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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

Third joint session
Geneva, 11–15 September 2017

Report of the third 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 third joint session from 11 to 15 September 2017 in Geneva, Switzerland.

A. Attendance

2. The session was attended by representatives from the following Parties to the Convention: Austria, Belarus, Belgium, Canada, Croatia, Cyprus, Czechia, Denmark, Estonia, European Union, Finland, France, Germany, Hungary, Ireland, Italy, Kyrgyzstan, Latvia, Lithuania, Netherlands, Norway, Russian Federation, 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 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 Coordination Centre for Effects (CCE) and its International Cooperative Programme on Modelling and Mapping of Critical Levels and Loads and Air Pollution Effects, Risks and Trends (ICP Modelling and Mapping); 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 for the Convention 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 Asia Center for Air Pollution Research; the European Environmental Bureau; Forschungzentrum Juelich GmbH; the OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Commission); the United Nations Environment Programme (UNEP) Regional Office for Europe; the World Health Organization (WHO) and its Regional Office for Europe; and the World Meteorological Organization (WMO).

B. Organizational matters

5. Ms. Laurence Rouîl (France), Chair of the EMEP Steering Body, and Ms. Isaura Rabago (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.1/2017/1-ECE/EB.AIR/WG.1/2017/1).[1]

6. The EMEP Steering Body and the Working Group on Effects subsequently adopted the report of their second joint session (ECE/EB.AIR/GE.1/2016/2-ECE/EB.AIR/WG.1/2016/2).

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

7. Presenting highlights of the thirty-sixth session (Geneva, 15–16 December 2016) of the Executive Body for the Convention, the Executive Body Chair noted that an ad hoc expert group (policy response group) had been established to elaborate a draft policy response to the 2016 assessment report under the Convention,[2] which was to be ready for consideration by the Executive Body at its thirty-seventh session. Two panel discussions had been held: on Parties' air pollution abatement work contributing to the Sustainable Development Goals and on implementation of voluntary actions under the Batumi Action for Cleaner Air initiative.[3] Parties had also reported on their progress towards ratification of the three most recent protocols to the Convention.

8. The Chair of the Working Group on Strategies and Review reported on the Working Group's fifty-fifth session (Geneva, 30 May–2 June 2017), highlighting discussions on the final report by the policy review group, the 2018-2019 draft workplan and the special session on agriculture. Parties had shared information on their good practices to strengthen the implementation of air pollution-related policies, strategies and measures.

9. The secretariat informed participants about its capacity-building, awareness-raising, communication and outreach activities carried out since the second joint session in September 2016. Thanks to the increased technical capacities, all Parties in Eastern Europe, the Caucasus and Central Asia had reported their emission inventories in 2016. Generous contributions by several Parties to support the activities managed by the secretariat were highly appreciated.

10. The Co-Chairs presented a brief summary of the work of the Bureaux of the EMEP Steering Body and of the Working Group on Effects (see ECE/EB.AIR/GE.1/2017/9-ECE/EB.AIR/WG.1/2017/19), highlighting the implementation of the 2016–2017 workplan and emerging scientific and budgetary issues.

III. Calls for data

11. 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) cultural World Heritage Sites. Six Parties

[1] Information and documentation for the meeting, including informal documents and presentations, is available on the meeting web page: http://www.unece.org/index.php?id=43514.

[2] Rob Maas and Peringe Grennfelt, eds., *Towards Cleaner Air: Scientific Assessment Report 2016* (Oslo, 2016). Available from http://www.unece.org/environmental-policy/conventions/envlrtapwelcome/publications.htme.

[3] See ECE/BATUMI.CONF/2016/7. See also http://www.unece.org/environmental-policy/environment-for-europe/initiatives/baca.html.

had participated in the call: Croatia, Germany, Italy, Norway, Sweden and Switzerland. Qualitative and quantitative data on both historic and cultural monuments and the environment had been provided for 20 unique cultural objects located in UNESCO World Heritage Sites. Information collected so far had been compiled in a thematic report.[4] The quantity and quality of the collected data, as well as the wide range of materials and environmental conditions that they covered, represented a remarkable result and would form the basis for subsequent activities on the assessment of the expected damage due to air pollution by using dose-response functions established by ICP Materials and the evaluation of cost of damage caused by deterioration of materials.

12. The Head of CCE presented results of the call for data on critical loads to national focal centres under ICP Modelling and Mapping. Critical loads for eutrophication and acidification had been submitted by 14 Parties, 7 of which had also submitted critical loads for biodiversity.

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

(a) Welcomed the information on the considerable progress made on the calls for data launched by ICP Materials and ICP Modelling and Mapping/CCE;

(b) Noted that the background database was documented in the CCE Final Report 2017 and also in earlier CCE status reports;

(c) Noted that the database structure for national focal centre submissions was described in appendix A of the final report, reflecting the logic of the European critical loads database.

IV. Progress in activities in 2017 and further development of effects-oriented activities

A. Air pollution effects on health

14. The Chair of the Task Force on Health provided highlights of the twentieth meeting of the Task Force (Bonn, Germany, 16–17 May 2017), which had focused on a reflection of previous activities and the main achievements during the past 20 years, changes in national and international policies and processes regarding air quality and health and a review of progress in research and of the communication strategy on the health impacts of air pollution. Among achievements in the current biennium, the Task Force had launched the WHO AirQ+ software in 2016 to quantify the health impacts of air pollution, updated the WHO global air quality guidelines, a task that was still ongoing, and conducted a survey on communication strategies and systems in various Parties. She also presented the outcome of the Sixth Ministerial Conference on Environment and Health (Ostrava, Czechia, 13-15 June 2017), in particular the Ostrava Declaration, in which 53 member States of the WHO European Region had confirmed air quality as one of the most important environmental risk factors and an important element in the attainment of the human right to a healthy environment. Annex I to the Ostrava Declaration offered a compendium of actions that would help member States improve ambient and indoor air quality.

[4] Johan Tidblad and Pasquale Spezzano, *Call for Data "Inventory and Condition of Stock of Materials at UNESCO World Cultural Heritage Sites" – 2015-2017*, ICP Materials Report No 80 (Stockholm, Swerea KIMAB AB, 2018), forthcoming.

15. The Steering Body and the Working Group:

(a) Noted the process, progress and timeline of the ongoing WHO global air quality guidelines updating project and identified new opportunities for enhanced collaboration between the Convention and WHO;

(b) Took note that one of the actions in annex I to the Ostrava Declaration was to encourage the implementation of the Air Convention and to promote ratification and implementation of its relevant protocols.

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

16. The Chair of the ICP Modelling and Mapping Task Force informed participants about the main achievements in 2017 and the next steps. The former included: an update of critical loads for sulphur and nitrogen and progress on critical loads on biodiversity, the training of the Czech National Focal Centre in modelling and mapping methodologies and a collaboration with MSC-E on computing and mapping depositions and exceedance of mercury on a hemispheric scale. She reported on the outcomes of the thirty-third Task Force meeting (Wallingford, United Kingdom, 4-6 April 2017) and on progress in updating chapter 3 of the *Manual on Methodologies and Criteria for Modelling and Mapping Critical Loads and Levels and Air Pollution Effects, Risks and Trends*[5] (Mapping Manual).

17. The ICP Chair noted that the CCE Final Report 2017, to be completed before the end of 2017, would include information on the results of the call for data, national reports on work conducted by ICP Modelling and Mapping national focal centres and the background database of critical loads for ecosystems, relevant especially for those Parties that did not submit critical loads data. The report would also include results of illustrative assessments, using the 2017 critical load databases, of areas at risk in 2005 and in 2020 under emissions of the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Gothenburg Protocol) Current Legislation (GP-CLE) scenario, developed by CIAM.

18. The Steering Body and the Working Group:

(a) Adopted the results of the ICP Modelling and Mapping work concerning the updated European database of classical critical loads 2017, acknowledging that CCE results had met the workplan requirements that had been funded;

(b) Recommended the updated 2017 critical loads for acidification and eutrophication for use in integrated assessment modelling and policy purposes and the transfer of the updated European database critical loads to CIAM and their incorporation into the Greenhouse Gas and Air Pollution Interactions and Synergies (GAINS) model;[6]

(c) Noted the long-term collaboration between ICP Modelling and Mapping and Wageningen Environmental Research (Alterra) regarding critical load modelling and database issues. Such collaboration could be considered for continuation in support of operational requirements of the new programme centre of ICP Modelling and Mapping;

(d) Took note of the new and updated ozone flux-based critical levels for vegetation, as described in updated chapter III of the Mapping Manual, and recommended the critical levels for use in integrated assessment modelling and for policy purposes;

[5] Task Force on Modelling and Mapping (Berlin, Federal Environmental Agency, 2004). Manual and updates available from http://icpmapping.org/Latest_update_Mapping_Manual.

[6] See http://gains.iiasa.ac.at/models/.

(e) Approved updated chapter III as presented in the informal document "Mapping critical levels for vegetation" and updated chapter V ("Critical loads for ecosystems");

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

(i) Noted considerable progress made over the past few years on methodology thanks to the work of several Parties;

(ii) Recommended the continuation of the development of the related methodology and use of the data for sensitivity analysis and scientific purposes;

(g) Recommended that ICP Forests and ICP Modelling and Mapping work together to extend the spatial coverage for critical loads for biodiversity and in that regard the continuation of the call for data launched by CCE and ICP Modelling and Mapping on biodiversity in 2018 (with no data submission, however);

(h) Stressed the importance of the work of CCE for the entire Convention and, noting that operations would cease on 31 December 2017, stressed the need for finding a successor as soon as feasible.

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-third meeting of the ICP Materials Task force (Hämeenlinna, Finland, 10-12 May 2017). Three main items were discussed at the meeting: the call for data on UNESCO cultural World Heritage Sites; a report on trends in pollution, corrosion and soiling 1987–2015; and the new exposure programme for trend analysis launched in the fall of 2017. The report on trends in environment, corrosion and soiling had been published as an open-access scientific paper in the *Materials* journal and contained for the first time trends in corrosion based on four-year data and included also trends for individual sites. All data from the publication was open access and available from the publisher as well as on the ICP Materials website. The new exposure for trend analysis would include samples intended for one- and four-year exposures. Materials for corrosion were zinc, carbon steel, stainless steel, limestone, copper and aluminium. Materials for soiling were modern glass and the new stone materials limestone and marble as well as new coil-coated materials of two different colours — brown and white. New sites from Croatia and the Russian Federation were especially welcomed. The participation and subsequent contribution from Croatia was a direct result of the call for data.

20. A representative of the ICP Forests Programme Coordinating Centre summarized the results presented at the thirty-third Task Force Meeting (Bucharest, 18–19 May 2017) and the sixth scientific conference of ICP Forests (16–17 May 2017), focusing on intercalibration courses on ozone symptoms and ambient air quality and on laboratory ring tests. Members of ICP Forests had published 24 scientific papers between May 2016 and May 2017 that at least partly included data from the ICP Forests database or data from ICP Forests monitoring plots. Nine of the papers had been highlighted as relevant for environmental policies. The revision of the ICP Forests manual had been finalized in 2017. Parts I and II, which focused on the objectives, strategy and implementation of the programme, were presented.

21. The Heads of the ICP Waters Programme Centre and the ICP Waters Task Force presented the highlights of the second joint task force meeting organized with ICP Integrated Monitoring (Uppsala, Sweden, 9–11 May 2017), in particular the recent report

on spatial patterns and temporal trends of mercury in freshwater fish in Fennoscandia, using a database containing over 55,000 records of mercury in fish from more than 2,700 lakes covering the period 1965–2015. Those lakes were mainly impacted by long-range transported mercury. There had been no change over time in the mercury content in the fish. The study results were also relevant for the Minamata Convention on Mercury. Furthermore, results from the 2018 study on the spatial extent of acidification were presented. The results were expected to be a policy-friendly addition to critical loads with national contributions. In addition, the study would help develop guidance for surface water monitoring for the needs of the new European Union National Emission Ceilings Directive.[7] Both the ICP Waters and ICP Integrated Monitoring communities had found the joint meeting useful and decided to hold their next meetings jointly in Warsaw from 7 to 9 May 2018.

22. The former Chair of ICP Integrated Monitoring presented the main activities of the programme, highlighting in particular results from a scientific paper on sulphur and nitrogen mass balances at ICP Integrated Monitoring sites in Europe in 1990–2012, documenting impacts of deposition changes. He also reported on dynamic vegetation modelling work at ICP Integrated Monitoring sites. The good cooperation with ICP Waters on a report on mercury in the aquatic environment was highlighted. The ICP Integrated Monitoring workplan for the biennium 2018–2019 would include more work on trend analysis, dynamic modelling on the impacts of deposition and climate change scenarios on ground vegetation, and relationships between critical load exceedances and empirical ecosystem impact indicators.

23. The Chair of the ICP Vegetation Task Force reported on the revision of flux-based ozone critical levels for vegetation. Twenty-one flux-based critical levels had been established, including five recommended for application in integrated assessment modelling. Chapter 3 of the Mapping Manual had been revised accordingly. He also reported on:

(a) Global application of the flux-effect relationship for wheat in cooperation with MSC-W;

(b) Progress on the Tropospheric Ozone Assessment Report;

(c) Progress in data submission for the 2015–2016 moss survey, including submissions from 9 Parties in Eastern Europe, the Caucasus and Central Asia.

24. The Chair of the Joint Expert Group on Dynamic Modelling reviewed the progress made by the dynamic modelling community over the past few years, especially with respect to the availability of effects-related monitoring data. He identified the current and expected needs from dynamic modelling, e.g., better representation of relevant habitats. He elaborated on the use of models for policymaking and stressed the need for more interaction between the modelling community and decision makers.

25. The Steering Body and the Working Group:

(a) Noted that the reports relevant for the evaluation of progress in implementation of the workplan for 2016–2017 had been prepared by the centres under the Working Group on Effects on time and were all available on their respective websites;

[7] 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, 2016 O.J. (L 344), pp. 1–31.

(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 the Joint Expert Group on Dynamic Modelling, as presented at the session and summarized in the 2017 joint report (ECE/EB.AIR/GE.1/2017/3−ECE/EB.AIR/WG.1/2017/3), and supported the continuation of their work in following years;

(c) Welcomed the information provided on progress in implementing the 2016–2017 workplan regarding effects-oriented activities, as presented during the session and in related publications and reports.

D. Cooperation with the European Union on ecosystem monitoring and follow-up on the review of the international cooperative programmes

26. The Chair of Working Group on Effects reported on cooperation between ecosystems-related international cooperative programmes (Forest, Waters, Vegetation and Integrated Monitoring) and the European Union in the framework of the revised National Emission Ceilings Directive in relation to its article 9 and ecosystem monitoring. The Chair and the programme representatives would help to develop guidelines for Parties on ecosystem monitoring. The new guidelines were to be based on the experience gained by the Working Group and its subsidiary bodies and the related documents developed by the Convention.

27. The Chair of ICP Forests Programme Centre in collaboration with Aarhus University and the Joint Expert Group on Dynamic Modelling presented a concept for a common Working Group on Effects portal and its prototype. It would be further developed by Aarhus University in collaboration with the international cooperative programmes and the Task Force on Health.

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

(a) Welcomed the cooperation of the long-term ecosystem monitoring-related international cooperative programmes with the European Union on the development of guidance to address the monitoring of the ecosystem impacts of air pollution;

(b) Recommended further work on a common Working Group portal to better promote the 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 2018.

V. Thematic sessions

29. Joint thematic sessions were held to discuss three issues: lessons learned from the thematic sessions held in 2016 (on ozone, links to climate change and benzo(alpha)pyrene (B[a]P)); linking different spatial scales from the hemispheric to the regional, national, local and urban scales; and on long-term ecosystem monitoring. The sessions gave EMEP centres and task forces and international cooperative programmes the opportunity to present a number of results and conclusions from their work relevant to the key questions considered.

A. Lessons learned from the thematic sessions held in 2016

30. In a discussion on lessons learned from the thematic sessions held in 2016 moderated by Ms. Rouîl (France), participants highlighted the following:

(a) Priorities and needs identified for future ground-level ozone studies;

(b) Impacts of climate change on air quality involved a complex array of factors;

(c) Results of the case study for Spain indicated the need for further country-scale B[a]P pollution assessments.

31. Participants discussed the outcome of the thematic studies in 2016, 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 2018–2019 workplan.

B. Linking different spatial scales of air pollution — from hemispheric to urban

32. In a discussion on linking different spatial scales of air pollution — from the hemispheric to the regional, national, local and urban scales — moderated by Mr. Markus Amann (CIAM), participants addressed the following questions:

(a) What were the relevant scales and spatial resolutions for the assessment of health and ecosystem impacts of air pollutants, currently and in the future? For the future work of the Working Group on Effects, what information would be required from atmospheric dispersion modelling?;

(b) What additional needs had emerged from other air quality management challenges, e.g., compliance with air quality limit values?;

(c) To what extent could current scientific understanding of atmospheric chemistry and transport modelling provide the above-mentioned information, with the aim to deliver insights that were relevant for decision makers at the international and local levels?

33. Contributions to the session were provided by representatives from MSC-E, MSC-W, the Task Force on Hemispheric Transport of Air Pollution and the Task Force on Measurements and Modelling.

34. During the discussion participants recalled that, while historically the Convention had pioneered the understanding and recognition of long-range transport of air pollutants and made it available to underpin national decision-making, general awareness among the public and decision makers about the importance of long-range transport had declined in recent years. Long-range transport made important contributions to human exposure to fine particulate matter ($PM_{2.5}$), even within cities. Also, ozone fluxes, which were associated with vegetation damage, were strongly influenced by long-range transport of ozone and its precursors, even at the hemispheric scale. On the other hand, the fine scale nature of deposition of reduced nitrogen (ammonia) that contributed to excess nitrogen deposition was not properly reflected by the spatial resolution of the current tools.

35. Participants discussed and recommended further actions to be included in the future workplans for EMEP and the Working Group on Effects. The Task Force on Hemispheric Transport of Air Pollution should explore the impact of hemispheric emission changes on ozone metrics that were relevant for vegetation damage, in particular on ozone fluxes. EMEP and the Working Group should aim to develop appropriate assessment tools to facilitate a cost-effective balance of local and regional emission reductions of ammonia. That also included high resolution emission inventories for ammonia from agricultural sources.

C. Ecosystem monitoring

36. During the segment on ecosystem monitoring moderated by Mr. Jesper Bak (Denmark), participants addressed the following issues:

(a) Experience in collection and assessment of ecosystem effects data;

(b) Ecosystem and integrated modelling;

(c) Present and future needs for ecosystem monitoring and modelling for use in policymaking.

Contributions to the session were provided by representatives from the European Union, ICP Forests, ICP Integrated Monitoring, ICP Vegetation, ICP Waters, the Joint Expert Group on Dynamic Modelling and the Task Force on Integrated Assessment Modelling.

37. The session on long-term ecosystem monitoring was the first step in a process to improve the future use of monitoring data for ecosystems in modelling for policy support, and to ensure that activities met future needs. The present monitoring programmes were of a high quality with regard to harmonization, quality assurance and selection of parameters, and covered different levels of monitoring. The coverage in ecosystem types was, however, limited, with a focus on forest and freshwater, and needed to be expanded to better support assessment of biodiversity effects.

38. The Steering Body and the Working Group

(a) Welcomed the thematic sessions and underlined their usefulness in identifying the priorities for future research;

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

VI. Outreach efforts, information sharing and cooperation with other organizations and programmes

A. Hemispheric transport of air pollution

39. The Co-Chairs of the Task Force on Hemispheric Transport of Air Pollution presented an overview of the status of the Task Force's work and the proposed elements of the next workplan, and suggested revisions to the Task Force mandate. The 6 elements under section 1.1.4 of the draft 2018–2019 workplan (ECE/EB.AIR/GE.1/2017/20-ECE/EB.AIR/WG.1/2017/13) should be reorganized into three sets of tasks addressing global and regional model evaluation, intercontinental transport of mercury and persistent organic pollutants (POPs), and sectoral opportunities to mitigate intercontinental transport. The Steering Body Chair emphasized the importance of the development of a summary for policymakers of the research included in the special issue of *Atmospheric Chemistry and Physics* being organized by the Task Force.

40. The Steering Body and Working Group:

(a) Took note of proposed changes in the draft workplan;

(b) Recommended adding to the last set of tasks a deliverable related to the ongoing effort to develop a version of the Fast Scenario Simulation Tool (FASST), a web-based tool originally developed by the European Commission Joint Research Centre to

allow individuals to explore the implications of the Task Force's global and regional modelling results.

B. Information sharing and cooperation with international organizations and programmes

41. A representative of the Asia Center for Air Pollution Research, the network centre for the Acid Deposition Monitoring Network in East Asia (EANET), reported on current and future activities under EANET, including a feasibility study on the establishment of the new network centre for EANET. Examples of monitoring results were also given with respect to ozone and particulate matter throughout the EANET domain. Continued cooperation between the Convention and EANET was vital.

42. A Vice-Chair of AMAP presented the AMAP workplan 2017–2019, and highlighted results from the recent report on the Arctic cryosphere,[8] as well as key results from the 2016 assessment on chemicals of emerging Arctic concern,[9] which showed that international and national pollution control activities had been effective in reducing the levels of the chemicals they regulated. The 2016 assessment also confirmed that a broad range of new chemicals of emerging concern were now found in the Arctic. The 2017–2019 workplan contained several elements where cooperation with EMEP and the Working Group was ongoing and foreseen, including:

(a) The AMAP integrated air pollutants update assessment planned for 2021 (including an interim assessment in 2019);

(b) The European Union Action Fiche for Black Carbon in the Arctic, to be coordinated by AMAP. If funded, that project would provide significant resources to enhance cooperation between the Convention and the Arctic Council bodies and activities;

(c) AMAP planned assessments 2019–2021 on both mercury and POPs.

The recent modelling activities on mercury and POPs of MSC-E and the results of the new report on mercury in fish by ICP Waters and ICP Integrated Monitoring presented at the session would provide important input to the activities mentioned.

43. The AMAP Vice-Chair proposed the following concrete actions points:

(a) EMEP and the Working Group on Effects should nominate experts to participate in the author teams of the planned AMAP reports;

(b) The Convention and AMAP secretariats and the Chairs of the EMEP Steering Body, the Working Group and AMAP should continue coordination of the joint activities, in particular related to the planned assessments, activities on black carbon and other short-lived climate pollutants, and monitoring, modelling and data reporting activities.

44. A representative of the European Commission presented the work in progress on implementation of the ecosystem monitoring provisions included in article 9 and annex V of the new National Emissions Ceilings Directive. The Commission was developing draft guidance in close cooperation with the Working Group and the international cooperative programmes. An expert group meeting with European Union member States would be held

[8] See *Snow, Water, Ice and Permafrost in the Arctic (SWIPA) 2017* (Oslo, Arctic Monitoring and Assessment Programme, 2017).

[9] *AMAP Assessment 2016: Chemicals of Emerging Arctic Concern* (Oslo, Arctic Monitoring and Assessment Programme 2017).

on 10 October to discuss the draft guidance with a view to finalizing it at the National Emissions Ceilings Directive Expert Group meeting in November 2017. Its implementation should reinforce the ecosystem monitoring under the Convention.

45. The Head of the Integrated European Long-Term Ecosystem and Socio-Ecological Research Infrastructure project presented an overview of the status of the project and the next steps. The project was based on five pillars: long-term, in-situ, process orientation, systems approach and wide-scale coverage of major terrestrial and aquatic environments around the globe. It covered 160 research institutions in 27 European countries. The existing linkages and possible synergies with the international cooperative programmes and the Working Group activities were highlighted.

46. A representative of the OSPAR Commission thanked EMEP for the modelling products that EMEP made freely available. The Commission's work on monitoring and assessment of inputs to the maritime area of the North-East Atlantic was very dependent on EMEP products, particularly as atmospheric loads constituted 25 to 50 per cent of total nitrogen and heavy metal loads to the North Sea. In 2017–2018, the Commission had requested EMEP to tailor model products to make them OSPAR-specific, which would help inform mitigation measures in future. The OSPAR Commission recommended that EMEP:

(a) Continue to calculate source-receptor matrices annually;

(b) Consider providing estimates of total atmospheric phosphorus deposition;

(c) Invite the OSPAR Commission's INPUT expert group to fill in the questionnaire on EMEP products in autumn-winter 2017.

47. A representative of the secretariat of the Stockholm Convention on Persistent Organic Pollutants (Stockholm Convention) reported on recent progress on effectiveness evaluation and on the Global Monitoring Plan. In 2017, the Conference of the Parties had considered major outcomes of those two processes: the first effectiveness evaluation report in accordance with the adopted framework and the global monitoring report. The establishment of the Global Monitoring Programme had been a success and had generated valuable data about POPs in the global environment and in humans for the effectiveness evaluation, but had also helped in approaching global inventories of POPs through modelling and in documenting new substances of concern. There was a need for sustainable implementation of the Global Monitoring Plan to continue what was now a stable long-term process of international cooperation with a large number of strategic partners.

48. A representative of Germany presented an overview of the Tropospheric Ozone Assessment Report (TOAR) and the associated database of hourly ozone observations compiled from around the world, including data from EMEP stations. The publicly accessible TOAR database and associated visualization were useful for trend analysis, model evaluation and impact assessments. There was potential for future cooperation with the TOAR activities and for expansion of the TOAR database to include more information about ozone precursors and related pollutants.

49. The Steering Body and the Working Group took note of a presentation related to TOAR and the usefulness of having a global surface ozone database available for the Convention work. A representative of CCC noted that EMEP data were included in the TOAR database and that they had offered similar access also to other scientific assessments in the past. The general terms included that any use of data must acknowledge EMEP as the source of data, and that the data could not be further distributed to secondary users.

50. A representative of WMO and Global Atmosphere Watch (GAW) provided information on activities relevant to the Convention, specifically highlighting cooperation between EMEP and relevant WMO bodies. Participants at the GAW Symposium (Geneva,

10–13 April 2017) had performed a thorough review of the GAW Programme. Key conclusions were that GAW should pay more attention to regional and national activities and that activities should be organized in a cross-cutting way, e.g., aspects of air pollution and climate should be considered together. Following recommendations of the Symposium, an expert group had been established to produce a statement on the use of low-cost sensors for atmospheric monitoring. That work would be performed in coordination with the Task Force on Measurements and Modelling. The contribution of EMEP in support of GAW observational network was welcome, as were the newly established European stations.

51. The Steering Body and the Working Group welcomed the presentations and oral contributions from partner organizations and programmes, stressed the need to maintain and develop further outreach efforts and joint activities between EMEP, the Working Group and partner organizations and recommended that such cooperation be reflected in the future workplans for the implementation of the Convention.

VII. Information sharing by Parties

52. A representative of Italy presented national effects-based air pollution activities and the state of the natural and anthropogenic Italian ecosystems. In the past year, Italy had improved the connection between experts working on the effects of air pollution. In particular, a conference on the impacts of air pollution on natural and anthropogenic ecosystems had been organized in March 2017 by the Italian National Agency for New Technologies, Energy and Sustainable Economic Development. A report containing the contribution of all the international cooperative programme focal points had been launched during the conference in order to establish the status of the natural ecosystems under the pressure of air pollution and climate change. The report included a special chapter dedicated to the urban environment, highlighting the potential removal of air pollutants by vegetation. The conference had been a good opportunity to share the results among different communities working on effects.

53. The Steering Body and the Working Group welcomed the information presented on the implementation of EMEP and effects-oriented activities in Italy and recommended that further national experiences be presented at future joint sessions.

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

54. The Chair of CEIP presented the outcome of the review of Parties' requests for adjustments under the Gothenburg Protocol to inventories for the purposes of comparing total national emissions with them (see ECE/EB.AIR/GE.1/2017/10-ECE/EB.AIR/WG.1/2017/20).[10] In 2017, one Party (Spain) had submitted new requests for adjustments and seven Parties (Belgium, Denmark, Finland, France, Germany, Luxembourg and Spain) had submitted requests to adjustments approved prior to 2017 (25 cases). In all cases, the additional 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 adjustment requests.

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

55. The adjustment review had been performed in parallel with the stage 3 review. CEIP had carried out the adjustment review, naming a lead reviewer and eight sectoral experts selected from the roster of emission experts. Each reviewed sector had then been analysed by two independent reviewers, while the lead reviewer had coordinated the work to ensure that the same approach was used for all sectors, Parties and years.

56. 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 continued to submit such statements on an annual basis along with the submitted data.

57. The CEIP Chair underscored that in 2017 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.

58. Within the available resources and time constraints, in three cases (see below) the expert review team had not been able to determine whether the basis for some of the submitted applications met all of the requirements laid out in decision 2012/12 of the Executive Body. Additional information was needed from the Parties in those cases for the expert review team to be able to conclude whether the application should be accepted or rejected. Therefore, the expert review team recommended that the EMEP Steering Body assign an open status to such cases. As set out in document EB.AIR/GE.1/2017/10−ECE/EB.AIR/WG.1/2017/20, the expert review team recommended that:

(a) The 2017 adjustment application of Spain with regard to agriculture:

(i) 3B Manure management, nitrogen oxides (NO_x), be accepted;

(ii) 3D1a emissions from inorganic nitrogen fertilizers, ammonia (NH_3), be rejected;

(iii) 3B Manure management, 3Da2a animal manure applied to soils, 3Da31a urine and dung deposited by grazing animals (NH_3) be assigned an open status;

(b) The adjustment applications of Belgium, Denmark, Finland, France, Germany and Spain approved in 2014–2016 be accepted;

(c) The adjustment applications of Luxembourg approved prior to 2017 be accepted, except for the case of non-methane volatile organic compounds emissions in agriculture (3B), which should be assigned an open status.

59. 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 comments by Spain on the recommendation by the expert review team to reject one of the application cases submitted by Spain in 2017 as presented during the session (see informal document submitted by Spain; see also para. 58 (a) above);

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

(c) Requested Parties to follow the recommendations made by CEIP when preparing and submitting their applications for adjustments.

IX. Progress in the activities under the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe in 2016 and future work

60. The Chair of the EMEP Steering Body invited participants to consider progress made in the activities under EMEP with respect to the 2016–2017 workplan for the implementation of the Convention.

A. Emissions

61. A Co-Chair of the Task Force on Emission Inventories and Projections reported on the results of the eighteenth joint meeting of the Task Force and the European Environment Agency (EEA) European Environment Information and Observation Network (EIONET) (Krakow, 10–12 May 2017) and a technical workshop on uncertainties, quality assurance and quality control. During the workshop a special session had focused on barriers to and priorities in inventories in countries of Eastern Europe, the Caucasus and Central Asia.

62. The Task Force Co-Chair provided a summary of the update to the EMEP/EEA air pollutant emission inventory guidebook. The preferred way forward with regard to reporting "condensable" particulate matter was for all Parties to include the condensable component when reporting emissions from selected source sectors (e.g., residential combustion and road transport). Other sectors (e.g., industrial sources) would use emission factors consistent with the filterable particulate matter fraction, consistent with established measurement technologies for those sectors. With respect to semi-volatile compounds, more work was need in cooperation with the Task Force on Measurements and Modelling. He also presented the 2017 experiences with reviewing emission inventories (see para. 67) and, in particular, with the updated methods and procedures (including the technical corrections — not to be used for compliance assessment) elaborated by the Task Force.

63. The Head of CEIP provided information on the status of reporting of emissions data with regard to their completeness and consistency. Out of 51 Parties, 45 had submitted data in 2017 as of 6 June. No emission data had been received from Armenia, Belarus, Bosnia and Herzegovina, Greece, Montenegro and the Russian Federation. CEIP had noted improved reporting from some countries in Eastern Europe, the Caucasus and Central Asia. Thirty-seven Parties had reported black carbon emissions, with thirty Parties submitting emission time series (2000–2015). However, the limited consistency of reported data did not allow for further analysis and gridding. CEIP planned to cooperate with AMAP on black carbon data. An overview of the data submitted by Parties during the 2017 reporting round was available on the CEIP website, where data could be accessed via an interactive data viewer.[11]

64. The Head of CEIP stressed the need for the transparent reporting of activity data (e.g., some Parties reported emission based on fuels used, emissions for compliance or reflecting geographical coverage) to facilitate the inventory review process. CEIP and the Task Force on Emission Inventories and Projections would propose a new format (Excel tables) for reporting activity data. The new format should be discussed during the next Task Force meeting and tested afterward.

[11] See http://www.ceip.at/status_reporting/2017_submissions. http://www.ceip.at/data_viewers/official_tableau/.

65. The CEIP representative also provided information on an updated proposal for stage 3 in-depth reviews for 2018–2020, the preparation of emission data for modellers and the results of testing the guidance on technical corrections in 2017 (to be continued in 2018). The stage 3 review was a resource-demanding process and relied heavily on support by Parties. It was essential that Parties provided sufficient resources to the reviewers for participation in the process. To increase reliability of emission data for modellers, it was also important that Parties that had not submitted gridded data in the new system in 2017 did so in 2018. Parties should also provide historical gridded emissions in fine spatial resolution (0.1° x 0.1° longitude/latitude) (new EMEP grid) for the years 1990, 1995, 2000, 2005 and 2010.

66. A representative of the European Union presented a document outlining a proposal for avoiding duplication between the reviews of inventories under article 10 of the National Emission Ceilings Directive and the stage 3 reviews under the Convention. The proposal was that in an initial phase, the Convention would focus on stage 3 reviews for countries in Eastern Europe, the Caucasus and Central Asia and, once the European Union had completed its next reviews of its member States, the Convention would review those member States on a lighter basis, taking the European Union reviews into account. That would allow substantial resource savings for the Convention, and devoting those resources to the other reviews would enhance the chances for those Parties to ratify the Convention's protocols.

67. The Steering Body and the Working Group:

(a) Welcomed the efforts by Parties to report in 2017 high resolution gridded emission data and acknowledged encouraging results regarding their quality according to the evaluation performed by CEIP and MSC-W. The gridded emission data should be delivered by Parties by 1 May (15 June for the European Union) at the latest to allow verification and implementation in the EMEP models;

(b) Welcomed the experiences in 2017 with the updated methods and procedures (including the technical corrections — not to be used for compliance assessment) for reviewing emission inventories elaborated by the Task Force;

(c) Requested the Task Force and CEIP to finalize the updated document on methods and procedures for 2018 reviews for formal adoption in 2018 and recommended its use;

(d) 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 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 five-year cycle 2018–2022;

(e) Approved the following plan for stage 3 emission inventory reviews:

(i) 2018: Armenia, Azerbaijan, Belarus, Finland, Montenegro, Republic of Moldova and Ukraine;

(ii) 2019: Albania, Bosnia and Herzegovina, Georgia, Russian Federation, the former Yugoslav Republic of Macedonia and Turkey;

(iii) 2020: European Union, Kazakhstan, Kyrgyzstan, Liechtenstein, Monaco and Switzerland;

(f) Invited Parties scheduled for an in-depth review in 2017 to submit their Nomenclature for Reporting tables and informative inventory reports within the deadlines so that the reviews could take place, and requested the secretariat to send letters to those Parties to remind them about that obligation.

B. Measurements and modelling

68. A Co-Chair of the Task Force on Measurements and Modelling reported on progress in the analysis of long-term air pollution trends in the EMEP region. After the publication of a report focusing on observed trends[12] in 2016, important modelling work had been undertaken in the framework of Eurodelta-trends[13] exercise with the participation of eight modelling teams from Parties and MSC-W. Validation of the models against observations demonstrated the capability of the models, which could also be used to attribute the relative contribution of emissions changes, meteorological variability and intercontinental import of air pollution. The Task Force also introduced the Twin Site project, which aimed at better understanding the contribution of long-range air pollution to urban air on the basis of both in situ chemical analyses and modelling. Other activities included a workshop on the quality of measurements organized by CCC, ongoing discussions with the Task Force on Emission Inventories and Projections on condensables, national case studies for heavy metals and POPs modelling with MSC-E and the organization of a field campaign on carbonaceous aerosols coordinated by CCC with the Aerosols, Clouds, and Trace gases Research InfraStructure Network (ACTRIS) in winter 2018.

69. A representative of MSC-E outlined recent activities in the field of POPs pollution assessment undertaken by MSC-E and CCC in 2017. The focus had been the evaluation of POPs pollution levels in the EMEP domain, including B[a]P air concentrations in urban areas (case study in Spain). Particular attention had been paid to the cooperation and exchange of information on POPs pollution between MSC-E and international organizations (AMAP, the Baltic Marine Environment Protection Commission and the Stockholm Convention) along with the dissemination of pollution assessment results.

70. A representative of MSC-E presented an overview of activities on heavy metal pollution assessment, focusing on the improvement of assessment quality, recent research developments and scientific cooperation. He highlighted the progress on the transition to the new EMEP grid (pilot simulations for lead and cadmium). Particular attention had been paid to cooperative work on a country-scale assessment of heavy metal pollution (Italy and Poland). He also provided information on scientific cooperation with other international bodies including AMAP, the Minamata Convention on Mercury and UNEP (Global Mercury Assessment 2018).

71. A representative of MSC-W gave an overview of the activities on modelling of acidification, eutrophication and photo-oxidants, highlighting improvements in the EMEP model. She presented results from the EMEP/MSC-W model using the new gridded emission data. The results had been compared to model calculations using the old 50 kilometre by 50 kilometre grid, and to EMEP and Airbase observations. For the primary component (nitrogen dioxide), the model results had in most cases been better, providing

[12] Augustin Colette and others, *Air pollution trends in the EMEP region between 1990 and 2012*, EMEP/CCC-Report 1/2016 (Kjeller, Norway, Norwegian Institute for Air Research, 2016). Available from: http://www.unece.org/index.php?id=42906.

[13] See Meteorologisk Institutt, EMEP wiki, EURODELTA/TFMM trend modelling. Available from https://wiki.met.no/emep/emep-experts/tfmmtrendeurodelta (accessed 14 June 2017).

confidence in the new gridding. For some countries, the results indicated that the gridding should be revisited. For the secondary components, model results had also improved generally, but less than for the primary ones. She presented some preliminary results from the global EMEP model that indicated that emissions from international ship emissions were important precursor sources for European ozone. Furthermore, the relative importance of European sources versus non-European ones (including shipping) on European ozone impacts depended on the choice of indicator (e.g., ozone mean, sum of ozone means over 35 parts per billion (SOMO35) or phytotoxic ozone dose).

72. A CCC representative outlined the status of the EMEP measurement programme, including work on particulate matter with MSC-W, focusing on the large-scale winter particulate matter episodes in Europe in 2015 and the use of high time-resolution measurements. Measurements of aerosol chemical composition had been used for model evaluation in respect of its ability to reproduce the observed diurnal variations. A joint EMEP/ACTRIS intensive measurement period on source apportionment of carbonaceous compounds from fossil fuel and wood burning was planned for winter 2017/18. A first feasibility study for selected sites was illustrated. In October 2016, a workshop on data reporting and data quality had been arranged at CCC with discussions and recommendations on how to improve data quality and reporting templates. A new online web tool had been developed that checked the format of the data files submitted to EMEP. The use of the tool had increased, thus improving significantly the correctness of the data files.

73. A CCC representative outlined the plan for developing a revised EMEP monitoring strategy from 2020 onwards. The revision needed to consider a number of issues — emerging needs, gaps and limitations — and should take into account new tools and the link to other environmental issues, legislation, etc. The first draft of the revised strategy was to be discussed at the next meeting of the Task Force on Measurements and Modelling in spring 2018, followed by a workshop. The final draft should be ready by spring 2019. Negotiations with the Copernicus Atmosphere Monitoring Service to deliver EMEP near-real-time data to CCC were ongoing. CCC would send an invitation for voluntary participation to the EMEP Parties in autumn 2017.

74. The Steering Body and the Working Group:

(a) Welcomed the plan for developing a revised EMEP monitoring strategy from 2020 onwards as outlined by CCC;

(b) Confirmed the computation of source-receptor matrices in 2018 and beyond. In 2017, the source-receptor matrices had not been delivered because all MSC-W resources had been focused on the evaluation of the gridded emission data, prior to their future use for policy purposes;

(c) Noted the joint effort of the Task Force on Emission Inventories and Projections and the Task Force on Measurements and Modelling to establish short- and long-term goals relating to gaining better understanding of the condensable/semi-volatile components of particulate matter, stressed that further progress on that issue was needed and requested both Task Forces to continue their work and to report back to the Steering Body in 2018.

C. Integrated assessment modelling

75. The Chair of the Task Force on Integrated Assessment Modelling reported on the workshop on local scale air quality measures (Utrecht, the Netherlands, 15–16 February 2017) and the forty-sixth meeting of the Task Force (Paris, 2–3 May 2017), which had

focused on global scale scenarios and policy options. Further development of multilevel strategies required cooperation of the scientific bodies under the Convention with local experts. While reduction of ozone exposure required hemispheric cooperation, exposure to nitrogen oxides and $PM_{2.5}$ were universal problems in urban areas for which global solutions would be more cost-effective than local solitary actions.

76. The Head of CIAM briefed participants about the recent updates in the GAINS model, policy drivers for future emissions and the analysis of national inventories carried out with the support of national experts. Key conclusions of the analysis included:

(a) Parties reported significant changes in their historic emission inventories, which provided important new information but might adversely impact the achievements of their emission reduction commitments;

(b) Use of tier II methods by all Parties was indispensable for emission projections and would enhance the robustness of inventories and policy agreements;

(c) The recent changes in reported inventories pointed to a potentially huge demand for inventory reviews and adjustments.

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

(a) Noted 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 and as recommended by the policy response group report for the update to the long-term strategy for the Convention;

(b) Noted the considerable number of cases of significant recalculations in the national inventories, and recommended that Parties used tier 2 instead of tier 1 approaches when elaborating emission inventories to achieve better consistency and accuracy of emission estimates;

(c) Called upon Parties to stimulate participation of local and regional experts in the work of scientific bodies under the Convention.

78. The Steering Body and the Working Group:

(a) Noted that all the status reports relevant for the evaluation of progress in implementation of the 2016–2017 workplan had been prepared by the EMEP centres on time and approved the summaries of the 2017 EMEP status and technical reports, including supplementary reports, as available on the EMEP website[14] and listed in an informal document submitted to the joint session;

(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 session and summarized in the 2017 joint report (ECE/EB.AIR/GE.1/2017/3-ECE/EB.AIR/WG.1/2017/3);

(c) Welcomed the information on the progress in implementing the 2016–2017 workplan with regard to EMEP, as presented during the 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 also with AMAP, the Minamata and Stockholm Conventions and UNEP, in order to enhance the transfer of scientific knowledge and strengthen capacity at both the regional and global level.

[14] See www.emep.int.

X. Draft 2018–2019 workplan for the implementation of the Convention

A. Recommendations from the policy response group

79. The Chair of the policy response group presented both the long- and short-term recommendations of the group with respect to scientific activities under the Convention. The group's recommendations would be discussed by the Executive Body at its thirty-seventh session in December 2017 and would provide the input for the revision of the long-term strategy for the Convention to be elaborated in 2018.

B. Draft revised mandates for centres and task forces of the Convention

80. Participants discussed the draft revised mandates for task forces and centres under the Working Group on Effects and EMEP and decided to forward the draft mandates, as amended during the session, 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.

C. Update of strategies for scientific programmes under the Convention

81. Participants discussed the need for updating the EMEP and Working Group on Effects strategies. The draft updated strategies needed to be elaborated for consideration by the Steering Body and the Working Group at the fifth joint session in 2019. The updates should be harmonized with the update of the long-term strategy for the Convention.

82. The EMEP Steering Body and the Working Group:

(a) Welcomed the recommendations related to science in the documents elaborated by the policy response group presented at the session, focused on how to account for some of the short-term recommendations in the forthcoming biannual workplan and noted the limitations in implementing all of the recommendations owing to resource constraints and the need for further financial support for the science part of the Convention;

(b) Approved the draft science part of the 2018–2019 workplan for the implementation of the Convention as amended during the session. The draft workplan included activities to be completed during the next biennium. The mandatory yearly activities carried out by the centres and task forces to support Parties in the implementation of the Convention and its protocols would be included in the updates of their respective mandates;

(c) Decided to forward the draft workplan for consideration and approval by the Executive Body at its thirty-seventh session.

XI. Financial and budgetary matters

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

83. The secretariat introduced the note on financial and budgetary matters (ECE/EB.AIR/GE.1/2017/19-ECE/EB.AIR/WG.1/2017/12). The note presented the proposed schedule of mandatory contributions for 2018–2019 (table 3) — to be submitted to the Executive Body for approval — calculated on the basis of the United Nations scale of assessments for 2016–2018.[15] The secretariat also reported on the status of the memorandums of understanding between ECE and the EMEP centres.

84. The Steering Body and the Working Group:

(a) Took note of the status of contributions to the financing of EMEP in 2017 set out in table 1 of the note on financial and budgetary matters, and the additional information provided by the secretariat during the session;

(b) Approved the use of resources by the EMEP centres in 2016, as presented in table 2 of the note;

(c) Took note of a proposal for the EMEP budget for 2018 for consideration and approval by the Executive Body at its thirty-seventh session. The total budget for 2018 would be the same as for 2017, but with a modified split between centres — i.e., for CIAM $155,000, for CCC $850,000, for MSC-W $570,000, for MSC-E $475,000 and for CEIP $240,000. In the case of CEIP, CCC and MSC-E, the proposed budget — in addition to funding for the centres' mandatory activities — included funds to cover activities addressing three emerging issues:

(i) Improvement and verification (against other emission inventories) of gridded emissions ($20,000, CEIP);

(ii) Coordination of the upcoming field campaign on carbonaceous aerosols with a focus on potential twin sites ($30,000, CCC);

(iii) Follow-up of the B[a]P study initiated in 2017: check the gaps in emissions in other countries of the ECE domain, investigate seasonality of such emissions ($20,000, MSC-E);

(iv) Support for the work on quality assurance and quality control with respect to EMEP monitoring ($20,000, CCC).

(d) Recommended that the Executive Body adopt the 2018–2019 schedule of contributions as presented in table 3 of the note;

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

(f) Invited all Parties that had not yet paid their contributions for 2017 to do so as soon as possible;

[15] See General Assembly resolution 70/245.

(g) Invited the Bureau of the EMEP Steering Body to discuss the 2019 budget for the EMEP centres at its next meeting in 2018, taking into account progress in the implementation of the workplan for 2018–2019 and any emerging issues and needs.

85. As the proposal for the EMEP budget for 2018 prepared by the Steering Body Bureau could not be discussed and approved at the session owing to insufficient time, the EMEP Chair invited Parties to provide their comments both to her and the secretariat by 15 November 2017.

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

86. In line with revised decision 2002/1 of the Executive Body, the secretariat introduced the elements 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 2016–2017. The secretariat also presented information on the implementation of memorandums of understanding for 2017.

87. The Steering Body and the Working Group reiterated the importance of CCE for the entire Convention, stressed the need for finding a successor to the Centre and decided to request the Executive Body, if necessary, to consider an extraordinary allocation of the non-earmarked part of the funding for the effects centres through the ECE trust fund in order to secure co-funding for a CCE successor.

88. The Steering Body and the Working Group:

(a) Took note of the relevant elements of the note on financial and budgetary matters, and decided to submit the information to the Executive Body;

(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 2017 and to make it available to the Executive Body at its thirty-seventh session;

(c) Recommended that the status of contributions be used as a basis for the budget to co-fund the effects-oriented activities in 2018;

(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 also 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 2016–2017, but reiterated the invitation to all Parties that had not yet done so to provide to the trust fund for financing of the effects-oriented activities, without undue delay, the contributions decided by the Executive Body in its revised decision 2002/1;

(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.

XII. Closing of the third joint session

89. The EMEP Steering Body and the Working Group agreed on the main decisions taken during their third joint session.

90. The two bodies also provisionally agreed to hold their fourth joint session in Geneva starting on the afternoon of 10 September and running through the morning of 14 September 2018. Alternatively, if necessary, the session would be organized in late August of 2018.