and the review completed in 2018;

(b) Considered that, from a technical point of view, the recommendations of the expert review team regarding the application of Spain should be approved, but acknowledged that there might be a legal issue that could not be resolved by the technical review teams. Therefore, the Steering Body decided to bring the issue to the attention of the Executive Body;

(c) Decided to approve all the recommendations put forward by the expert review team, following a discussion by the Parties;

(d) Requested the Parties to follow the recommendations made by CEIP when preparing and submitting their adjustment applications.

VIII. Progress in activities under the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe in 2018 and future work

48. The Chair of the EMEP Steering Body invited participants to consider progress made in the activities under EMEP regarding the 2018–2019 workplan for the implementation of the Convention.

A. Emissions

49. The Co-Chair of the Task Force on Emission Inventories and Projections reported on the results of the nineteenth joint meeting of the Task Force and the EEA European Environment Information and Observation Network (EIONET) (Sofia, 25–27 April 2018) and a technical workshop on emissions verification held on the first day of the meeting. Immediately following the Task Force meeting, a special consultation meeting had been held – co-organized by the secretariat – on emission projections development in countries of Eastern Europe, the Caucasus and Central Asia, with participants from eight Parties. The Co-Chair summarized the progress made in updating the annex I template for reporting national emissions inventories. Further work would be undertaken and the updated annex I would be discussed at the 2019 meeting of the Task Force and submitted for the fifth joint session of the Working Group on Effects and the EMEP Steering Body (Geneva, 9–13 September 2019). The Co-Chair provided a summary of the planned updates to the *EMEP/EEA air pollutant emission inventory guidebook*. Updated chapters were scheduled to be presented at the next Task Force meeting (Thessaloniki, Greece, 13–15 May 2019) and then submitted for endorsement at the fifth joint session.

50 The Co-Chair presented a paper (an informal document under agenda item 14 (b)) on the condensable component of particulate matter emissions that had been prepared with the Task Force on Measurements and Modelling and in consultation with other modelling groups within EMEP. The paper presented the road map for reaching the preferred approach to reporting "condensable" particulate matter emissions, and hence the required updates to existing technical guidance. The long-term aim was to standardize emissions reporting on the following basis: the condensable component of particulate matter was to be included in emission estimates from residential combustion and road transport and excluded from other sources. However, a review of current practices in the Parties regarding reporting of condensable particulate matter from the residential heating sector should start as soon as possible with the update of templates for reporting emissions focused on that question. He also presented the 2018 experiences with reviewing emission inventories and with the updated methods and procedures (including the technical corrections — not to be used for compliance assessment) elaborated by the Task Force. Two documents, one on updated methods and procedures and the other on technical revisions, were submitted as informal documents under agenda item 14 (b)). The Task Force expressed a wish to work more closely with the modelling community within EMEP to help steer emissions inventory improvements but noted that efforts in that regard would be restricted by funding constraints.

51. The Head of CEIP provided information on the status of reporting of emissions data regarding their completeness and consistency. As at 6 September 2018, 48 out of 51 Parties had submitted data. No emissions data had been received from Bosnia and Herzegovina, Montenegro or the Republic of Moldova. CEIP had noted partly improved reporting from some countries in Eastern Europe, the Caucasus and Central Asia. However, it was vital to improve the quality of reported data and provide feedback from those countries to the review findings. Forty-one Parties had reported black carbon emissions, with thirty-two Parties submitting emission time series (2000–2016). However, the reported data continued to be limited in its consistency, which did not allow for further analysis and gridding. EMEP Status report No.1/2018 contained a brief assessment of reported black carbon emission data.[9] CEIP cooperated with AMAP on assessment of black carbon data and on availability of calculation

[9] Hilde Fagerli and others, "Transboundary particulate matter, photo-oxidants, acidifying and eutrophying components", EMEP Status Report 1/2018 (Oslo, Norwegian Meteorological Institute, 2018). Available at http://emep.int/publ/reports/2018/EMEP_Status_Report_1_2018.pdf.

methods. An overview of the data submitted by Parties during the 2018 reporting round could be accessed via an interactive data viewer.[10]

52. The Head of CEIP again reiterated the need for transparent reporting of activity data (for example, some Parties reported emission based on fuels used, emissions for compliance or reflecting geographical coverage) to facilitate the inventory review process. CEIP also proposed that Parties report activity data, emission factors and emissions per fuel type in Excel format as an attachment to their Informative Inventory Reports.

53. The Head of CEIP also reported on the stage 3 review performance in 2018 and plans for 2019. In 2018, the reviews had been challenging, as documentation of most of the reviewed inventories had been rather limited. In addition, the feedback from most of the review countries had been insufficient. The review of Montenegro had been cancelled as no data had been submitted to EMEP. CEIP reported that, in 2018, 62 per cent of the emission data entries in data sets for modellers had been reported data – 4 per cent of which had been replaced – whereas 38 per cent of the data entries had been gap-filled (expert estimates). To increase reliability of emission data for modellers, it was important that Parties that had still not submitted gridded data in the new grid EMEP system (in 2017 or in 2018) should do so in 2019. Parties should also provide historical gridded emissions in the 0.1° x 0.1° longitude/latitude grid for the years 1990, 1995, 2000, 2005 and 2010. Gridded data reported in the old 50 x 50 km resolution and data submitted after the deadline of 1 May could not be included in the data set for the modellers. CEIP had also calculated historical gridded data for 2000–2015 in the new resolution. In 2018, an update of the proxy data sets based on the Emissions Database for Global Atmospheric Research (from v4.2 to v4.3.1), and also an update of the ruleset for automatized base grid allocation had been carried out. For the shipping emissions, proxies based on Finnish Meteorological Institute data had been used for 2015 and 2016. For historical shipping emissions (2000–2014), the Finnish data had been adjusted regarding trends from data developed within the European Union Horizon 2020 project Monitoring Atmospheric Composition and Climate (MACC)-III and the International Council on Clean Transportation report.[11] The entire process had been documented in reports available on the CEIP website.[12] Further improvements planned for 2018/19 were the comparison with the Copernicus Atmosphere Monitoring Service data and the uploading of current CEIP/EMEP gridded emission data to the Emissions of atmospheric Compounds and Compilation of Ancillary Data.[13]

54. The Steering Body and the Working Group:

(a) Welcomed the efforts to update the *EMEP/EEA air pollutant emission inventory guidebook* with the aim of publishing an updated version in 2019;

(b) Welcomed the progress being made in updating the annex I template for reporting emissions and instructed the Task Force on Emission Inventories and Projections to provide a final version for the fifth joint session in 2019;

(c) Noted the experiences in 2018 of using the updated methods and procedures, including the technical corrections and the two related documents; requested the Task Force

[10] See www.ceip.at/ms/ceip_home1/ceip_home/status_reporting/2018_submissions/.

[11] Naya Olmer and others, *Greenhouse gas emissions from global shipping, 2013–2015* (Washington, D.C., International Council on Clean Transportation, 2017).

[12] See www.ceip.at/ms/ceip_home1/ceip_home/status_reporting/2018_submissions/.

[13] See http://eccad.aeris-data.fr.

to combine those two documents into one and decided to forward it to the Executive Body for its consideration and approval at its thirty-eighth session;[14]

(d) Noted the road map for changing the reporting of the condensable component of particulate matter emissions presented in an informal document (under item 14 (b)), which included the updating of technical guidance, and requested the Task Force on Emission Inventories and Projections and the Task Force on Measurements and Modelling to finalize the technical paper and the updating of templates for reporting to know more about current practices in the countries;

(e) Expressed their support for collaborative work between the emissions inventory and modelling communities to support emissions inventory improvement;

(f) Welcomed the efforts by Parties to report, in 2017 and 2018, high resolution gridded emission data and acknowledged encouraging results regarding their quality according to the evaluation performed by CEIP and MSC-W;

(g) Invited Parties who had not yet submitted data in the new resolution to do so in 2019. Parties should also transfer historical gridded emissions (1990, 1995, 2000, 2005 and 2010) in the new resolution. The gridded emission data should be delivered by Parties by 1 May (15 June for the European Union) at the latest, to allow for verification and implementation in the EMEP models;

(h) Invited countries in Eastern Europe, the Caucasus and Central Asia to continue the improvement and regular reporting of their emissions data in line with the Guidelines for Reporting Emissions and Projections Data under the Convention (ECE/EB.AIR/125) and Executive Body decision 2013/4 on reporting of emissions and projections data under the Convention and its Protocols in force (ECE/EB.AIR/122/Add.1);

(i) Welcomed the efforts of the European Union to harmonize the national inventory reviews under the National Emission Ceilings Directive with those under the Convention, and recommended that the two review processes continue to be coordinated with respect to priorities, scopes, resources (reviewers) and timelines, to ensure consistency and complementarity and to avoid possible overlaps, duplication of efforts and inconsistent conclusions and that such coordination efforts be evaluated upon the completion of the 2018–2022 five-year cycle;

(j) Approved the updated plan for stage 3 emission inventory reviews for:

(i) 2019 – Albania, Bosnia and Herzegovina, Georgia, Montenegro, Norway, the Russian Federation, Serbia and Turkey;

(ii) 2020 – the European Union, Iceland, Kazakhstan, Kyrgyzstan, Liechtenstein, Monaco, North Macedonia and Switzerland.

(k) Invited Parties scheduled for an in-depth review in 2019 to submit their Nomenclature for Reporting tables and Informative Inventory Reports within the deadlines so that the reviews could take place;

(l) Welcomed the fact that Parties had provided sufficient resources to the invited reviewers for participation in the review process, including calculation of technical corrections, and invited them to continue to provide such support in the future.

[14] Updated methods and procedures for the technical reviews of air pollutant emission inventories reported under the Convention (ECE/EB.AIR/2018/8).

B. Measurements and modelling

55. A Co-Chair of the Task Force on Measurement and Modelling reported on progress in the implementation of the 2018–2019 workplan, including highlights of the Task Force's annual meeting held in Geneva, from 2 to 4 May 2018. Attention had been focused on the progress of the "Twin Site" study devoted to the assessment of long-range transport of air pollution in urban areas. National case studies undertaken by Parties in collaboration with MSC-E on the assessment of heavy metals and POPs had also been presented. Parties had also collaborated actively in the field campaign coordinated by CCC on black carbon held in winter 2017–2018. Lastly, activities related to the assessment of air pollution impacts and linkages with the Working Group on Effects had been presented. The next Task Force meeting would be hosted by Spain in the second week of May 2019 (exact dates to be determined).

56. A representative of MSC-E outlined activities on POP pollution assessment undertaken by MSC-E and CCC in 2018. EMEP monitoring network data on POPs and their analysis were outlined, and the need for complementary POP measurements from other networks in view of the new priorities of the Convention was emphasized (for example, finer spatial resolution for pollution assessment, emphasis on urban scale). Results of model assessment were discussed, with emphasis on polycyclic aromatic hydrocarbons (PAHs). Specific attention was given to the deviations between modelling results and measurements that had been identified through an analysis carried out in the framework of country-specific case studies of benzo(alpha)pyrene pollution for France and Spain in cooperation with national experts. It was concluded that further improvement of model assessment of PAHs required refinement of officially reported emission inventories, in particular, for the residential combustion and agriculture sectors. The importance of cooperation with the recently established Working Group on PAHs of the Task Force on Health was also highlighted with regard to the evaluation of population exposure to elevated levels of pollution and the exchange of information on POPs with various organizations, including: the European Union (Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals);[15] the Baltic Marine Environment Protection Commission; and the Stockholm Convention on Persistent Organic Pollutants.

57. A representative of MSC-E presented an overview of activities on heavy metal pollution assessment, focusing on improving assessment quality and scientific cooperation. He provided an update on the current status of operational model assessment of heavy metal pollution and discussed new challenges for heavy metal monitoring within EMEP. Particular attention had been paid to cooperative work on a country-scale assessment of heavy metal pollution, including evaluation of national emissions and quantifying of city pollution. He also provided information on scientific cooperation with other international bodies, including UNEP and AMAP (Global Mercury Assessment 2018).

58. A representative of MSC-W gave an overview of activities on modelling of acidification, eutrophication and photo-oxidants during the past year. Based on an updated emission data set on a 0.1° x 0.1° grid created by CEIP, the EMEP/MSC-W model runs had been done for the period 2000–2016. The data were presented in a new visualization

[15] Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, *Official Journal of the European Union*, L 396 (2006), pp. 1–849.

interface[16] that would be further populated with observations and information on sector contributions. An analysis of source-receptor matrices in various spatial resolutions (as well the effect of a new country border data set) was presented, with the conclusion that 0.3° x 0.2° resolution for source-receptor matrices was appropriate. Results from a study on the effect of international shipping emission on European ozone were presented showing that:

(a) The choice of ozone metrics was important with respect to the relative importance of European emissions and international shipping emissions;

(b) The effect of shipping emissions outside the EMEP domain was significant.

59. In terms of plans for the next years, an important item would be to illustrate and quantify uncertainties in source-receptor modelling due to secondary organic aerosols modelling, including the issue of condensables.

60. A representative of CCC outlined the status of the EMEP measurement programme, including the status of observation and model results of particulate matter in 2016 with MSC-W. Parties were reminded to report their observational data before 31 July. For the 2016 data, only 60 per cent of the Parties had reported on time. CCC reported on the status of the intensive measurement period on source apportionment of carbonaceous compounds from fossil fuel and wood burning during winter 2017/18; work in that regard had involved cooperation between EMEP and several other networks and groups with an interest in the topic. In all, 60 sites had participated, including 27 urban background sites. The first results would be discussed at the upcoming European Cooperation in Science and Technology Chemical On-Line cOmpoSition and Source Apportionment of fine aerosoL meeting, and a final data set would be presented and discussed at the spring meeting of the Task Force on Measurements and Modelling (Madrid, 7–9 May 2019).

C. Integrated assessment modelling

61. The Co-Chair of the Task Force on Integrated Assessment Modelling reported on the forty-seventh meeting of the Task Force (Brescia, Italy, 8 and 9 May 2018) with a focus on workplan development, national air quality plans and recent developments in integrated assessment modelling. He reported on a workshop on local measures arranged together with the Forum on Air Quality Modelling in Europe (FAIRMODE) with a focus on local measures (Tallinn, 28 and 29 June 2018). Elements of the Task Force 2018–2019 workplan included: the improvement of cost estimates in the GAINS model[17] and assessment of the costs of inaction (together with the Task Force on Techno-economic Issues); the preparation of an ammonia assessment report (with the Task Force on Measurements and Modelling and the Working Group on Effects); the establishment of an expert panel on clean air in cities; and the application of integrated assessment methodologies outside the ECE region, with linkages to several Sustainable Development Goals. The above-mentioned Task Force/FAIRMODE workshop and another held in Utrecht, Netherlands, on 16 and 17 February 2017, had illustrated the need for better coordination between geographical scales. On 30 November 2018, a scoping meeting was planned in Brussels to draft the mandate and expected deliverables of the expert panel on clean air in cities and to define the value added and links with existing networks. The forty-eighth meeting of Task Force would be held in Berlin, on 23 and 24 April 2019. In addition to workplan progress, the Task Force would assess the costs and health benefits of national air quality plans.

[16] See https://aerocom-trends.met.no/EMEP/.
[17] See http://gains.iiasa.ac.at/models/.

62. The Head of CIAM briefed the participants on recent applications of integrated assessment methodologies in areas outside the ECE region, with examples for Asia. One of the key conclusions was that Asia needed to consider more than conventional air pollution control measures to achieve acceptable air quality in the future, including agricultural measures.

63. With respect to integrated assessment modelling, the Steering Body and the Working Group:

(a) Reiterated the importance of accounting for local and urban scales in integrated assessment modelling and for policy purposes, as demonstrated in recent work under the Convention;

(b) Reminded Parties to: nominate representatives for the expert panel on clean air in cities; communicate new cost estimates to CIAM; and seek in-kind contributions to the envisaged reports on ammonia, costs of inaction and global sectoral measures.

D. Hemispheric transport of air pollution

64. The Co-Chairs of the Task Force on Hemispheric Transport of Air Pollution (HTAP) presented brief overviews of three outputs: a special issue of Atmospheric Chemistry and Physics entitled "Global and regional assessment of intercontinental transport of air pollution: results from HTAP, [Air Quality Model Evaluation International Initiative] (AQME II) and [Model Intercomparison Study] (MICS)" containing 48 articles;[18] a forthcoming Joint Research Centre Science for Policy Report entitled "Global trends of methane emissions and their impacts on ozone concentrations"; and an introduction to the open-source FAst Scenario Screening Tool (openFASST) web-based scenario screening tool using HTAP2 modelling results.

65. The Steering Body and Working Group:

(a) Took note that the HTAP2 modelling experiments reported in the above-mentioned special issue of Atmospheric Chemistry and Physics generally confirmed the policy relevant conclusions of the HTAP1 experiments documented in the Task Force's 2010 assessment (ECE/EB.AIR/2010/10). In particular:

(i) The spread of ozone estimates produced by the ensemble of HTAP2 models was similar to that in HTAP1, despite using the same emissions inputs in the HTAP2 models;

(ii) Annual average ozone concentrations in Europe were more sensitive to changes in emissions outside Europe than changes in emissions within Europe;

(iii) Regional models estimated higher health impacts than global models for both regional and extra-regional contributions of pollution, most likely due to the ability to capture peak values;

(iv) Changes in emissions outside of Europe and global methane concentrations would largely drive future annual average ozone levels in Europe.

(b) As set out in the 2018–2019 workplan, recommended the continued development of a very brief policymaker's summary of the results reported in Atmospheric Chemistry and Physics and of the openFASST tool to enable experts to explore the implications of the HTAP2 modelling results;

[18] See www.atmos-chem-phys.net/special_issue390.html.

(c) Recognized Mr. Frank Dentener (Netherlands) for his contributions throughout the history of the Task Force and his seven years of service as Co-Chair, as he announced his intention to step down as Co-Chair at the end of 2018.

66. The Steering Body and the Working Group:

(a) Noted that all the status reports relevant for the evaluation of progress in implementing the 2018–2019 workplan had been prepared by the EMEP centres on time and approved the summaries of the 2018 EMEP status and technical reports, including supplementary reports, as available on the EMEP website[19] and listed in an informal document submitted to the joint session (under agenda item 13);

(b) Welcomed and highly valued the key messages and deliverables of the work carried out by all EMEP centres and task forces presented at the current session and summarized in the 2018 joint report (ECE/EB.AIR/GE.1/2018/3–ECE/EB.AIR/WG.1/2018/3);

(c) Welcomed the information on the progress made in implementing the 2018–2019 workplan regarding EMEP as presented during the current session and in related publications and reports;

(d) Recognized the need to enhance long-term cooperation between EMEP and other subsidiary bodies under the Convention and with AMAP, the Minamata Convention and the Stockholm Convention to enhance the transfer of scientific knowledge and strengthen capacity at both the regional and global levels.

IX. 2018–2019 workplan for the implementation of the Convention

A. Recommendations from the policy review group

67. The Chair of the policy review group presented the key elements of the updated long-term strategy relevant for the scientific activities under the Convention. Following the discussion during the current session, the Working Group on Effects and the EMEP Steering Body provided their feedback in written comments forwarded to the Chair of the policy review group. The comments would be incorporated into the final draft of the updated long-term strategy. It was expected that the draft strategy would be discussed and approved by the Executive Body at its thirty-eighth session in December 2018.

B. Draft revised mandates for centres and task forces

68. Participants discussed the draft revised mandates for task forces and centres under the Working Group on Effects and the Steering Body (informal document). As requested by the Bureau of the Executive Body, the final drafts of the mandates would be prepared by the Chairs of the Working Group, the Steering Body and the Working Group on Strategies and Review, supported by the secretariat. The participants decided to forward the draft mandates for consideration by the Executive Body. It was expected that the draft mandates would be finalized and adopted by the Executive Body at its thirty-eighth session in December 2018, taking into account the revision of the long-term strategy for the Convention.

[19] See www.emep.int.

C. Update of strategies for scientific programmes under the Convention

69. Participants discussed the need to update the EMEP and Working Group on Effects strategies. The draft updated strategies must be elaborated for consideration by the Steering Body and the Working Group at the fifth joint session (Geneva, 9–13 September 2019) and should be harmonized with the update of the long-term strategy for the Convention.

70. A representative of CCC presented the first draft of a revised EMEP monitoring strategy from 2020 onwards. The draft strategy had been prepared following discussions within the Task Force on Measurements and Modelling, which had discussed the technical requirements in a special session at its meeting in May 2018. Subsequently, comments from Parties had been invited by June 2018. A first version of the general text was also presented. A final draft would be presented and discussed at the Task Force meeting in spring 2019.

X. Financial and budgetary matters

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

71. The secretariat introduced the elements of section I of the note on financial and budgetary matters (ECE/EB.AIR/GE.1/2018/19–ECE/EB.AIR/WG.1/2018/12). The note presented the proposed schedule of mandatory contributions for 2019–2020 to be approved by Executive Body at its thirty-eighth session — calculated on the basis of the United Nations scale of assessments for 2016–2018.[20]

72. The Steering Body and the Working Group:

(a) Took note of the status of contributions to the financing of EMEP in 2018 set out in table 1 of the note on financial and budgetary matters;

(b) Approved the use of resources by the EMEP centres in 2017, as presented in table 2 of the note;

(c) Took note of a proposal for the EMEP budget for 2019 for consideration and approval by the Executive Body at its thirty-eighth session. The total budget for 2019 would be the same as for 2018 but with the following modified split between centres: CIAM – $165,000; CCC – $830,000; MSC-W – $580,000; MSC-E – $465,000; and CEIP – $250,000. The proposed budget — in addition to funding for the centres' mandatory activities — included funds to cover priority activities covering monitoring, modelling and emission-related issues.

(d) Called upon the Parties to the Protocol on Long-term Financing of EMEP to consider making voluntary contributions to ensure that the work could be accomplished as foreseen in the 2018–2019 workplan;

(e) Invited all Parties that had not yet paid their contributions for 2018 to do so as soon as possible;

(f) Invited the Bureau of the EMEP Steering Body to discuss the 2020 budget for the EMEP centres at its next meeting in 2019, considering progress in the implementation of the workplan for 2018–2019.

[20] See General Assembly resolution 70/245 on the scale of assessments for the apportionment of the expenses of the United Nations, adopted by the General Assembly on 23 December 2015.

B. Funding of core activities not covered by the Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe

73. In line with revised decision 2002/1 of the Executive Body (ECE/EB.AIR/77/Add.1 and ECE/EB.AIR/91/Add.1, annex III), the secretariat introduced the elements of section II of the note relevant to the funding of core activities not covered by the EMEP Protocol, presenting updated information on cash contributions to the trust fund in 2017–2018.

74. Sweden expressed its wish to transform JEG DM into another centre under the Working Group on Effects, with a focus on dynamic modelling. That would require a change to decision 2002/1. Sweden requested the Chair of the Working Group to bring the issue to the attention of the Executive Body.

75. The Steering Body and the Working Group:

(a) Took note of the request from Sweden and of the relevant elements of the note on financial and budgetary matters;

(b) Invited the secretariat to provide information on the status of contributions to the trust fund for the effects-oriented activities as of 30 November 2018 and to make it available to the Executive Body at its thirty-eighth session;

(c) Recommended that the status of contributions be used as a basis for the budget to co-fund the effects-oriented activities in 2019;

(d) Requested the Executive Body to encourage Parties to make contributions to the trust fund before 30 November each year;

(e) Noted with appreciation the essential support provided to the Working Group on Effects and its effects-oriented activities by lead countries, countries and organizations hosting coordinating centres, organizing meetings and funding activities of their national focal centres and the active participation of national experts in the work under the Convention;

(f) Also noted with appreciation the amount of voluntary cash contributions made available in 2017–2018, but again invited all Parties that had not yet done so to contribute to the trust fund for financing of the effects-oriented activities;

(g) Stressed the need to ensure stable and long-term financing of effects-based activities and noted the decreasing level of support from Parties for that important part of the Convention activities.

XI. Closing of the fourth joint session

76. The Steering Body and the Working Group agreed on the main decisions taken during their fourth joint session. The two bodies also provisionally agreed to hold their fifth joint session in Geneva, starting on the afternoon of 12 September and running through the morning of 16 September 2019.