

Information sharing by Parties and cooperation with other organizations and programmes

I. Information sharing by Parties

1. A representative of Czechia presented the results of study carried out at the Bohemian Natural Park on the role of forest (no)management in soil and water recovery. He stressed the significance of natural forest disturbance (no intervention, no logging or biomass removal) – in the overall forest management. Biomass decomposition increased significantly soil pools of calcium, magnesium and potassium within 10 years. As a result, the recovery from acidification enhanced. This shows that forest management is very important for soil and water status and recovery.

2. A representative of Spain presented effects-based air pollution activities aiming at improving the risk assessment of ozone and nitrogen deposition effects in the Mediterranean and other water limited ecosystems of Europe. These improvements may be also relevant for other areas according to some future climate scenarios. Progresses in establishing critical levels of ozone for the Mediterranean vegetation types were acknowledged but challenges for ozone risk assessment remain due to the absence of critical levels for some vegetation types and to the uncertainties linked to modelling the effect of soil moisture on dry deposition fluxes of ozone. The latter is being addressed by collaboration between ICP Vegetation and ICP Forests and MSC-W coordinated by Spain while Switzerland is also leading a parallel exercise on Swiss sites. Observation-based evidences of nitrogen deposition in the Mediterranean ecosystems of Spain were also presented, showcasing the dominance of dry deposition, a component of total nitrogen deposition that is generally underestimated by models. This may cause underestimations of actual risk in areas where dry deposition dominates. It was stressed the need for updating current empirical critical loads of nitrogen and homogenizing the methodology for establishing these critical loads. Finally, it was noted that the interaction between ozone, nitrogen and climate remains a challenge for effects assessment using current critical loads and levels. This would need to be addressed through experimenting, monitoring and modelling programmes that should be encouraged by member Parties

3. A representative of Sweden informed about an ongoing project to assess the impact of emissions from international shipping on exceedance of critical loads in countries around the Baltic Sea. The project had been conducted in co-operation with the European Union Sustainable Shipping and Environment of the Baltic Sea region project (BONUS SHEBA). For the acidification the successful efforts to limit sulphur emissions from international shipping are reflected in the marginal impact of shipping on the exceedance of the critical loads (acidification) in the future (year 2040 was evaluated). For nitrogen, however, without the nitrogen emissions from shipping, the remaining area with exceedance of critical loads for eutrophication would be in Sweden 15 – 30 per cent smaller in year 2040.

4. The Steering Body and the Working Group on Effects welcomed the information presented on the implementation of EMEP and effects-oriented activities in Czechia, Spain and Sweden and recommended that further national experiences be presented at future joint sessions.

II. Information sharing and cooperation with other organizations and programmes

5. A representative of the Asia Center for Air Pollution Research (ACAP), the Network Centre for the Acid Deposition Monitoring Network in East Asia (EANET), reported on current and future activities under the EANET, including the feasibility study on the establishment of the new network centre for the EANET. Recent situation of air quality was also presented with respect to ozone and particulate matter throughout the EANET domain. Continued cooperation between the Convention and EANET was essential.

6. Mr. Jesús Miguel Santamaría, Chief Executive Officer of the E-Science European Infrastructure for Biodiversity and Ecosystem Research (LifeWatch ERIC), briefed on the characteristics of this distributed e-Infrastructure and showed the synergies existing with the activities carried out by the different ICPs. Likewise, he spoke about the possibilities of collaboration thanks to the realization of joint projects that could be funded thanks to the mobilization of structural funds (ERDF). In this regard, he encouraged the members of the Working Group on Effects to participate in the next Spanish call for actions co-financed by ERDF for activities related to LifeWatch ERIC. This call contemplates an action linked to internationalization, where different ICPs can play an active role and obtain funding for the realization of activities linked to projects presented by national (Spanish) but also rest of international researchers, being mainly based on the use of the state-of-art of existing ICT (e.g., VRE, Blockchain, Sensor Networks, etc.). Finally, Mr. Santamaría expressed the need to strengthen the relationship between LifeWatch ERIC and the Working Group on Effects in order to mutually benefit from their complementary activities and to advance in the study of biodiversity and ecosystems, providing environmental tools for scientists, managers and policy makers based on science. In this regard, the CEO emphasized the need for a Memorandum of Understanding with LifeWatch ERIC in order to materialize the commitment to work together.

7. A Vice-Chair of AMAP presented ongoing activities of the programme and cooperation with different Convention bodies. The presentation was focused on short-lived climate forcers and mercury, where the Convention-AMAP cooperation is particularly active. He noted the AMAP assessment of Arctic air pollutants with a focus on short-lived climate forcers is underway, with a planned delivery in 2021. An important activity in this context is the European Union-funded 'Action on Black Carbon in the Arctic', aiming at contributing to the development of collective responses to reduce black carbon emissions in the Arctic. The project is coordinated by the AMAP Secretariat and involves cooperation with several Convention centres. The project submitted a document for consideration of the EMEP Steering Body, supporting mandatory reporting on black carbon (an informal document under item 14 (b)). It was also mentioned that there is close cooperation regarding the United Nations Environment Programme Global Mercury Assessment, in which AMAP has a central role. CEIP and MSC-E contribute to this activity, concerning mercury emission inventories and deposition modelling. A presentation of some Global Mercury Assessment results is planned at a side events during the COP-2 in November 2018.

8. A representative of the Joint Research Centre (JRC) of the European Commission presented an overview of activities done in support to the Convention and Task Forces. She highlighted the organization of joint training sessions with the Task Force on Emission Inventories and Projections focusing on emissions estimation and emissions distribution and the availability of Emission Database for Global Atmospheric Research time series and gridded emission inventories of air pollutants and mercury. JRC runs an EMEP level 3 station at Ispra and contributes to the work of the Task Force on Measurements and Modelling also with its participation in the "Twin Site" project. In 2018, a joint Forum for Air Quality Modelling (FAIRMODE) – the Task Force on Integrated Assessment Modelling workshop was organized with a focus on urban scale measures and impact on health, and regular updates on urban scale integrated assessment done with the Screening High Emission Reduction Potential on Air (SHERPA) model further contribute to the Task Force work. She outlined that the support to the Task Force on Hemispheric Transport of Air Pollution also included a leading work on harmonization and improvement of regional emission inventories and further development of the TM5- Fast Scenario Simulation Tool (FASST) tool that is available online. The tool has been used for international assessments, and the article documenting its development is under revision for the special issue on HTAP.

9. Another representative of JRC presented results of a study on air quality co-benefits of the Paris Agreement on climate change mitigation. The study showed that broad-based global climate action would bring substantial air quality co-benefits. An integrated policy perspective could maximize gains for planet, health and economy. The study looked at mitigation costs and air quality co-benefits and

ignored direct benefits of avoided climate impacts and costs of air quality regulation. Future work could provide better insight to policymakers on the sectors and mitigation actions with the largest 'double dividend' in the context of a long-term climate strategy.

10. A representative of WMO's Global Atmosphere Watch (GAW) Programme provided information on activities relevant to the Convention, specifically highlighting cooperation between EMEP and relevant WMO bodies. She presented the statement on the Low-Cost Sensors which was developed in close collaboration with the Task Force on Measurements and Modelling. The statement is based on the peer-reviewed literature that was published up to the end of 2017 and covers active sensors and sensor system for reactive gases, particulate matter and greenhouse gases. The document is available in the WMO library (ISBN 978-92-63-11215-6) and further discussions on sensor performance are encouraged to be shared at the dedicated forum. She presented another important work that addresses the urban scale, namely "Guide to Integrated Urban Weather Environment Climate Services". This document articulates the methodology on how meteorological, climatological, hydrological and air quality forecasting services can be integrated on urban scale to assist multiple cities' stakeholders. She further described the progress made with the development of the Integrated Global Greenhouse Gas Information System (IG3IS) and its contribution to the development of the harmonized analytical and inverse modelling approaches through the benchmarking exercises. She invited participants of the session to join the first IG3IS Symposium that will take place in Geneva on 13-15 November. She highlighted the signature of the collaboration agreement between WMO and EANET. The contribution of EMEP in support of GAW observational network was welcomed, as were the newly established European stations.

11. The Steering Body and the Working Group on Effects welcomed the presentations and oral contributions from partner organizations and programmes (ACAP, LifeWatch ERIC, ACAP, JRC and WMO/GAW) and stressed the need to maintain and develop further outreach efforts and joint activities between EMEP/Working Group on Effects and partner organizations