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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

Agenda item 8 of the provisional agenda

**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**

Activities of the Bureaux of the Steering Body and the Working Group on Effects*

Note by the secretariat

Summary

The present note provides a report of the discussions at and outcomes of the meeting of the Bureaux and the Extended Bureaux 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 held from 19 to 21 February 2018 in Madrid, Spain.

* The present document is being issued without formal editing.



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I. Introduction

1. The present note details the activities of the Bureau of the Steering Body to the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) and of the Bureau of the Working Group on Effects, reporting the results of the joint meeting of the respective Bureaux and the Extended Bureaux held from 19-21 February 2018 in Madrid, Spain. The meeting was held back to back with the meeting of the Bureau of the Executive Body (21-22 February).

A. Attendance

2. The following EMEP Steering Body Bureau members attended the meeting: Ms. Laurence Rouïl (France), Chair of the Steering Body, Ms. Sonja Vidič (Croatia), Mr. Xavier Querol (Spain) and Mr. Rudolf Weber (Switzerland). All the members of the Working Group on Effects Bureau attended the meeting: Ms. Isaura Rabago (Spain), Chair of the Working Group on Effects, Ms. Sabine Augustin (Switzerland), Mr. Jesper Bak (Denmark), Mr. Thomas Dirnböck (Austria) and Ms. Gudrun Schuetze (Germany). Ms. Anna Engleryd (Sweden), Chair of the Executive Body to the Convention and Mr. Roald Wolters (the Netherlands), the European Commission, also attended.

3. The meeting was attended by representatives from the five EMEP Centres: the Meteorological Synthesizing Centre-East (MSC-E); the Meteorological Synthesizing Centre-West (MSC-W); the Chemical Coordinating Centre (CCC); the Centre for Integrated Assessment Modelling (CIAM) and the Centre on Emission Inventories and Projections (CEIP). Also attended representatives of all the Working Group on Effects Centres: the Programme Co-ordinating Centre of the International Co-operative Programme (ICP) on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests), the Programme Centre of the ICP on Assessment and Monitoring of the Effects of Air Pollution on Rivers and Lakes (ICP Waters), the Programme Centre of the ICP on Effects of Air Pollution on Materials, including Historic and Cultural Monuments (ICP Materials), the Programme Centre of the ICP on Effects of Air Pollution on Natural Vegetation and Crops (ICP Vegetation), the Programme Centre of the ICP on Integrated Monitoring of Air Pollution Effects on Ecosystems (ICP Integrated Monitoring), the ICP on Modelling and Mapping of Critical Levels and Loads and Air Pollution Effects, Risks and Trends (ICP Modelling and Mapping), and the Joint Task Force on the Health Aspects of Air Pollution (Task Force on Health). Mr. Martin Adams (European Environment Agency), co-Chair of the Task Force on Emission inventories and Projections, Mr. Rob Maas (the Netherlands) Chair of the Task Force on Integrated Assessment Modelling, Mr. Augustin Colette (France), co-Chair of the Task Force on Measurements and Modelling, Mr. Filip Moldan, Chair of the Joint Expert Group on Dynamic Modelling (JEG Dynamic Modelling), also participated in the meeting as well as the secretariat of the United Nations Economic Commission for Europe (ECE).

4. Mr. Frank Dentener (the Netherlands, co-Chair of the Task Force on Hemispheric Transport of Air Pollution), contributed to the meeting via web connection.

B. Organization of work

5. The meeting was chaired by Ms. Isaura Rabago and Ms. Laurence Rouïl. The participants of the meeting expressed gratitude to Ms. Rabago and the Research Center for Energy, Environment and Technology (CIEMAT) for hospitality and for organization of the meeting in Madrid.

6. The format of the annual joint meeting of the respective Bureaux and the Extended Bureaux was changed compared to previous years. There were no unique parts of the meeting dedicated to effects-oriented (under the Working Group on Effects) or EMEP activities. The current strategic issues to be discussed were: the implementation of the recommendations of the ad hoc policy review group (PRG) and related update of the Convention long-term strategy and the need to secure budget to achieve the goals of the 2018-2019 workplan. To begin with, each centre and task force reported on the implementation of the 2018-2019 workplan focusing on potential difficulties and questions that would require advice or approval by the Bureaux. Then, participants formed four subgroups that worked independently to discuss the following items:

- (a) EMEP key issues (monitoring and EMEP strategies, priorities, budget);
- (b) Working Group on Effects key issues (strategy for effects-oriented activities; national monitoring networks, budget);
- (c) Improving cooperation between EMEP and the Working Group on Effects;
- (d) Outreach activities and efforts.

7. The designated rapporteurs summarized the discussions at subgroups at the plenary session the following day.

II. Matters arising from the thirty-seventh session of the Executive Body, the third joint session of the Steering Body and the Working Group on Effects

8. The Chair of the Executive Body, drew attention to the major outcomes of the thirty-seventh session of the Executive Body for the Convention and, in particular, on the status of ratifications of the three latest amended protocols including progress made by countries in Eastern Europe, the Caucasus and Central Europe (supported by capacity building activities), highlights of the 2016-2017 workplan (black carbon emissions and fine grid emission reporting), cooperation with the European Union on ecosystem monitoring (a guidance document was prepared by Ms. I. Rabago and colleagues from ICPs; effects monitoring data to be submitted by Parties in 2019; EEA to collaborate more with the effects community?). The Executive Body adopted the 2018-2019 workplan, tasked the policy review group to elaborate a draft revised long-term strategy, tasked its Bureau to initiate discussion with United Nations Environment Programme on collaboration in implementing the resolution on preventing and reducing air pollution to improve air quality globally (UNEP/EA.3/Res.8), adopted by the United Nations Environment Assembly at its third session (Nairobi, 4-6 December 2017. Germany informed that it would take over the Coordination Centre for Effects (as of 2019). The Executive Body requested the EMEP Steering Body for info on transparent EMEP budget considering the priorities and challenges and took note of the draft revised mandates for scientific centres and task forces under the Convention.

9. The Chair of the EMEP Steering Body and the Chair of the Working Group on Effects summarized the outcomes of the third joint session of the EMEP Steering Body and the Working Group on Effects. The main issues discussed included: the thematic sessions on:

- (a) Linking different spatial scales of air pollution — from hemispheric to urban;
- (b) Ecosystem monitoring.

10. About 20 presentations were delivered followed by in-depth discussions and recommendations. Other highlights of the joint session included: issues related to emissions (e.g. condensables and semi-volatile organic compounds), priorities and future of EMEP

monitoring, support to Parties, setting up a successor for CCE in Germany (at German Environment Agency – Umweltbundesamt), efforts of the Working Group on Effects community to implement the recommendations from the 2013 ICP review, and information sharing with partner organizations (e.g. Arctic Monitoring and Assessment Programme, Stockholm and Minamata Conventions, World Health Organization, World Meteorological Organization, United Nations Environmental Program and the Copernicus Atmospheric Monitoring Service (CAMS)).

11. The secretariat provided an update on cooperation opportunities for the Convention with various international mechanisms on transboundary air pollution in particular with the United Nations Environment Programme, World Health Organization, and subregional efforts in Asia (e.g. Acid Deposition Monitoring Network in East Asia (EANET) and the Economic and Social Committee for Asian and the Pacific - ESCAP). The secretariat informed that it would participate in the 2018 Asia Pacific Clean Air Partnership (APCAP) Joint Forum, including a panel discussion on “Action by Regional Networks and Organizations to Improve Air Quality in Asia Pacific” in Bangkok on 22 March 2018, and in the EANET Science-Policy Dialogue on the 23 March 2018 where it would deliver a presentation on the Convention’s current and future work with a focus on the response to the UNEA-3 resolution. At the request of the EANET, it will also highlight some potential areas of collaboration between the Convention/EMEP and EANET. The secretariat would also deliver an invited presentation at the APCAP Science Panel meeting on “CLRTAP mechanism and modality strengthening science and policy intervention in member states” on 23 March. The secretariat also informed about the first global conference on air pollution to be organized by World Health Organization and partner organizations in Geneva, Switzerland on 30 October–1 November 2018.

III. Progress on the 2018-2019 workplan, science related strategic issues and outreach activities

A. 2018-2019 workplan for the implementation of the Convention

12. The Bureaux took note of the oral reports from: the EMEP Centres and Task Forces, Working Group on Effects Task Force and Centres, JEG Dynamic Modelling and the Task Force on Health, on the progress made in implementing the key activities in the 2018-2019 workplan (ECE/EB.AIR/140/Add.1).

13. The Bureaux discussed and highly acknowledged the implementation of the science part of the 2018–2019 workplan as reported by centres, task force and expert groups. The Bureaux also discussed the priorities for science in the 2018-019 workplan. Several broad areas of activities and research have been identified as key ones:

(a) Support to Parties e.g. with respect to national research (emissions, monitoring, local and sub-regional modelling, effects work); easy access to data, development of tools etc.;

(b) Depending on particular national needs, continuation and where needed extension of the technical support to countries in Eastern Europe, the Caucasus and Central Asia;

(c) Cooperation with internal and external partners beyond the ECE region.

14. The Bureaux discussed and noted two specific issues:

(a) with respect to activities carried out by the Task Force on Health, the Bureaux noted that underestimation of the effects on human health could occur when comparing results from AirQ+ and the Convention tool for integrated assessment modelling

(the Greenhouse Gas and Air Pollution Interactions and Synergies - GAINS model); also the Bureaux noted the non-availability of air quality guidelines for health impacts (long term exposure to ozone and nitrogen oxides) and the need of dose-response functions;

(b) with respect to activities carried out by the Task Force on Hemispheric Transport of Air Pollutants, the Bureaux noted that in addition to planned numerous scientific papers by the Task Force community, there is a need for a report summarizing policy relevant recommendations from Task Force's coordinated global and regional modelling experiments for 2008-2010 referred to as the "HTAP2 experiments". The report would be based on new scientific knowledge gained over the last few years and should be directed to Parties of Convention.

15. The two issues will be forwarded for the consideration by the Bureau of the Executive Body.

16. The scientific workplan items and priorities within EMEP and the Working Group on Effects will be discussed during the task force meetings between March and June 2018 and will be reported during the fourth joint session.

B. EMEP key issues

17. The representatives of EMEP Task Forces and Centres presented and discussed specific issues within the broad range of monitoring and modelling activities. The purpose was to identify issues important in both short and long-term perspectives. The Bureaux welcomed the provided information and noted that particular interest should be made to:

- (a) Issue of condensables (emissions and modelling);
- (b) Need for update of the EMEP/EEA air pollutant emission inventory guidebook (by who, when);
- (c) Impact on the projections (emissions, concentrations, integrated assessment modelling)
- (d) Expected applications for adjustments;
- (e) Emissions inventories used in modelling: official, adjusted or corrected?;
- (f) Revision of the EMEP monitoring strategy and collaboration with other frameworks (CAMS, the Aerosols, Clouds, and Trace gases Research InfraStructure (ACTRIS)-2 project);
- (g) Dealing with the urban and global scales.

C. Working Group on effects key issues

18. The representatives of Working Group on Effects Task Forces and Centres presented and discussed specific issues within the broad range of monitoring and modelling activities. The purpose was to identify issues important in both short and long-term perspectives. The Bureaux welcomed the provided information and noted that particular interest should be made to:

- (a) Dose-response functions for nitrogen and ozone;
- (b) Ozone-nitrogen-biodiversity-climate interactions;
- (c) Effects of particulate matter, heavy metals and persistent organic pollutants;
- (d) Effects monitoring;
- (i) Keep up or extend monitoring networks and activities;

- (ii) Multipurpose networks;
- (iii) Access to data.

D. Improving cooperation between EMEP and the Working Group on Effects

19. *Why more EMEP and the Working Group on Effects WGE co-operation is needed?* The Convention is setup to govern policy on air pollution based on effects (ecosystem effects: acidification, eutrophication, biodiversity and health effects). The co-operation between EMEP and the Working Group on Effects should help in effort to assess whether the policy is sufficient and to design further steps in areas where it is not sufficient.

20. *Consistency of the networks and methodological exchanges.* Let us take the example of ICP Materials. It needs BC and particulate matter (PM) concentrations. It also needs to learn measurement techniques in order to be able to develop (1) dose-response relationships and (2) annual averages on location of ICP Materials sites. EMEP has both model calculations and network of measuring stations. Comparison between the two has been ongoing and agreement between the two has improved over the last 15 years. Some of the improvement is probably also because of improvement of the measuring techniques. EMEP monitoring stations overlap with other monitoring networks, but it is not completely clear to the sub-group how does it overlap with effects monitoring sites under various ICPs (CCC needs to be consulted).

21. *Discussion on ensembles of models to address uncertainties.* It is not always useful to include all models in ensembles. For example, not all models provide deposition estimates. These should not be used in ensembles. European Union National Emission Ceilings Directive requires monitoring which makes use of specific parts of effects-networks integrated in one system. That opens opportunities for further co-operation between both the Working Group on Effects and EMEP and among ICPs. Common data access point would be useful also in this context.

22. *Model inputs and outputs (deposition).* EMEP outputs are used by modelling community either gridded or downscaled to local measured conditions, not always with feedback to EMEP but some ICP Forests measurements were used to evaluate the EMEP model. Combined maps of EMEP deposition and other ICPs measurements would definitely need co-operation and resources devoted to that. Land use maps could need to be improved, Stockholm Environment Institute maps are currently used. Updated and finer resolution scale information is (probably) available. Future scenarios by the GAINS model, including ex post analysis, provide deposition fields and impact on biodiversity and health. That means the GAINS model provides the whole chain from emissions to ecosystem and health effects.

23. *Linkages with climate change and biodiversity.* Several planned (or considered) assessment reports should be done jointly by EMEP and the Working Group on Effects, e.g. on ammonia. Position paper on loss of biodiversity would be useful and should be done jointly. Another possibility for fruitful co-operation is to work on air pollution at hemispheric scale together with Task Force on Hemispheric Transport of Air Pollution. How does climate change affect source-receptor relationships in EMEP? Question probably needs to be addressed together with the Task Force. Not all national policies need the time scale needed to see the effects of climate change. Source-receptor matrices for extreme years could be used. Climate change is included e.g. in forest growth models on site level.

24. *Cooperation on modelling and mapping between MSC-E and MSC-W and ICPs.* There is a long tradition of using EMEP data within effects-community, also when (e.g. ICP Forests for deposition and ozone) own measurements are available. JEG Dynamic Modelling uses EMEP data heavily too, and other ICPs as well. Involvement of EMEP in

downscaling might be very good since EMEP is the source of data which are being downscaled. CCE had been an important link between EMEP and the modelling community, new ways to facilitate EMEP results to effects community might need to be developed. Base cation deposition time series would still be useful, sea salt deposition calculations are helpful step in that direction. Gridded data are now available at 0.1° x 0.1° scale. By decreasing the scale, modelled data are getting “closer” to local conditions, but local observations are still needed for site specific models/analysis.

25. *Integrated Assessment Modelling and health effects: nitrogen dioxide and long-term effects of ozone, benzo[a]pyrene, ultrafine PM.* Health effects: response functions exist for nitrogen oxides, ozone and PM, even if the same has been used for some years now and an update might be needed. Minimum levels (levels not harmful) needs to be established. With respect to benzo[a]pyrene – more work is needed on polycyclic aromatic hydrocarbons in general. Response functions and concentrations are needed for health impact assessment in general, but to be more specific is not possible at this point, i.e. more work is needed. e.g. to decide on what averages over what time and space are most relevant. Development of AirQ+ tool is using European figures/relationships, but the ambition is to use it globally, which may call for revisions. What data are used as an input to AirQ+ is up to each user even if default response functions and concentrations exist. Also important is to consider that actions to achieve air pollution before designed levels are needed on local air pollution and on long-range air pollution. The arguments to govern these may not be the same.

26. The Bureaux welcomed the information on and recommendations for improving cooperation between EMEP and the Working Group on Effects prepared by the sub-group of EMEP and effects experts (paras 16-22) and recommended the continuation of the discussions on the improvement of the cooperation during the fourth joint session.

E. Policy response to 2016 assessment report – update of strategies for EMEP and for the effects-related activities

27. Chairs of the Steering Body and the Working Group on Effects introduced the science related outcome of the work done by the ad hoc policy review group of experts on the 2016 scientific assessment of the Convention, established by the Executive Body for the Convention at its thirty-fifth session. The group proposed a number of recommendations directed to the scientific work under the Convention (see ECE/EB.AIR/WG.5/2017/3 and informal document No. 2 Recommendations - Report of the ad hoc policy review group of experts).¹ The science related short-term recommendations made by the group were discussed at the third joint session in the context of the draft 2018–2019 workplan for the implementation of the Convention. On the other hand, the long-term recommendations are important in the context of the updates of EMEP strategy (also EMEP monitoring strategy) and strategy for effects-oriented work, and in the context of the updates of mandates for centres and task forces. It is expected that the Executive Body will discuss and approve the updated long-term strategy for the Convention. The updated strategy will provide the basis for the updates of related EMEP and the Working Group on Effects strategies (to be adopted by the Executive Body at its thirty-ninth session in December 2019).

F. Working Group on Effects discussions on long-term strategy for the Convention

28. Representatives of centres and task forces under the Working Group on Effects discussed and reviewed activities by all ICPs for each of the following priorities: (i)

¹ See <http://www.unece.org/index.php?id=43511#/>.

nitrogen and ozone dose-response, (ii) ozone-nitrogen-biodiversity-climate interactions, and (iii) effects of particulate matter, heavy metals and persistent organic pollutants. The sub-group made the following recommendations:

(a) To promote collaboration with other networks such as European Union research infrastructures (e.g. ICOS, LTER) and with national research projects;

(b) Not to overlook that single stressors remain very important for assessing air pollution impacts on ecosystems (otherwise much of current important work becomes invisible in the long-term strategy); this is also important because national focal centres can do important work here (i.e. simple mass balances, etc.);

(c) To remind ourselves about current policy needs, so we don't continue as we have always done; also, to be aware that our group has the unique possibility to highlight air pollution impacts whereas other bodies/Conventions often view this as a minor factor and may overlook it;

(d) To be aware that also multi-effect impacts are very important, but that these stressors and impacts may be different between regions and ecosystems;

(e) To be aware that disentangling complex interactions preferably needs additional experimental approaches because monitoring data alone are not sufficient; such experiments are not funded under the Convention; which means we will need to (continue to) look outside the Working Group to develop complex dose-response relationships; otherwise the Convention should consider to allocate resources to allow targeted studies on these complex interactions;

(f) To recommend lobbying at the European Union level to get our priorities into call text, so we can get European Union funding to work on these complex interactions;

(g) To improve the representation of the work under the Working Group as a single, integrated network, rather than as separate networks, although we should be aware that we do a fairly good job already;

(h) To suggest to EEA to unite the research effect groups under the Working Group on Effects as (for example) a European topic centre for ecosystem effects to assure good effect assessment under the National Emission Ceilings Directive;

(i) To do a gap analysis of our monitoring network in terms of the policy needs (like certain ecosystems / nature types are not covered) - which is important for the National Emission Ceilings Directive;

(j) To improve the visibility of the monitoring under the Working Group on Effects in Natura 2000 sites – because these sites are protected from land use change (so not a driver) while climate change is more of a long-term stressor; so nitrogen deposition is indeed a very important driver. This is low-hanging fruit for biodiversity-work under the Working Group – to improve visibility and communicate much more clearly to the European Commission that nitrogen deposition is a threat to biodiversity (note that many of the Working Group sites are in forest (in Natura 2000 sites) – so doesn't cover 'all' types of ecosystems). This requires possibly a change in the reporting, and more outreach – and the Working Group on Effects should discuss how to do this.

G. Outreach activities and efforts

29. Representatives of centres and task forces under the Working Group on Effects discussed and reviewed various outreach activities and efforts made by all scientific groups under the Convention. The sub-group posed several questions and made recommendations:

(a) What is meant by outreach and in-reach (within the Convention)? The messages are different depending on the target group (scientific community; policy level, other regions, global and regional partner organizations); most of the current outreach is directed towards scientific community;

(b) Policy review group raised the need for improvements of communications to the public, organizations and politicians (to compile an inventory for the Executive Body?)

(c) Outreach to the public: we are not trained to communicate to media and the public; exaggeration and simplifications often occur in media;

(d) Communication to the policy people is challenging; Do we need a communication outreach plan? What is the effective way of communicating (question to the Executive Body); How we can improve on policy (global) cooperation?

(e) Outreach efforts: what is in (benefits) for us; rationale why are we doing things? We need focused messages (e.g. 2016 Assessment report); urban and regional scale linkages attract attention.

H. EMEP specific budgetary issues

30. At the request of the Chair of the Steering Body, the EMEP centres and task forces provided detailed information about the use of resources for key activities and outputs over the 2015-2017 period. The key activities can be grouped into three broad classes: the direct support to Parties, exchange of data and collaboration within the Convention, and information sharing with other regions and partner organizations. Most efforts are associated with tasks described in their mandates while biennial workplans cover specific short-term activities and projects. Most of the centres reported considerable in-kind contributions (from host Parties) spent on activities that were not funded by the EMEP budget. On the other hand, the activities of the EMEP task forces are funded almost entirely by Parties (participating experts) and by the lead countries (task force co-chairs). Further analysis of the EMEP budget split with priorities and rationale will be carried out during the fourth joint session.

I. Working Group on Effects specific budgetary issues

31. The Chair of the Working Group on Effects presented an analysis of budgets and financing needs of the effects-related activities. The basics of the funding flows under the Convention were described in an informal document prepared by the secretariat for the thirty-seventh session of the Executive Body. Most of the ICP/Task Force work depends on support by countries (participation of national experts, monitoring data). Centres and Task Force leaders provide coordination of activities, organize meetings and monitor the workplan implementation. The ICPs and task forces provide: tools for impact assessments (e.g. critical loads), harmonized methodologies (critical load/levels calculations and monitoring procedures), data (recording, management and analysis), reporting and arena for scientific discussions. During the discussion the sub-group noted that:

(a) Current co-funding received from ECE trust fund makes about 25 per cent of estimated needs;

(b) Present system is based on mostly funding from lead countries and countries supporting programme centres; the system is not stable (example CCE) and puts unequal burden on countries compared with EMEP protocol;

(c) Situation has been discussed for over 20 years;

(d) Current workplan only includes effects-related tasks that can be done (reporting requirements to secretariat); the workplan does not include basic functions like database management, quality assurance and quality control etc.;

(e) Reason why 100 per cent of work is done? Full potential of ICPs is not used;

(f) European Union National Emission Ceilings Directive has made effects work more visible;

(g) Value of effects monitoring infrastructure in countries is worth several tens of million euros; programme centre activities form only small part of overall costs for effects monitoring;

(h) Costs for effects monitoring are very small compared with emission reduction costs and monetized impact costs;

(i) Include JEG Dynamic Modelling funding under ICP Modelling and Mapping in the financing table?;

(j) Should the numbers in the financing table be presented only as summarized activities (monitoring, dose-response, critical loads, dynamic modelling) while detailed information in annex? More coherent picture of the effects work is needed.

J. Update of the mandates for centres and task forces

32. The Chair of the Steering Body to EMEP supported by the secretariat described the process and timeline (2018) for the development of updated mandates of centres and task forces under EMEP and the Working Group on Effects. The updated mandates should specify the main functions and obligations for centres and task forces and should include some key elements common to all scientific activities under the Convention e.g. support to Parties, in particular, to countries in Eastern Europe, the Caucasus and Central Europe and cooperation with internal (within the Convention) and external partners. The draft mandates would be submitted to the Steering Body and the Working Group on Effects for their consideration during the fourth joint session. The joint session may decide to submit the draft mandates for consideration and approval by the Executive Body at its thirty-eighth session in December 2018.

K. An updated brochure promoting the effects-oriented work

33. Following the recommendation by the Bureau of the Executive Body, the Chair of the Working Group on Effects supported by its Bureau elaborated an updated version of a brochure on the effects-oriented activities. The original brochure was prepared in 2008 and had been distributed among Parties as an annex to the letter by the secretariat calling for voluntary contributions to the ECE Trust Fund to help co-fund the centres under the Working Group on Effects. A first draft of the updated brochure was presented for consideration by the Working Group on Effects at the third joint session. An extended and improved version of the brochure was presented at the meeting. It will be disseminated to promote the effects-oriented activities among Parties and other stakeholders.

L. Draft questionnaire for Parties on the use of data within the Convention

34. The Chair of the EMEP Steering Body presented a draft questionnaire on the use of data within the Convention. The purpose of the questionnaire is to better serve the needs of Parties regarding the generation and use of monitoring, modelling (including integrated assessment modelling) and effects related data.

35. The Bureaux welcomed the draft questionnaire, noted the need for further work on this issue and requested that the questionnaire be further discussed during the fourth joint session of EMEP Steering Body and the Working Group on Effects.

M. Communication and sharing information with partner organizations and other regions

36. Several of the Convention centres and task forces (MSC-E, MSC-W, CCC, CIAM, the Task Force on Measurements and Modelling, the Task Force on Hemispheric Transport of Air Pollution, various ICPs and the Task Force on Health) informed the Bureaux about ongoing and planned activities with other international projects, bodies and mechanisms within (e.g. European Union research projects) and beyond ECE region. Several opportunities for increased cooperation, communication and information sharing were mentioned, in particular, in relation to work on:

(a) Persistent organic pollutants and mercury (Stockholm and Minamata Conventions);

(b) Black carbon emission inventories (the Arctic Council/Arctic Monitoring and Assessment Program);

(c) Ecosystem monitoring (European Union National Emissions Ceilings Directive);

(d) Hemispheric and global air pollution assessments (South and South-East Asia);

(e) Climate change and biodiversity (Climate and Clean Air Coalition, United Nations Framework Convention on Climate Change, European Union Habitats Directive).²

37. The secretariat highlighted a number of outreach events and cooperation opportunities in 2018. To enhance the visibility of the Convention, the secretariat encouraged the Working Group on Effects and EMEP to contact the secretariat whenever an interesting opportunity to promote the Convention arises.

38. The Bureaux welcomed the various outreach activities and information sharing efforts and encouraged all the centres, task forces, groups and the secretariat to continue such actions pointing out to the need for activities at various levels (individual experts, research groups, task forces and bodies of the Convention). The Bureaux also stressed that outreach activities should be beneficial for both sides.

N. Capacity building in countries of Eastern Europe, the Caucasus and Central Asia

39. The secretariat informed about the capacity building activities led by the secretariat in countries of Eastern Europe, the Caucasus and Central Asia. The capacity building has been carried out since late 2014 thanks to generous contributions by the European Union, Germany, the Netherlands, Norway, the Russian Federation, Sweden and Switzerland. The programme is needs driven i.e. the Parties in collaboration with the secretariat set the scope of activities and the priorities. Over the last four years, the activities were focused on national emission inventories and analysis of air quality related national legislation. In 2017-2018, the following activities were carried out or under preparation:

² Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora.

- (a) Workshop on emission inventories and projections in Tbilisi, Georgia (28-30 June 2017);
- (b) Consultation meeting on reporting requirements under the Convention in Almaty, Kazakhstan (28-29 June 2017);
- (c) Roundtable on results of national legislation analysis (24 October 2017) and workshop on emission inventories in Dushanbe, Tajikistan (25-26 October 2017));
- (d) Roundtable on results of national legislation analysis (27 November 2017) and workshop on emission inventories in Baku, Azerbaijan (28-30 November 2017);
- (e) Workshop for countries in Eastern Europe, the Caucasus and Central Asia at the annual meeting of the Task Force on Emission Inventories and Projections in Sofia, Bulgaria, 25-27 April 2018);
- (f) Follow-up workshop on emission inventories in Yerevan, Armenia (6-8 June 2018).

40. The Bureau welcomed the capacity building activities led by the secretariat and:

- (a) Appreciated the capacity building activities since they help to generate complete and better quality emission data; in 2016, all countries in Eastern Europe, the Caucasus and Central Asia – for the first time- submitted their national inventories under the Convention;
- (b) Noted that the priorities will shift from building national inventories to baseline data and projections in support of ratification of the amended Protocol to Abate Acidification, Eutrophication and Ground-level Ozone;
- (c) Encouraged and supported these activities as increased involvement of countries in Eastern Europe, the Caucasus and Central Asia has been a priority for the Convention.
- (d) Encouraged increasing involvement of countries Eastern Europe, the Caucasus and Central Asia in effects-oriented and EMEP activities.

IV. Preparations for the fourth joint session of the Steering Body and the Working Group on Effects

41. The Bureaux discussed the agenda and the format for the fourth joint session of the Steering Body and the Working Group on Effects, to be held from 10-14 September 2018. Like the first three joint sessions of the two bodies held in 2015-2017, the session in 2018 will be a joint session with a single agenda and a single session report. The draft session agenda will be developed by the secretariat in collaboration with the Chairs of the Steering Body and the Working Group on Effects. Working Group related issues will be taken at the beginning of the session, followed by joint (EMEP/Working Group) thematic session and by EMEP specific issues. The joint thematic sessions will include the following issues: lessons learnt from the third joint session, impacts of ammonia emissions and mitigation strategies (will be prepared and chaired by Mr. Rob Maas), and heavy metal pollution with a focus on mercury (Mr. Salar Valinia, Sweden)

42. The Bureaux re-emphasized that the agenda item focused on information sharing by Parties on the implementation of EMEP and of effects-oriented activities, should continue to be a regular item during the joint sessions. Parties would be invited to present their national experiences, successes and challenges (including scientific reports and publications), as well as their collaboration with EMEP and the Working Group on Effects Centres, task forces and expert groups. In particular, at the fourth joint session, Parties will

be requested to share their experiences and challenges in reporting ammonia emission and in heavy metal pollution including mercury.

V. Financial and budgetary matters – information by the secretariat

A. Status of mandatory and voluntary cash contributions

43. The secretariat reported on the status of cash contributions to the EMEP Trust Fund, stressing that 39 (out of 47) Parties to the 1984 Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe had paid at least part of their contributions for 2017. The total of contributions received in 2017 for the EMEP Trust Fund was \$ 2,424,699 slightly above the \$ 2,358,700 budgeted (two Parties paid their contributions for 2017 and 2016). There had been no in-kind contributions by the Parties reported in 2017. The Bureaux welcomed the 2017 financial situation. More details on financial and budgetary issues can be found in the financial document for the third joint session (ECE/EB.AIR/GE.1/2018/19–ECE/EB.AIR/WG.1/2018/12).

44. Secretariat informed also about the status of contribution by Parties to the Convention's Trust Fund for effects-oriented activities in 2017 (\$ 598,065 by 30 November 2017, tentative figure)³ and about the schedule of payments to centres for their work in 2017. The earmarked contributions totaled \$ 146,836 while the non-earmarked contributions totaled \$ 451,229 (both are tentative figures).⁴ The 2018 Appendices to the multi-year Memorandums of Understanding (MoUs) were being prepared and would be finalized later in 2018. The 2018 Appendices would include all the pending activities and deliverables as provided in the 2018-2019 workplan for the implementation of the Convention. As the successor to CCE (to be established in Germany) will not operate in 2018, the 1/8 part of the non-earmarked contribution (approximately \$ 54,700 - tentative figure)⁵ that would normally be set for CCE, would not be used in 2018. Instead, it will be set aside and used to support the activities of the CCE successor in 2019 (in addition to its regular 2019 co-funding).

B. Use of resources for EMEP in 2017 and the EMEP budget split among centres for 2019

45. The Bureaux considered the yearly financial statements of MSC-E, MSC-W and CCC for 2017. The Bureaux noted that the resources for 2017 had been used as budgeted, and noted the significant in-kind contributions by the host countries as presented in their financial statements: CCC \$ 45,433, MSC-E \$ 33,879 and MSC-W \$ 400,574 including \$ 156,695 from CIAM.

46. The Bureau, discussed the distribution of the EMEP budget for 2017–2018. It noted that the structure and distribution of the EMEP budget among the Centres corresponded to the current needs and priorities as set in the Long-term Strategy,⁶ and the 2016-2017

³ The final figure is \$ 581,020.

⁴ The final figures are: earmarked contributions totalled \$ 144,451 while the non-earmarked contributions totalled \$ 436,579.

⁵ The final figure is \$ 52,900.

⁶ ECE/EB.AIR/106/Add.1 Executive Body Decision 2010/18 on Long-term strategy for the Convention on Long-range Transboundary Air Pollution and Action Plan for Its Implementation (see

workplan for the implementation of the Convention (ECE/EB.AIR/133/Add.1). The Bureaux discussed but did not conclude on the EMEP budget for 2019. The issue will be further discussed during the fourth joint session.

C. Contracts for centres in 2018

47. Like in 2017, the centers will be invited to provide to ECE the forecasts of the 2018 budget split (e.g. into personnel costs, travel, subcontracting etc.). The draft proposed budget splits (elaborated by the secretariat) would be based on reported expenditures in the 2017 financial statements submitted by the centres to ECE.

VI. Closing of the Bureaux meeting

48. The next joint meeting of the Bureaux and the Extended Bureaux of the EMEP Steering Body and the Working Group on Effects was tentatively scheduled to be held in the week 18 to 22 March 2018 in Geneva. The date for the meeting is chosen to avoid overlaps with winter holidays and the 2019 Geneva Motor Show which will be held between 7 and 17 March 2019.

ECE/EB.AIR/106/Add.1).