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English only

Economic Commission for Europe**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****Ninth joint session**

Geneva, 11–15 September 2023

Item 2 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 to the
Cooperative Programme for Monitoring and Evaluation of
the Long-range Transmission of Air Pollutants in Europe
and the Working Group on Effects****Note by the secretariat***Summary*

The present note provides information on the discussions at and outcomes of the meeting of 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 online from 7 to 8 February 2023 and in-person from 24-26 April 2023.

I. Introduction

1. The present note details the activities of the Bureau (comprised of the Chair and the Vice-Chairs) 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 under the United Nations Economic Commission for Europe (ECE) Convention on Long-range Transboundary Air Pollution (Convention). The two Bureaux, together with the respective Extended Bureaux (comprised of the Chairs and Co-Chairs of centres and task forces), held their joint meeting online from 7-8 February 2023 and in-person from 24-26 April 2023 in Uppsala, Sweden.

A. Attendance

2. See the Combined List of Participants in Annex I. The meeting agenda is available online.¹

B. Organization of work

3. The Joint Meeting of the Extended Bureaux was organized in two parts. First part took place online on February 7-8, with an objective to discuss planning for 2023 and to present important outputs from the forty-second Executive Body session (December 12-16, 2022). The meeting in Uppsala on April 24-27 focused on 2022-2023 workplan implementation, new workplan for 2024-2025, cooperation and information sharing. The in-person meeting was hosted by the Swedish University of Agricultural Sciences (SLU).

4. The key issues discussed were as follows:

(a) Progress in the implementation of the science part of the 2022–2023 workplan for the implementation of the Convention (ECE/EB.AIR/148/Add.1);

(b) Development of the science part of the 2023–2024 workplan for the implementation of the Convention;

(c) Assessing options for MSC-East activities;

(d) Agenda and organization of the ninth joint session of the Steering Body to EMEP and the Working Group on Effects, to be held in Geneva, from 11 to 15 September 2023 (ECE/EB.AIR/GE.1/2023/1–ECE/EB.AIR/WG.1/2023/1).

II. Update on outcomes and follow-up to the decisions of forty-second session of the Executive Body (Geneva, 12–16 December 2022)

5. The Chair of the Executive Body has briefed the participants on the decisions and outcomes of the forty-second session of the Executive Body that took place in Geneva on December 12-16, 2022 (see Annex II). She has particularly referred to the request by the Executive Body to the EMEP Steering Body to assess the options for reorganization and relocation of the activities currently implemented by the MSC-East and to report back on this assessment to the Executive Body at its forty-third session². Furthermore, the Executive Body requested the secretariat to pause disbursement of the funds approved in the budget for such activities pending reassessment of the situation by the Executive Body upon recommendation by the EMEP Steering Body regarding the plan for carrying out these scientific activities.

6. The Chair of the WGSR provided an update on the Intersessional webinar held to discuss the results of work of the Expert group on policy options development (April 17-18, online). The draft document on policy options will be discussed by WGSR at its September

¹ Available at <https://unece.org/info/Environmental-Policy/Air-Pollution/events/373975>

² ECE/EB.AIR/150, para. 37 (c).

meeting to enable a decision on follow-up to the review of the Gothenburg Protocol in December 2023.

7. The Chairs of WGE and EMEP-SB presented the outcomes of the Executive Body discussion on the Gothenburg Protocol review and emphasized that conclusions of the review should inform formulation of the workplan for 2024-2025, including continuing the scientific work on methane, BC, condensables, working on updating technical annexes and the EMEP Emission Inventory Guidebook and developing a comprehensive guidance document on non-technical and structural measures.

8. The Chair of EMEP presented the outcomes of the Saltsjobaden meeting. Concrete follow-up actions to recommendations by the Saltsjobaden workshop will be discussed at the 9th joint session in September and potentially included into the new Workplan.

III. Discussion on MSC-East

9. Participants discussed implications of the Executive Body decision on MSC-East for the implementation of the Workplan in 2023. The EMEP SB Chair noted that due to the pausing of the budget, activities from the workplan for 2023 may not be possible to implement fully.

10. There was an overall consensus that the work that has been done by MSE-East over the many years is very much valued and appreciated. The EMEP SB Chair noted that based on the EB decision, an assessment was initiated, starting with a short survey which was sent out to the Parties, EMEP/WGE centres, Minamata and Stockholm Conventions and AMAP Programme, aiming to understand their views and expectations. She presented results of the survey as well as potential options for MSC-East relocation, including:

- (a) Proposal from the Jozef Stefan Institute in Slovenia to host MSC-East;
- (b) Establishment of a new center in the EECCA region: Georgia is currently considering this option;
- (c) Transfer of MSC-East responsibilities to Jozef Stefan institute in the short term with perspective to move it to another location in the long term;
- (d) Transfer of MSC-East responsibilities to other existing centers (MSC-West, CEIP, CCC);
- (e) Creation of a single MSC Center with sub-centers distributed according to their expertise.

11. Proposal from Jozef Stefan Institute to host MSC-East was considered by the participants as the most relevant option as it could help to ensure the continuity of work.

12. Georgia is also considering to host the centre, however, they have not submitted an official proposal yet. Furthermore, this option could become feasible in the medium to long term due to current lack of capacities.

13. With regards to transferring MSC-East responsibilities to other centers, MSC-West noted that while some tasks could be easily taken over, others could not be absorbed by them. Contributing to the discussion on whether one single MSC Center with sub-centers distributed according to their expertise should be created, the Head of the MSC-West noted that they would not be in a position to take responsibility of hosting such a center.

14. Relocation of the Centre will provide an opportunity to review its mandate, in particular its relevance to the current needs of EECCA countries, including with regards to capacity building.

15. The EMEP SB Chair remarked that the assessment will be submitted as an official document for consideration by the EMEP SB at ninth joint session in September.

16. The participants discussed whether the Air Convention should address heavy metals (HM) and POPs while there are global Stockholm and Minamata Conventions. Participants agreed that the Air Convention should address HM and POPs in the future, noting that for

example, cadmium and lead are not addressed on a global scale. Cooperation with Stockholm and Minamata Conventions presents good examples of concrete collaboration with other conventions and should be continued. Collaboration with other conventions, particularly the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC) should be strengthened and concrete actions in this regard should be included into the 2024-2025 Workplan.

IV. Progress in the implementation of the 2022–2023 workplan and development of the 2024-2025 workplan

A. Working Group on Effects

17. The representatives of the Working Group on Effects task forces and centres touched upon the progress in implementation of the 2022–2023 workplan. They have also presented and discussed initial ideas for the key activities to be included in the science part of the 2024–2025 workplan for the implementation of the Convention, as presented below.

(i). The Joint Task Force on the Health Aspects of Air Pollution

18. The Chair of the Task Force on Health reported on progress in the implementation of the 2022–2023 workplan. She also highlighted activities to be included into the 2024–2025 workplan. The WHO AirQ+ version 2.2 was presented. It provides a better estimate of the health effects of air pollution. The WHO Climate Mitigation, Air Quality and Health (CLIMAQ-H) software will be launched in 2023. It has improved calculation methods of health and economic benefits of climate change mitigation actions and other important improvements. The Chair brought to attention of participants the Seventh Ministerial Conference on Environment and Health, which will take place in Budapest on 5-7 July 2023, where the Convention and WHO will have a side event along with UNEP, EEA and the Hungarian National Public Health Center.

(ii). International Cooperative Programme on Effects of Air Pollution on Materials, including Historic and Cultural Monuments

19. The Co-chairs of ICP Materials reported on the on-going exposure for trend analysis and on the case studies for UNESCO cultural heritage sites. All workplan items 2022-2023 are on track. Analysis of corrosion and soiling data from the exposure for trend analysis 2017-2021 is on-going and preliminary results were presented for aluminium corrosion around particles. Preliminary results of high-resolution carbon steel and zinc data were also presented. An updated technical manual will be published in 2024 containing information on sites with additional high-resolution measurements. Analysis of data collected at UNESCO sites presented this year includes an ongoing study on the application of Swiss models with increased resolution and the predicted damage at selected UNESCO sites located in Switzerland.

(iii). International Cooperative Programme on Assessment and Monitoring of the Effects of Air Pollution on Rivers and Lakes

20. The Chair of ICP Waters provided an overview of progress related to the 2022-2023 workplan and plans for the 2024-2025. The thematic reports for 2022 and 2023 are concerned with biological recovery (2022) and trends in base cations (2023), while other important activity is an update of the ICP Waters manual. A new data call was just completed. The template for data submission was updated and improved and a new online quality control system was set up for data checks prior to submission. Additionally, the annual intercalibrations are underway. The Biological recovery report has a title 'Responses of benthic invertebrates to chemical recovery from acidification'. Here, a joint analysis of biological recovery of benthic invertebrates in lakes and rivers will be presented in addition to national assessments on biological recovery. The national contributions document sites, biological indicator organisms and indices for assessment of biological change for lakes and rivers in Italy, Norway, Sweden, Switzerland and the UK, in addition to an evaluation of biological recovery (not limited to benthic invertebrates). Most data records and

contributions supply evidence of biological recovery, except for sites that continue to be strongly acidified and sites where records start after 2000. The final conclusions will be presented in September 2023. The report on trends in base cations is tentatively titled: 'Trends in Ca and Mg in surface waters recovering from acid deposition: expected and unexpected patterns'. Here, trends in base cations are analysed in relation to changes in anions, in particular strong acid anions, organic anions and alkalinity (bicarbonate). The aim of the report is to improve the understanding of buffering of acid deposition during the era of low acid deposition, where other factors than deposition, such as climate, may begin to affect chemical recovery. The proposed tasks for 2024-2025 workplan are to deliver an updated ICP Waters manual in 2024, and to focus on dynamic modelling of chemical recovery in 2025. Other items that will have attention are improvement of automated data submission routines and database maintenance, and joint WGE-EMEP workplan items.

(iv). International Cooperative Programme on Integrated Monitoring of Air Pollution Effects on Ecosystems

21. The ICP IM network currently consists of 48 sites in 15 countries. In the last year ICP IM completed the transfer of the Programme Centre from SYKE to SLU, installed passive mercury samplers at sites as part of an international project led by Canada, continued the development of the Extended IM, prepared a manuscript on trends in HM at IM sites, contributed to the revision of the Gothenburg Protocol, promoted co-operation between eLTER and the WGE in line with the letter of understanding, and is now beginning work on a project modelling biodiversity recovery. A manuscript on HM trends was presented, showing declines in Hg, Pb and Cd from 2000-2005 but few significant trends in watercourses after 2005. The work on biodiversity modelling after acidification was introduced, which has potential to act as a pilot project leading to regional assessments using more sites (including those from other networks). Work on increasing co-operation with eLTER was presented, which is of topical interest as eLTER builds up to becoming a European Research Infrastructure which could in many ways be complementary to the WGE. Work continues on developing and promoting Extended IM, with less intense monitoring in new ecosystem types, with the current focus on including new partners and developing the reporting format.

22. It was recommended to strengthen collaboration with ICP Forests. Work on FAIR principles and data availability was encouraged.

(v). International Cooperative Programme on Effects of Air Pollution on Natural Vegetation and Crops

23. ICP Vegetation presented an overview of progress for the 2022-2023 workplan and plans for the 2024-2025 workplan. Further details were provided for several activities, including assessment for wheat production and deciduous forest growth under the various scenarios used for the review of the effectiveness of the Gothenburg Protocol, which although demonstrating an improvement, still showed significant losses even under the most stringent scenario. As part of the outreach work, diffusion tubes to monitor ambient ozone concentration have been deployed by local scientists at several sites including in Ecuador, Ghana, Kenya, Malawi and Zambia. At some sites, such as a forest restoration site in Malawi, ozone concentrations were likely high enough to cause reductions in plant growth. To ensure the continued participation of countries from Europe now and in the future it was agreed at the recent Task Force meeting to transfer the coordination of the European moss survey back to the ICP Vegetation Coordination Centre in the UK. The report of the 2020-2021 survey will now be prepared by the Coordination Centre, in addition to preparations for the 2025-2026 survey. In addition to the main moss survey, more than 30 countries have collected additional samples to be analysed centrally for microplastic content. To date the microplastics found include polypropylene, polyamide, artificial cellulose, acrylates and polyureathanes.

(vi). International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests

24. The Head of the Programme Coordination Centre (PCC) of ICP Forests, Kai Schwärzel, reported on the progress of ICP Forests and presented how ICP Forests will contribute to the implementation of the next work plan of the Air Convention. First of all, an overview of the main content of the ICP Forests Technical report 2022 was presented. Then,

the Head of the PCC gave an update on the meetings that ICP Forests has organised since the last joint meeting of EMEP and the Working Group on Effects, and informed the Bureaux that the scientific conference of ICP Forests and the Task Force meeting of ICP Forests will take place online from June 6 to 8, 2023. The Head of the PCC then showed what activities ICP Forests has undertaken to increase the visibility of ICP Forests and raise awareness of the work of the programme and the Convention. Mr. Schwärzel informed the Bureaux that the EU approved two new research projects under Horizon2020 in which partners of ICP Forests such as LUKE, WSL, INBO, or Thünen are strongly involved. The Pathfinder project is coordinated by NIBIO (<https://www.nibio.no/en/projects/pathfinder>) and the ForWards project by SLU (<https://forwards-project.eu/>). The PIs of both projects are experts in remote sensing. A scientific goal of both projects is to better link monitoring data with remote sensing products. Another activity of ICP Forests that is relevant to the work of the Convention is that ICP Forests will publish the results of the long-term monitoring in the Springer Ecological Studies series. The title of the book is "Responses of Forest ecosystems to air pollution and climate change. The ICP Forests Project". The book shall be published in 2025. Finally, the head of the PCC outlined activities and corresponding deliverables from the 2024-2025 workplan.

25. Coordination with ICP Integrated Monitoring with regards to the new workplan was recommended, particularly on heavy metals.

(vii). International Cooperative Programme on Modelling and Mapping of Critical Levels and Loads and Air Pollution Effects, Risks and Trends

26. TF Chair updated on communication actions towards National Focal Centres including 2023 annual meeting and the newsletter published twice a year since 2019. Also, she presented on the engagement with other groups inside and outside the Convention including the CBD Secretariat. Centre for Dynamic Modelling (CDM) reported the main conclusions from a workshop on interaction between air pollution and climate change (Prague, March 2023) and the progress made on the WGE website. Coordination Centre for Effects (CCE) also briefed on their main achievements along the current workplan: publication of the CCE Status report 2022, advanced progress on the update of the European receptor map, finalized review and revision of empirical critical loads for nitrogen, completed workplan item regarding critical levels of ammonia with the literature review and the empirical data provision supporting a workshop (Dessau, March 2022), activities to update the Mapping Manual, the continued work on the review of critical limits for eutrophication and acidification. TF Chair, together with CCE and CDM also shared their proposals for the next workplan 2024-2025 to be discussed at the next joint session of the EMEP SB/WGE.

(viii). Working Group on Effects web portal

27. The Head of CDM reported on the status of development of the common Working Group on Effects portal. To facilitate the process, a Sharepoint will be made available to enable review of proposed layout of the webpage. The portal will be presented at the next joint EMEP SB/WGE meeting in September 2023.

B. Highlights of the 2023–2024 workplan - Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe activities

28. The representatives of EMEP task forces and centres discussed the progress in implementation of the 2022–2023 workplan. The discussion focused on implications of the EB Decision in relation to MSC-East. They also presented preliminary activities to be included in the science part of the 2024–2025 workplan for the implementation of the Convention. The participants welcomed the information provided and noted the following highlights:

(i). Task Force on Emission Inventories and Projections (TFEIP)

29. The Co-Chair of the TFEIP reported on progress. The updated EMEP/EEA air pollutant emission inventory guidebook 2023: Technical guidance to prepare national

emission inventories (EMEP/EEA Guidebook) will be finalized later this year. The EMEP/EEA Guidebook includes several updates in the sectoral chapters (energy, industrial processes and product use, waste, agriculture and spatial mapping) and in the general guidance, to better represent current scientific knowledge, and in particular to present the uncertainty of the information included in the combustion and industry chapters with greater transparency.

(ii). Centre on Emission Inventories and Projections (CEIP)

30. The in-depth review in 2023 will be organized as an ad-hoc review. The topic of the review will be (a) emissions from agriculture with a special emphasis on ammonia, NMVOC, NO_x and PM_{2.5} emissions and (b) gridded data for the sector agriculture (comparison with GAINS data included); the four approved adjustment applications will be reviewed; strengthening of the capacity building component of the CLRTAP in-depth review will be continued; gridded emission data sets for modellers 2023 will be delivered; an overview of reporting of the “condensable component of PM emissions” for residential heating is planned.

31. For the workplan 2024 and 2025 among other planned tasks the focus is set on (a) Improving spatial distribution of emissions, assuring consistency across pollutants, especially for regions where incomplete gridded data is reported to CEIP (together with MSC-West and CIAM); (b) Comparing the gridded emissions compiled by CEIP with other inventories (GAINS, CAMS, EDGAR, etc.) in cooperation with CIAM, TFHTAP, TFEIP expert panel on “User Engagement”; (c) Improving the gap-filling for heavy metals and POPs; (d) further strengthening of the capacity building component of the review; and (d) refinement of the gap-filling of the shipping emissions and contribution to a potential update of the Gothenburg Protocol.

(iii). Task Force on Measurements and modelling (TFMM)

32. The TFMM Co-Chairs provided an update on the TFMM status in achievement of the 2022-2023 workplan and tentative plans for the 2024-2025. A major activity of the Task Force regarded an Intensive Measurement Period organised in July 2022 focusing on improving the understanding of high ozone episodes by strengthening the VOC precursors monitoring. A dozen of State Parties contributed to the experiment, which led to the collection of an unprecedented dataset. Analysis of the samples is still under way, and future plans for their interpretation (in particular with regards to modelling) will be discussed at the 24th TFMM Meeting. A multi-model experiment downscaling global methane mitigation scenarios over Europe was conducted in collaboration with CAMS, and further discussed with HTAP in order to derive a consensus diagnostic on the benefit of methane mitigation, not only for background hemispheric ozone, but also for peaks in high exposure areas of Europe. The benefit of including condensables in PM emission inventories is also being assessed, in particular by making the best use of available source apportionment observations to validate the benefit for modelling results. The progress in the Eurodelta-BaP modelling intercomparison was impaired by the limited interaction with MSC-East, but the progress will also be presented at the next TF Meeting. Several of these items will be followed-up in the next biannual workplan, adding also a focus on monitoring Chemicals of Emerging Concern and contributing to the guidance on the use of low cost sensors for air quality monitoring.

(iv). Chemical Co-ordinating Centre of EMEP (CCC)

33. A representative of CCC made a presentation on work in progress and items relevant for the workplan 2024-2025. The intensive measurement period (IMP) of VOCs in summer 2022 has provided an extensive dataset where several components have not earlier been reported to EMEP. It is expected that evaluation of the results from the IMP will be continued into the next workplan period. A workshop on chemicals of emerging concerns (CECs) is being planned to be held in Norway tentatively in October 2023. This will initiate discussion of guidelines for sampling and analysing these components. The draft EU AQD and its relation to the EMEP programme was discussed.

(v). Meteorological Synthesizing Centre-West (MSC-West)

34. A representative of MSC-West presented a draft proposal for the 2024-2025 workplan. Some of the items represented a follow-up to items from the 2022-2023 workplan.

Preliminary results for the effect of CH₄ mitigation on European ozone were shown, and compared to the effect of emissions mitigation within and outside of Europe of SO_x, NO_x, NMVOC, PM and CO. The MSC-West representative showed a new method for source allocation (the local fraction methodology) and proposed that it should be investigated how it could be used for Convention work, including integrated assessment. Some preliminary results for the impact of agricultural NMVOC on European ozone were shown, and it was proposed that this work should be followed up with CIAM. Last, preliminary results for model comparison to VOC observations were presented, and it was proposed that this should be continued also including the data from the 2022 EMEP summer campaign.

35. It was requested to ensure that work on emission calculations done by the modelling community is fed back to the TFEIP for the update of the Guidebook.

(vi). Task Force on Integrated Assessment Modelling (TFIAM) and Centre for Integrated Assessment Modelling (CIAM)

36. TFIAM will continue to integrate knowledge from science bodies in an integrated assessment framework to support the policy process with scenario analyses. In 2024 TFIAM will finalize a guidance document on non-technical measures and policy instruments. The Expert Panel on Clean Air in Cities (a subsidiary body of TFIAM) will submit a guidance document on tools and experiences to improve urban air quality. If requested, further work on the linkages with climate and biodiversity measures or on equity aspects of policy strategies might be included in the work program for 2025. TFIAM will also continue to stimulate national integrated assessment capacity and to exchange experiences with national experts. The challenge is to involve experts from EECCA, Türkiye and Western Balkans. For this group CIAM will organize a workshop on GAINS scenarios at IIASA and pursue further exchange with national experts. TFIAM/CIAM are ready to contribute to targeted webinars to be organized by TF FICAP.

37. CIAM will continue to update and further develop the GAINS model. New scientific findings, e.g. on the condensable fraction of the particulate matter emitted from various sources, on the emissions of soil NO_x and NMVOC from agricultural sources (livestock and crops), or on the implications of hydrogen economy on emissions of GHGs and air pollutants will be included. Moreover, the GAINS model will be refined to enable the assessment of health risks for the urban population, and will provide an updated assessment of emissions and projections of mercury at a global level. No clear scenario requests from the policy bodies have been received yet. Until such requests arrive, CIAM will explore illustrative scenarios in between the CLE-scenario and MFR/LOW, focused on reduction targets for health impacts and/or on the reduction of exceedances of nitrogen critical loads. CIAM will update the potential for hemispheric methane mitigation. In cooperation with MSC-West and TF HTAP the effectiveness of hemispheric methane measures will be explored for reducing ground level ozone in the UNECE.

38. It was announced that France has agreed to take over the responsibility for the role of co-chair from the Netherlands. From 2024, Sweden and France will co-chair TFIAM.

(vii). Task Force on Hemispheric Transport of Air Pollution

39. TFHTAP gave a presentation with a focus on the proposed core work elements for inclusion in the 2024-2025 workplan. Under the topic of “Global Emissions”, TFHTAP proposed to continue to explore the extension and expansion of global emissions mosaics, building on HTAPv3. TFHTAP intends to explore options with the global emission inventory community to extend the inventory by including new world regions (eg. Africa, Latin America) and to keep the inventory up to date as new emission data become available. Under the topic of “Future Scenarios”, TFHTAP proposed to organize new global model simulations of future scenarios developed by CIAM, including examination of the role of methane, source attribution methods, links to regional scale (TFMM, MSC-West), and links to impacts (ICP Vegetation). At the TFHTAP meeting on April 21, the global modelling community expressed a strong interest in participating. TFHTAP will begin to draft experiment specifications in 2023. Results are tentatively expected by 2025. Under the topic of “Mercury Modelling”, THTAP proposed to organize new global model simulations, initially to contribute to the effectiveness evaluation of the Minamata Convention, with additional simulations following on from this. Under the topic of “Fires Multi-Pollutant

Modelling”, TFHTAP proposed to design a multi-model intercomparison of the multi-pollutant (PM, POPs, metals, O₃) impacts of fires to be conducted over the next two work plans (2024-2027). Initial consultations with the community are underway, with an options paper targeted for early 2024. Under the topic of “Decision Support Tools”, TFHTAP proposed to continue to produce emulators for existing and future TFHTAP multi-model ensemble experiments and to incorporate these into screening models and decision support tools (eg. building on the openFASST concept). A workshop on this topic is planned for 2024.

C. Cross-cutting activities for 2024-2025 Workplan

40. Several cross-cutting themes/issues were identified as important to be addressed: (i) air pollution effects on biodiversity (and connection to the new framework developed under the CBD); (ii) methane (including connection to UNFCCC); (iii) mercury and heavy metals; (iv) ozone and non-methane VOCs; (v) impact of shipping (including cruise ships); (vi) monitoring strategy for deposition activity (how to create more synergies in EMEP and WGE); (vii) communication challenges, dissemination of data and open data, outreach activities (particularly with other conventions); (viii) support to follow-up on Gothenburg Protocol review.

41. It was agreed that two thematic sessions will be organized at the 9th joint EMEP SB/WGE meeting in September - on biodiversity and methane. NILU would be happy to present three research areas related to methane trends and top down emission verification. The secretariat will assist with inviting outside participants, for example, from UNFCCC.

42. It was agreed that other cross-cutting issues will be included in the 2024-25 Workplan. Concrete follow-up actions to Saltsjobaden workshop will be also discussed in September and potentially included into the new workplan.

V. Heavy metals

43. Chair of ICP Integrated Monitoring presented results of the thematic session on Heavy metal pollution with a focus on mercury, which took place at the fourth joint session of the EMEP SB/WGE (ECE/EB.AIR/GE.1/2018/2-ECE/EB.AIR/WG.1/2018/2). That session recommended that areas such as high-resolution modelling, ecosystem effects, including lag-effect and mobilization, bioaccumulation in fish and effects on human health, should be prioritized, with special attention to the combined effects of multiple stressors. The fourth joint session also noted that there were many opportunities for synergies between the Air Convention and the Minamata Convention. Finally, it concluded that substantial benefits could be gained from continued and increased cooperation between the Working Group on Effects and EMEP on heavy metals cycling, with a focus on source to accumulation.

44. ICP IM presented results from the HM evaluation within this ICP, demonstrating that albeit concentrations of heavy metals are decreasing in many water courses over last 20 years, the trends are not consistent and increasing trends are observed in last years. Furthermore, soil retention of heavy metals is increasing. Finally, brownification may influence trends of heavy metals.

45. Head of the CCE presented work done so far on reviewing critical limits for heavy metals as well as possible next steps. He noted that CCE is not focusing yet on critical loads for heavy metals and if this topic is prioritized, additional resources would be necessary. Furthermore, as the future of MSC-East is currently uncertain, it remains to be defined how to obtain deposition data to calculate exceedances.

46. WHO is also continuing work on promoting the use of human biomonitoring to assess exposure to HM, such as mercury and lead.

47. It was agreed that the subject is important for both WGE and EMEP SB. It is an important cross-cutting issue for future work and should be included into the 2024-2025 workplan. There will be a group established to develop a proposal to work on this issue for the next two years and develop a report for the Executive Body. It will be discussed how to proceed with this subject in the coming years at the ninth joint meeting in September 2023.

VI. Financial and budgetary matters

48. Funding to the EMEP centres was approved as recommended by the eighth joint EMEP SB/WGE meeting³, which means it remains at the same level as in 2022. However, funding to MSC-East is paused for 2023. It was agreed not to propose changes to the overall EMEP budget in the document Financial and budgetary matters (ECE/EB.AIR/GE.1/2023/5–ECE/EB.AIR/WG.1/2023/5) which will be submitted to the ninth joint session of EMEP SB/WGE.

49. Several ICPs have previously brought up an issue of changing budget allocations per ICP in table 10 of the document [Financial requirements for the implementation of the Convention](#). These numbers were agreed long time ago based on needs and priorities at the time and no longer reflect the situation. There is also an idea to change the way budget deficit is reflected in table 8. A possibility to make changes to tables 8 and 10 were discussed to reflect adequately funding availability to the ICPs/TF. It was emphasized that a place in the document to flag to the Executive Body lack of funding is needed. It was agreed that the secretariat will provide additional information on in-kind contributions criteria and a separate online meeting to discuss the tables 8 and 10 will be organized, if needed.

VII. Documents for the 9th EMEP SB/WGE meeting

50. The Executive Body at the forty-second session agreed on the revised list of documents for the sessions of the Executive Body and its main subsidiary bodies in 2023. There will be six official documents for the ninth EMEP SB/WGE joint session. The revised list of meeting documents for the ninth EMEP SB/WGE joint session is included in Annex III.

51. Participants were requested to:

(a) submit inputs to the official documents by June 2, informal documents/technical reports by July 17 to the secretariat;

(b) inform the secretariat on the number and content of additional documents (not listed in the Annex III below) that will be submitted;

(c) submit draft decisions and inputs into report to the secretariat by September 4, 2023 or earlier.

VIII. Outreach and communications

52. The Chair of the Executive Body suggested that the Extended Bureaux could organize intersessional meetings under Chatham House rules, which could be used as communication tool, similar to the Intersessional webinar that was held on April 17-18.

53. In connection with the importance of raising the profile of the Convention, it was proposed to bring on board a fundraising expert and/or a communication expert.

54. Participants emphasized importance of translation of the documents and interpretation of the meetings to allow for EECCA countries engagement.

55. The need to identify creative ways to communicate and to integrate the Convention better with other international instruments was emphasized, including CBD, UNFCCC, etc.

56. The secretariat reminded participants of the meeting calendar for 2023, available on [Google Drive](#). The secretariat also reminded the participants that for meetings organized by ICPs/TFs/Centres, it is possible to upload agenda and registration link on the UNECE meeting webpage and to prepare a web-article for the Convention website.

³ The EB has approved decided on the detailed use of resources in 2023 as set out in table 2 of document ECE/EB.AIR/2022/1

IX. Elections of officers

57. The participants were informed that at the time of the meeting only one candidacy was nominated for WGE Chair – Jesper Bak from Denmark. WGE Vice-Chair Sabine Augustin from Switzerland will retire in 2023 and it was agreed to send a call for nominations for WGE Vice-Chair.

58. No nominations for EMEP Chair were received and it was agreed to send a reminder to the Parties.

Annex I. Combined LoP for online and in-person meetings

	Last name	First name	Institution/Function
1	Aas	Wenche	Chemical Coordinating Centre (CCC)
2	Åström	Stefan	Task Force on Integrated Assessment Modelling
3	Augustin	Sabine	Vice-Chair WGE
4	Austnes	Kari	ICP on Assessment and Monitoring of the Effects of Air Pollution on Rivers and Lakes
5	Bak	Jesper	Vice-Chair WGE
6	Butler	Tim	Task Force on Hemispheric Transport of Air Pollution
7	COLETTE	Augustin	Task Force on Measurements and Modelling
8	De Wit	Heleen	ICP on Assessment and Monitoring of the Effects of Air Pollution on Rivers and Lakes
9	Dore	Chris	Task Force on Emission Inventories and Projections
10	Fagerli	Hilde	Meteorological Synthesizing Centre - West (MSC-West)
11	Ferretti	Marco	ICP on Assessment and Monitoring of Air Pollution Effects on Forests
12	Futter	Martyn	Swedish University of Agricultural Sciences
13	Grandin	Ulf	ICP on Integrated Monitoring of Air Pollution Effects on Ecosystems
14	Hayes	Felicity	ICP on Effects of Air Pollutants on Natural Vegetation and Crops
15	Holland	Mike	Vice-Chair EMEP
16	Ilyin	Iliia	Meteorological Synthesizing Centre - East (MSC-E)
17	JAMES	Alice	ICP on Modelling and Mapping of Critical Levels and Loads and Air Pollution Effects, Risks and Trends
18	JAROSINSKA	Dorota	Task Force on Health Aspects of Air Pollution
19	Jutterström	Sara	IVL Swedish Environmental Research Institute, Centre for Dynamic Modelling of the ICP Modelling and Mapping
20	Kaminski	Jacek	Task Force on Hemispheric Transport of Air Pollution
21	Kaplina	Anna	UNECE
22	Karadjova	Albena	UNECE
23	Keating	Terry	Task Force on Hemispheric Transport of Air Pollution
24	KLIMONT	Zbigniew	Centre for Integrated Assessment Modelling (CIAM)
25	Kurén Weldon	James	ICP on Integrated Monitoring of Air Pollution Effects on Ecosystems
26	La Torretta	Teresa	ICP on Effects of Air Pollution on Materials, including Historic and Cultural Monuments
27	Labrador	Lorenzo	Task Force on Measurements and Modelling
28	LINDAHL	Susanne	European Union
29	Loran	Christin	UBA Germany, CCE
30	Maas	Rob	Task Force on Integrated Assessment Modelling
31	Moldan	Filip	ICP on Modelling and Mapping of Critical Levels and Loads and Air Pollution Effects, Risks and Trends
32	Novikova	Alina	UNECE
33	Pinder	Robert	Vice-Chair EMEP
34	Pritula	Dominique	WGSR Vice-Chair
35	Querol	Xavier	Vice-Chair EMEP
36	Rabago	Isaura	Chair WGE
37	ROUIL	Laurence	Chair EMEP

38	RYU	Pilmu	WHO
39	Sanz Noriega	Carolin	UNECE
40	Scavo	Kimber	EB Chair
41	Schindlbacher	Sabine	Centre for Emission Inventories and Projections (CEIP)
42	Schwärzel	Kai	ICP on Assessment and Monitoring of Air Pollution Effects on Forests
43	Sharps	Katrina	ICP on Effects of Air Pollutants on Natural Vegetation and Crops
44	Spranger	Till	WGSR Chair
45	Strużewska	Joanna	Vice-Chair EMEP
46	Tidblad	Johan	ICP on Effects of Air Pollution on Materials, including Historic and Cultural Monuments
47	Tørseth	Kjetil	Chemical Coordinating Centre (CCC)
48	Travnikov	Oleg	Meteorological Synthesizing Centre - East (MSC-E)
49	Valinia	Salar	ICP on Integrated Monitoring of Air Pollution Effects on Ecosystems
50	Wu	Rosa	Task Force on Hemispheric Transport of Air Pollution

Annex II.

Relevant decisions of the forty-second session of the Executive Body (Geneva, December 12-16, 2022)

- (a) decision 2022/3 on the strategy for scientific bodies under the Convention on Long-range Transboundary Air Pollution;
- (b) decision 2022/1 on the updated Guidelines for Reporting Emissions and Projections Data under the Convention on Long-range Transboundary Air Pollution (see ECE/EB.AIR/152/Add.1);
- (c) decision 2022/2 on reporting of emissions and projections data under the Convention and its protocols in force;
- (d) decision 2022/4 on the conclusion of the review of the Protocol to Abate acidification, Eutrophication and Ground-level Ozone, as amended in 2012, and the path forward (see ECE/EB.AIR/152/Add.2). An ad-hoc expert group chaired by Till Spranger on policy options will organize a webinar on April 17th and 18th to brief on their work. Draft report of the ad-hoc group will be ready by the end of May. It is important to organize coordination of this ad-hoc group and TFIM.
- (e) the Executive Body welcomed and took note of the updated Technical Guidance for Emissions Inventory Adjustments under the Amended Gothenburg Protocol, approved by the EMEP Steering Body.

Annex III. Revised list of meeting documents

Agenda	ECE/EB.AIR/GE.1/2023/1– ECE/EB.AIR/WG.1/2023/1	Translated	02 June 2023
Report of the EMEP Steering Body and the Working Group on Effects on their ninth joint session	ECE/EB.AIR/GE.1/2023/2– ECE/EB.AIR/WG.1/2023/2	Translated	Post session
Joint report by the EMEP Steering Body and the Working Group on Effects	ECE/EB.AIR/GE.1/2023/3– ECE/EB.AIR/WG.1/2023/3	Translated	02 June 2023
Present state of emission data, review process and data for modellers	ECE/EB.AIR/GE.1/2023/4– ECE/EB.AIR/WG.1/2023/4	Translated	02 June 2023
Financial and budgetary matters	ECE/EB.AIR/GE.1/2023/5– ECE/EB.AIR/WG.1/2023/5	English only, prepared by secretariat	23 June 2023
Draft 2024–2025 workplan for the implementation of the Convention (science part)	ECE/EB.AIR/GE.1/2023/6– ECE/EB.AIR/WG.1/2023/6	Translated	02 June 2023
Measurements and Modelling (report of the Chair of the Task Force on Measurements and Modelling)	ECE/EB.AIR/GE.1– WG.1/2023/INF.1	English only, not officially edited	17 July 2023
Integrated assessment modelling (report of the Chair of the Task Force on Integrated Assessment Modelling)	ECE/EB.AIR/GE.1– WG.1/2023/INF.2		
Emission inventories (report of the Chair of the Task Force on Emission Inventories and Projections)	ECE/EB.AIR/GE.1– WG.1/2023/INF.3		
Hemispheric transport of air pollution (report of the Chair of the Task Force on Hemispheric Transport of Air Pollution)	ECE/EB.AIR/GE.1– WG.1/2023/INF.4		
Activities of the Bureaux of the EMEP Steering Body and the Working Group on Effects	ECE/EB.AIR/GE.1– WG.1/2023/INF.5		
Review of adjustment applications	ECE/EB.AIR/GE.1– WG.1/2023/INF.6		
Technical report of the International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests	ECE/EB.AIR/GE.1– WG.1/2023/INF.7		
Technical report of the International Cooperative Programme on Assessment and Monitoring of Acidification of Rivers and Lakes	ECE/EB.AIR/GE.1– WG.1/2023/INF.8		
Technical report of the International Cooperative Programme on Effects of Air Pollution on Materials, including Historic and Cultural Monuments	ECE/EB.AIR/GE.1– WG.1/2023/INF.9		
Technical report of the International Cooperative Programme on Effects of	ECE/EB.AIR/GE.1– WG.1/2023/INF.10		

Air Pollution on Natural Vegetation and Crops			
Technical report of the International Cooperative Programme on Integrated Monitoring of Air Pollution Effects on Ecosystems	ECE/EB.AIR/GE.1-WG.1/2023/INF.11		
Technical report of the International Cooperative Programme on Modelling and Mapping of Critical Levels and Loads and Air Pollution Effects, Risks and Trends	ECE/EB.AIR/GE.1-WG.1/2023/INF.12		
Technical report of the Joint Task Force on the Health Aspects of Air Pollution	ECE/EB.AIR/GE.1-WG.1/2023/INF.13		
