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**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 3 of the provisional agenda

**Reorganization and relocation of the Meteorological  
Synthesizing Centre-East activities: review of the options****Reorganization and relocation of the Meteorological  
Synthesizing Centre-East activities: review of the options by  
the Steering Body to the Cooperative Programme for  
Monitoring and Evaluation of the Long-range Transmission  
of Air Pollutants in Europe****Note prepared by the Chair of the Steering Body to the Cooperative  
Programme for Monitoring and Evaluation of the Long-range  
Transmission of Air Pollutants in Europe***Summary*

The present note was drafted by the Chair of the Steering Body to the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe in response to the request from the Executive Body to assess options for reorganization and relocation of the activities currently implemented by the Meteorological Synthesizing Centre-East. The note is a synthesis of the outcomes of the consultations and analyses carried out by the Chair and Vice-Chairs of the Steering Body, with the support of the joint Extended Bureaux of the Steering Body and the Working Group on Effects. Six options are proposed in the present document, which contains a description of the details related to their implementation and analysis of the corresponding advantages and disadvantages.



## I. Introduction

1. During its forty-second session (Geneva (hybrid), 12–16 December 2022), the Executive Body for the Convention on Long-range Transboundary Air Pollution (Air Convention) noted and discussed the uncertainty regarding the feasibility of financing and implementation of the activities to be carried out in 2023 by the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) technical centre Meteorological Synthesizing Centre-East (MSC-E)<sup>1</sup> in the circumstances referred to in General Assembly resolution ES-11/1 on aggression against Ukraine.<sup>2</sup> Thus, it requested the EMEP Steering Body to “assess options for reorganization and relocation of the activities currently implemented by the centre, with due consideration for the need to retain geographical balance, and to report back on that assessment to the Executive Body at its forty-third session”.<sup>3</sup>

2. The present note is a synthesis of the outcomes of the consultations and analyses carried out by the Chair and Vice-Chairs of the EMEP Steering Body, with the support of the joint Extended Bureaux of the EMEP Steering Body and the Working Group on Effects, which met from 24–26 April 2023 in Uppsala, Sweden. The note also addresses comments received from the National Focal Points of the Parties, submitted via email in May 2023. Six options are proposed below and details related to their implementation, together with analysis of the corresponding advantages and disadvantages, are described.

3. The EMEP Steering Body and the Working Group on Effects will further discuss the options outlined below during their ninth joint session (11–15 September 2023), after which a final version of the present note will be edited and submitted to the Executive Body for further consideration and decision.

4. The six following options have been considered:

(a) Option 1: Relocation of EMEP MSC-East to an existing organization that has expressed an interest in hosting MSC-East: the Jožef Stefan Institute in Ljubljana (see annex below for letter from Jožef Stefan Institute);

(b) Option 2: Relocation of MSC-East to a new host centre in a country of the Eastern Europe, the Caucasus and Central Asia region: Georgia has expressed an interest in such an option in the medium or long term;

(c) Option 3: A combination of options 1 and 2: relocation of EMEP MSC-East to the Jožef Stefan Institute in the short term, and, creation in the medium to long term of a new centre in Georgia (or in another interested country of the Eastern Europe, the Caucasus and Central Asia region) to enhance and support scientific cooperation between the EMEP centres and the national experts in the countries of the Eastern Europe, the Caucasus and Central Asia region;

(d) Option 4: Reassignment of MSC-East activities among the other EMEP centres: in particular Meteorological Synthesizing Centre-West (MSC-West), the Centre on Emissions Inventories and Projections (CEIP) and the Centre for Integrated Assessment Modelling (CIAM);

(e) Option 5: Establishment of a new governance scheme for EMEP modelling activities based on a single modelling centre (MSC) that would be responsible for the development and implementation of the EMEP modelling framework, with potential support from external teams (considered as “subcentres” or “satellite centres”). The new MSC could be a pre-existing centre (e.g., MSC-West or CIAM). The satellite centres would be based on existing teams that have developed skills and gained experience relevant for supporting MSC activities;

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<sup>1</sup> The Meteorological Synthesizing Centre-East is hosted by a Moscow-based organization of the same name.

<sup>2</sup> A/RES/ES-11-1.

<sup>3</sup> ECE/EB.AIR/150, para. 37 (c).

(f) Option 6: Maintenance of the status quo of the current MSC-East as the host institution for EMEP MSC-East in its current location.

5. At this stage, it is assumed that the budget usually allocated to MSC-East activities would not be increased or decreased (around \$450,000 per year). Moreover, it should be noted that all the options but the last one would require additional financial resources dedicated to the transfer of information from the current MSC-East organization (transferability of the databases, models, etc.). The amount of budgetary funding necessary to ensure this action has not yet been evaluated, and the process to be implemented is not discussed in the present note.

6. It should be noted that, from the EMEP Steering Body perspective, the analysis of the relevance of the various options should not include considerations related to the budget needed to run them. Budget allocation issues apply to all EMEP centres. The in-depth review performed in 2018 by the Chair of the EMEP Steering Body and presented to the Executive Body during its thirty-eighth session highlighted the fact that the EMEP budget is not sufficient to cover all the activities of the EMEP centres according to the workplan and that co-funding is usually necessary.<sup>4</sup> Therefore, consistency between the EMEP budget allocated to MSC-East activities (build and run) and the actual cost of these activities cannot, at this stage, be used as a criterion to assess the options.

## II. Analysis of the six options

### A. Option 1: Relocation of Meteorological Synthesizing Centre-East to the Jožef Stefan Institute (Ljubljana)

7. The Jožef Stefan Institute (founded in 1949 and located in Ljubljana) is the Slovenian national scientific research institute. Its staff of about 1,000 experts and researchers covers the fields of physics, chemistry, biochemistry, electronics and information science, nuclear technology, energy utilization and environmental science. Environmental analytical chemistry, biochemical cycles, isotope geochemistry, radiochemistry and risk and environmental impact assessment modelling are just some of the scientific fields in which the Department of Environmental Sciences of the Institute has developed expertise.

8. On 18 April 2023, Prof. Dr. Bostjan Zalar (Director, Jožef Stefan Institute) contacted the Chair of the Executive Body, Ms. Kimber Scavo, and the Chair of the EMEP Steering Body, Ms. Laurence Rouil, to express the interest of Slovenia and the Jožef Stefan Institute in carrying out the activities of MSC-East, and to propose the Jožef Stefan Institute (Slovenia) as a host organization for EMEP MSC-East as follows:

Modelling assessment of pollution by heavy metals and persistent organic pollutants, which is the main activity of the MSC-East, is of great interest [to] the Jožef Stefan Institute (IJS) ([www.ijs.si](http://www.ijs.si)), more specifically [to] the Department of Environmental Sciences ([www.environment.si](http://www.environment.si)), which has extensive expertise in the field of environmental pollution research with various toxic substances, including toxic metals, persistent pollutants, pollutants of emerging concern (CEC), etc. In particular, the Department is involved in intensive international cooperation focusing on mercury pollution in the framework of scientific projects and in support of activities within the framework of the UN Environment and the Minamata Convention. The Department is a member of numerous international frameworks and initiatives in this field. For example, the Department has been involved in the preparatory work of the Minamata Convention since the first Global Mercury Assessment (report GMA) published in 2002 and contributed to reports published in 2013 and 2018. The Institute has significant computing resources to provide for the operation of the Modelling Centre

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<sup>4</sup> See in “Informal and other documents” tab under item 9: financial requirements for implementation of the Convention, document entitled “In-depth review of the EMEP budget, covered by the mandatory contributions and annotated EMEP budget proposal for 2019 (informal document No. 3)”. Available at <https://unece.org/environmental-policy/events/executive-body-thirty-eighth-session>.

of the MSC-East and the Department of Environmental Sciences can offer space and access to computing facilities.

9. On 28 April 2023, the Director of the Jožef Stefan Institute confirmed the above-mentioned proposal by an official letter sent to the Air Convention secretariat. This proposal is supported by the Slovenian authorities and by the Ministry of the Environment, Climate and Energy. Moreover, Prof. Dr. Milena Horvat (Head, Department of Environmental Sciences, Jožef Stefan Institute) highlighted the fact that her department has many years of experience in cooperation and direct contacts with MSC-East experts, which could simplify the transfer of activities currently carried out by the centre to its potential successor.

10. This proposal has the following advantages:

(a) Existing competences, skills, experience and resources (both human and material) in the field of heavy metals, persistent pollutants and chemicals of emerging concern;

(b) Potential implementation in the short term, with support from the current MSC-East experts. Therefore, continuity of most of MSC-East activities under the EMEP workplan could be ensured for 2024 and beyond. The Jožef Stefan Institute has considerable experience in the field of heavy metals air pollution, therefore this part of the activities would be easily taken over by the centre. Activities related to POPs would be developed in a longer-term perspective;

(c) Easy transfer of databases, models and scientific tools developed by MSC-East over the past decades;

(d) Continuity of collaboration with the United Nations Minamata Convention on Mercury and Stockholm Convention on Persistent Organic Pollutants (and the Convention on the Protection of the Marine Environment of the Baltic Sea Area and the Convention for the Protection of the Marine Environment of the North-East Atlantic), which are important parts of the MSC-East mandate and are acknowledged as key activities by the Air Convention Parties.

11. One reservation regarding this option is that the membership of Slovenia of the European Union could be considered as being in tension with the principle of “geographical balance” expressed by the Executive Body as a factor for consideration. However, the proximity of Slovenia to the Balkan countries could also be seen as a value-added proposition to support geographical spread of the Air Convention work.

12. This option could be implemented in the short-term since the Jožef Stefan Institute could take over a large part of MSC-East activities (at least, work on heavy metals) in 2024. Then, it could increase progressively its capacities for persistent organic pollutants (POPs) issues and modelling.

## **B. Option 2: Relocation of the Meteorological Synthesizing Centre-East to a new host centre in Georgia**

13. Relocation of MSC-East to a new host centre in the Eastern Europe, the Caucasus and Central Asia region was discussed during the forty-second session of the Executive Body.<sup>5</sup> In that perspective, Georgia informally expressed an interest in such an option and the national authorities are currently considering its feasibility.

14. The main challenge for Georgia would be the mobilization of new resources for building up and implementing a new centre to support the relocation of MSC-E, including both human and material resources (laboratories and computing facilities). Capacity-building would be a key driver for the implementation of such a relocation and some time would be needed. At this stage, it is difficult to estimate the necessary timeline to set up a new operational scientific centre covering heavy metals and POPs in Georgia, but five years seems to be the minimum

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<sup>5</sup> ECE/EB.AIR/150, paras. 31–34.

period. A stepwise development approach setting short-term priorities could be an option, but implementation of the first tasks could not be expected before 2026.

15. The timeline would depend on the availability of external scientific support (experts from the other EMEP centres, national experts from the Parties, etc.), the quality of the flow of knowledge transfer from the former MSC-East and the capacity of Georgia to mobilize internal and/or external resources to design, develop and implement a new centre. Those parameters remain to be quantified for a better assessment of the option, which would require some time to be developed. In the interim, activities related to heavy metals and POPs could not be maintained, although they are essential items of the Air Convention science strategy.

16. However, relocation of MSC-East to Georgia would address the objective of maintaining geographical balance among the Air Convention centres and would provide an excellent opportunity to reinforce the “Eastern Europe, the Caucasus and Central Asia inclusive science” approach developed by the Convention.

17. This option as a standalone option would not provide a solution in the short term for the continuation of the scientific activities to be carried out by MSC-East. A timeline of at least 3–5 years would be necessary to run this option.

### **C. Option 3: A combination of options 1 and 2**

18. Looking for a solution applicable in the short term while also considering the need for geographical balance leads to a proposal that results from the combination of options 1 and 2: relocating current MSC-East activities to the Jožef Stefan Institute and creating a new centre in Georgia, responsible for technical and scientific capacity-building in the Eastern Europe, the Caucasus and Central Asia region. It would be a new centre with a capacity-building mandate that should be agreed and detailed according to the needs expressed by the Executive Body.

19. The advantages of hosting the MSC-East activities at the Jožef Stefan Institute have been discussed in option 1 and remain valid. However, option 3 would entail setting up (and funding) a new centre in Georgia in the medium to long term. This centre would serve as an interface between the existing EMEP technical centres (including MSC-East hosted by the Jožef Stefan Institute) and the national experts in the Eastern Europe, the Caucasus and Central Asia region to facilitate transfer of knowledge, data and modelling results, as well as to support the implementation of the Air Convention science (and, eventually, policy) strategy. The EMEP technical centres usually include outreach actions towards the countries of the Eastern Europe, the Caucasus and Central Asia region in their workplans, but they could be more efficiently implemented if managed by a dedicated centre adapting and supporting dissemination of scientific results in that region. Capacity-building, assessing flexibility options and paving the way for increasing the number of ratifications would be part of the mandate of the new centre. This option could, therefore, provide added value beyond what is done by the current MSC-East and respond to some of the issues identified in the review of the amended Gothenburg Protocol, concluded in December 2022, such as implementation of the Gothenburg Protocol in the Eastern Europe, the Caucasus and Central Asia region and the need to enhance ratifications. It should be noted that this is the only option that proposes a mechanism with a capacity-building objective. The relevance of a center dedicated to capacity building should be assessed by the Executive Body.

20. Because new activities would be developed under this option, its implementation could require increasing the EMEP budget of mandatory contributions from the Parties to the Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP Protocol). It is particularly important to ensure that the inclusion of capacity-building activities would not be detrimental to the amount of work to be devoted to scientific activities of MSC-East on heavy metals and POPs, especially if the outreach were to be extend beyond the specific issues related to heavy metals and POPs.

21. Regarding the timeline, a stepwise approach is foreseen: running Jožef Stefan Institute activities as the host of MSC-East in the short term, and implementing the new centre in the longer term (3–5 years).

**D. Option 4: Reassignment of Meteorological Synthesizing Centre-East activities and mandate to the other Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe centres**

22. Under this option, instead of looking for options for hosting MSC-East in the future, the activities borne by the current MSC-East would be reassigned among the other centres according to their competences, in particular:

- MSC-West and CIAM for modelling activities;
- CEIP for emissions and projections.

23. At first glance, this option has two main advantages:

- Skill and experience of the EMEP centres and their knowledge of the Air Convention strategy and priorities could help in ensuring partial continuity of the MSC-East activities.
- Limited impact regarding the governance of the science bodies, provided that their mandates are extended.

24. However, there are also some drawbacks:

- Some modelling activities of MSC-East cannot be easily taken over by the other modelling centres since they are based on specific competences developed and experience gained by MSC-East over the course of many years and do not currently fall within the scope of the other host organizations (Norwegian Meteorological Institute and International Institute for Applied Systems Analysis). This is the case for multimedia modelling of POPs behaviour (transfers between soil, atmosphere, vegetation), resuspension and secondary emissions.
- Considering the difference in gross domestic product (GDP) between the host countries, the budget currently allocated to MSC-East for implementing the EMEP workplan on POPs and heavy metals will not be sufficient to cover the expenses related to the same activities if carried out by the other centres.
- Possible complicated decisions involved in determining which centres would be assigned these additional activities and resources in case of potential competition between interested centres or task forces.

**E. Option 5: A single Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe modelling centre**

25. This option would constitute a significant evolution of the governance of the EMEP centres since it would involve MSC-West and MSC-East coexisting in one single modelling centre (MSC). The location of this centre would have to be discussed as part of a long-term plan related to the science governance of the Convention. It could be one of the existing centres (MSC-West or International Institute for Applied Systems Analysis) or a new centre.

26. This single centre would coordinate modelling activities and carry out some of them. Should some tasks require skills and human and computational resources not available in the centre or host organization, they would be covered by “satellite” teams of experts not necessary belonging to the host organization that could be seen as “subcentres”.

27. Under this approach, which aims to build up a network of modelling centres, geographical balance could be achieved through the location of the satellite teams, and consistency of the EMEP modelling strategy could be improved (also avoiding potential

duplication of work and tools). New teams could join the network and a possible option could be to include the Jožef Stefan Institute as one of those new satellite centres.

28. This option must be considered as a long-term one since its development would entail a new governance scheme for the EMEP centres. This option would not provide a solution in the short term for the continuation of the scientific activities to be carried out by MSC-East. It could require amendment of the annex to the current EMEP Protocol (adopted by consensus by the Executive Body).<sup>6</sup> Therefore, at this stage, it is mentioned in the present note for the sake of exhaustiveness and completeness of the analysis.

#### **F. Option 6: Maintaining the status quo**

29. Under this option, the current activities of science and technical work at MSC-East would be maintained under its existing hosting arrangements, with no change to the location or host of the centre. However, uncertainty regarding the feasibility of financing and implementation of the activities in the work programme to be carried out by the current MSC-East in the circumstances referred to in General Assembly resolution ES-11/1 makes this option very difficult to implement as long as these circumstances and the military aggression are ongoing.

### **III. Recommendations from the Extended Bureau of the Steering Body to the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe**

30. Hosting MSC-East at the Jožef Stefan Institute (option 1) appears to be the most operationally feasible option in the short term. It is certainly the option that would ensure continuity of the scientific work of the Convention on heavy metals and POPs (according to the workplan and the Air Convention science strategy) and would maintain good cooperation with other conventions on those topics.

31. Option 1 would also ensure safe and quick transferability of MSC-East databases, models, tools and expertise towards the new host organization.

32. There is no doubt regarding the capacity of the Jožef Stefan Institute and its Department of Environmental Sciences to take over the running of MSC-East activities.

33. Hosting a new centre in Georgia (option 2) offers the best opportunity to achieve geographical balance as recommended by the Executive Body. However, it would take several years to develop this new centre and would require Georgia and the Convention to provide significant resources for capacity-building. Heavy metals and POPs issues are on the priority list of the Air Convention science strategy and freezing activities related to those topics for several years without a short-term plan for the interim would be counterproductive and is not recommended.

34. Option 3 (built upon the combination of options 1 and 2) is the best compromise between the need to ensure continuity of the scientific activities on heavy metals and POPs, and the need to take into consideration geographical balance for the location of the centres. The EMEP Steering Body Extended Bureau considers that it could, on the one hand, facilitate transferability of the database, models and expertise of MSC-East toward a new host country, and, on the other hand, support development of capacity-building in the Eastern Europe, the Caucasus and Central Asia region. The EMEP Steering Body Extended Bureau recommends carefully considering this option, which responds in a proper way to most of the considerations of the Executive Body.

35. The decision of implementing option 3 could be made in a two-step approach, with a decision only being made on the short-term solution now (which corresponds to option 1:

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<sup>6</sup> Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe Protocol, art. 4 (2) (b).

relocation of MSC-East to JSI) and the possibility of postponing the long-term decision until more information is available.

36. The EMEP Steering Body Extended Bureau does not consider reassignment of MSC-East activities to the other EMEP centres (option 4) to be a relevant option, since those centres do not have the competencies and experience necessary to cover all the activities under of the MSC-East mandate. MSC-West strongly disapproved of this option, and it is not recommended by the EMEP Steering Body Extended Bureau.

37. Designing a new governance structure for the EMEP modelling centres with a single centre (MSC) coordinating the modelling activities that could be reassigned among several satellite centres (or subcentres) (option 5) is interesting in principle since it would bring some flexibility but could only be envisaged in a long-term (5–10 years) perspective. Its implementation would require substantial preliminary work to define the appropriate governance, inventory of the capacities in the ECE region to develop the network of subcentres, analysis of legal and financial issues, amendment of the annex to the EMEP Protocol, etc.

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## Annex

Letter from Jožef Stefan Institute to Convention on Long-range Transboundary Air Pollution secretariat

### Jožef Stefan Institute, Ljubljana, Slovenia

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Date: 6.4.2023

**Ms. Albena Karadjova**  
**Secretary to the Convention on Long-range Transboundary Air Pollution**  
**Environment Division**  
**United Nations Economic Commission for Europe**  
**Office S-350**  
**Palais des Nations**  
**8-14 avenue de la Paix**  
**CH - 1211 Geneva 10, Switzerland**

Dear Ms. Karadjova,

In response to your February 2023 request regarding MSC-E activities, we would like to express our strong interest in the information and data products on air pollution by heavy metals and persistent organic pollutants generated by the EMEP programme. This topic is particularly relevant for Slovenia due to its geographical location and the rather limited coverage of the region with measurements of heavy metals and persistent organic pollutants. Moreover the model assessment of the level of pollution and transboundary transfer of pollution from other countries plays an important role in the development of the national mitigation policy and the fulfillment of the country's international obligations. We would therefore like to express our interest in joining, strengthening and strongly supporting the continuation of activities focused on heavy metal and persistent organic pollutant pollution under the LRTAP Convention.

In reference to the decision of the Executive Body of the LRTAP Convention and its request to assess the possibility of reorganizing and relocating activities of heavy metals and persistent organic pollutants (ECE/EB.AIR/150), we would like to propose Slovenia as the host country for location of this EMEP research center. Modeling assessment of pollution by heavy metals and persistent organic pollutants, which is the main activity of the MSC-E, is of great interest of the Jožef Stefan Institute (IJS) ([www.ijs.si](http://www.ijs.si)), more specifically for the *Department of Environmental Sciences* ([www.environment.si](http://www.environment.si)), which has extensive expertise in the field of environmental pollution research with various toxic substances, including toxic metals, persistent pollutants, pollutants of emerging concern (CEC), etc. In particular, the Department is involved in intensive international cooperation focusing on mercury pollution in the framework of scientific projects and in support of activities within the framework of the UN Environment and the Minamata Convention. The Department is a member of numerous international frameworks and initiatives in this field. For example, the Department has been involved in the preparatory work of the Minamata Convention since the first Global Mercury Assessment (report GMA) published in 2002 and contributed to reports published in 2013 and 2018. The Institute has significant computing resources to provide for the operation of the Modeling Center of the MSC-E and the Department of Environmental Sciences can offer space and access to computing facilities.

## Jožef Stefan Institute, Ljubljana, Slovenia

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The extensive experience of international cooperation of the Institute and close cooperation with the *International Postgraduate School* ([www.mps.si](http://www.mps.si)) can enable the inclusion of highly qualified scientists in the work of the center. It is also worth noting that the Department of Environmental Sciences has many years of experience in cooperation and direct contacts with key MSC-E experts, which can greatly simplify the transfer of the activities currently carried out by the center to its successor and the inclusion of these experts in the work of the center to assure continuous implementation of the MSC-E activities in the future.

We have already discussed this issue with the highest level official of the Ministry of the Environment who are also very supportive of this proposal. In case needed, we can send a letter of interest signed by the state representatives and the Minister, Ministry of the Environment, Climate and Energy.

We sincerely hope that you will find this proposal suitable and acceptable and we kindly request your guidance and further formal guidance in this regard.

Yours sincerely,

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Director  
Jožef Stefan Institute  
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