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Executive Body for the Convention on Long-range Transboundary Air Pollution

Working Group on Strategies and Review

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Item 4 of the provisional agenda
Review of sufficiency and effectiveness of the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone

Draft annotated outline of the report on the review of the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone*

Submitted by the Gothenburg Protocol review group

Summary

At its thirty-ninth session (Geneva, 9–13 December 2019), the Executive Body launched the review of the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (the Gothenburg Protocol), as amended, and, in its decision 2020/2, requested subsidiary bodies to consider the tasks contained in annex I to document ECE/EB.AIR/2020/3−ECE/EB.AIR/WG.5/2020/3 entitled Preparations for the review of the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone as amended in 2012, and also requested implicated bodies to submit timelines for completion and initial input. The Executive Body further requested the Chair of the Working Group on Strategies and Review to compile the inputs and information received into an annotated outline for consideration by the Working Group at its fifty-ninth session.

The current document was prepared by the Gothenburg Protocol review group convened by the Chair of the Working Group. It is aimed to provide clarity to the subsidiary bodies as they work on their inputs to the review. The first draft of the review report containing the received information will be presented as an informal document to the Working Group at its fifty-ninth session.

* The present document is being issued without formal editing.

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I. Introduction

1. In its decision 2020/2 on the plan for undertaking the review of the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Gothenburg Protocol) as amended in 2012, pursuant to its article 10 (see ECE/EB.AIR/146, annex II), the Executive Body requested subsidiary bodies to consider the tasks contained in annex I to document ECE/EB.AIR/2020/3−ECE/EB.AIR/WG.5/2020/3 entitled Preparations for the review of the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone as amended in 2012 (the preparatory document) and also requested implicated bodies to submit timelines for completion and initial input. The Executive Body further requested the Chair of the Working Group on Strategies and Review to compile the inputs and information received into an annotated outline for consideration by the Working Group at its fifty-ninth session. The Gothenburg Protocol review group was tasked by the Chair of the Working Group with assisting her in the development of the annotated outline and the draft report on the review in 2021.

2. The present annotated outline aims to provide clarity to the subsidiary bodies as they work on inputs to the review and answer the questions in annex I to the preparatory document (also included in annex I to the present document for reference). The questions in annex I have been linked to chapters of the outline of the report to help guide the content of the input. Note that a question may apply to more than one section, and as the review continues, the content will be revised accordingly. As a starting point, each chapter in the annotated outline should include the following information:

(a) A short description of the content of the chapter;

(b) Applicable questions listed in annex I to the preparatory document;

(c) Key documentation / information that is already available or to be expected;

(d) Key timelines for delivering the information/input required;

(e) Any resource implications.

3. Subsidiary bodies are to provide their inputs into this outline, which will be expanded into the first draft of the report on the review and be made available as an informal document for the fifty-ninth session of the Working Group on Strategies and Review. To avoid repetition and for ease of use, all key documentation has been listed in a correlation table with references to the applicable chapter(s) of the outline (see section III of the present document). The inclusion of any results or conclusions in the annotated outline is not expected at this early stage of the review process.

4. Although the subsidiary bodies have been tasked with delivering much of the information required for the review, all Parties are encouraged to contribute any further information they may deem applicable towards the chapters or sections, as they see appropriate. In addition, given the importance of increasing ratification and implementation of the Protocol, the report of the review should adequately give priority to Parties that have not yet ratified it, in order to help inform recommendations and conclusions of the review.

5. Timeline for the documentation:

(a) 22 February: the deadline for submission of official documents for the fifty-ninth session of the Working Group on Strategies and Review to the secretariat;

(b) April: the first draft of the review report submitted as informal document for the fifty-ninth session of the Working Group will expand the present annotated outline with additional information provided by subsidiary bodies;

(c) Mid-June 2021: the provisional deadline for submission of official documents for the seventh joint session of the EMEP[1] Steering Body and the Working Group on Effects to the secretariat;

[1] The Cooperative programme for monitoring and evaluation of the long-range transmission of air pollutants in Europe.

(d) The end of August- September 2021 (the exact dates to be confirmed): the seventh joint session of the EMEP Steering Body and the Working Group on Effects;

(e) 17 September: the deadline for submission of official documents for the session of the Executive Body (6-10 December 2021) to the secretariat; the second draft of the review report to be submitted as an official document (word limit of 10,500 words). There also could be an informal background document and/or informal documents with information from the subsidiary bodies relevant to the review. The work on the final review report will continue in in 2022. Some informal documents could then be annexed to the official review report in 2022.

II. Outline of the report on the review of the Gothenburg Protocol

A. Introduction

6. A short history and background to the review with references to some of the key milestones (the scientific assessment of the Convention[2], the long-term strategy for the Convention for 2020–2030 and beyond, the entry into force of the Gothenburg Protocol as amended, article 10 provisions and Executive Body decision 2019/4). A description of the purpose and scope of the review report, applied methodologies for the analysis and general approach for the review will also be included here.

Annex I question(s): not applicable

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

B. Legal requirements for the review

7. Article 10 of the Gothenburg Protocol requires that Parties keep under review the obligations of the Protocol and broadly specifies the modalities of such reviews. Paragraphs 2 (a) and (b) of article 10 are important in determining some of the content and structure of the review report, while paragraph 2 (c) deals with procedural matters for the review. Although paragraphs 2 (a) and 2 (b) include information on a broader review of the Gothenburg Protocol, paragraphs 3 and 4 refer to specific elements that shall be included in the review, i.e., measures to address black carbon and ammonia, respectively.

8. Include explanation of the broader elements that legally need to be addressed under the review, including their content and related issues (the adequacy of the obligations, assessment of emission reduction commitments). Description of the specific elements to be addressed under the review (evaluation of ammonia and black carbon measures).

Annex I question(s): not applicable

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

[2] See Rob Maas and Peringe Grennfelt, eds., *Towards Cleaner Air: Scientific Assessment Report 2016* (Oslo, 2016); and United States Environmental Protection Agency and Environment and Climate Change Canada, *Towards Cleaner Air: Scientific Assessment Report 2016 – North America* (2016).

C. Emissions

9. Description on trends in emissions, achieved emission reductions and their causes, remaining large emission sources, key sectors with remaining large reduction potentials, quality of emission data reporting, needs for improvements on emission data reporting and on applicable guidance. Specific focus on black carbon and inclusion of condensable particles in particulate matter reporting.

Annex I Question(s):

1.2(a), 1.2(b), 1.2(c), 1.2(d), 1.2(e)	(CEIP[3], TFEIP[4])
1.3	(CEIP, TFEIP)
1.4(a), 1.4(b), 1.4(c), 1.4(d)	(TFEIP, TFIAM[5])
4.1	(CEIP, TFEIP)
4.2(c), 4.2(f)	(CEIP, TFEIP, TFIAM)
4.4	(CEIP, TFEIP, TFIAM)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

D. Measured and modelled atmospheric concentrations and deposition levels

10. Description of the latest information (observed and projected trends) on ambient concentrations, depositions of acidifying and eutrophying compounds, photochemical pollution and particulate matter, and exceedances of critical loads and levels. Description of modelling population exposure to particulate matter, ozone and nitrogen dioxide. Review of the monitoring and modelling systems used under the Convention to calculate ambient concentrations and deposition levels and for use in optimized reduction allocations.

Annex I Question(s):

2.1, 2.2, 2.3(a), 2.6, 2.7	(EMEP-MSC-W[6], TFMM[7], WGE[8])
6.3(c)	(TFEIP, TFIAM)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

E. Measured and modelled effects on natural ecosystems, materials and crops and assessment of human health effects

11. Description of the current status of the monitored effects and the assessment of observed and projected trends in effects and risks from acidifying and eutrophying compounds, photochemical pollution and particulate matter, on human health, natural ecosystems, materials and crops. Assessment of trends in vegetation risk of damage due to

[3] The Centre on Emission Inventories and Projections.
[4] The Task Force on Emission Inventories and Projections.
[5] The Task Force on Integrated Assessment Modelling.
[6] The Meteorological Synthesizing Centre-West.
[7] The Task Force on Measurements and Modelling.
[8] The Working Group on Effects.

ozone. Review of new scientific knowledge on environmental and health effects assessments (for example, on the contribution of condensables).

Annex I Question(s):

2.3(b), 2.4, 2.5, 2.8	(TFH[9], CIAM[10], WGE)
4.3	(MSC-W, CIAM)
6.3(c)	(TFEIP, TFIAM)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

F. Emission reduction commitments for Parties

12. Assessment of the 2020 emission reduction commitments, particularly considering revised information on calculated and internationally optimized allocations of emission reductions for Parties within the geographical scope of EMEP, which use integrated assessment modelling (GAINS[11]), including atmospheric transport models. Integrated assessment modelling is based on reducing the effects of air pollution through cost-effective optimization. Parties not covered within the scope of the GAINS modelling may also wish to provide further information to this section, as appropriate. This chapter should provide an answer on the status and barriers of meeting the 2020 emission reduction commitments in annex II to the amended Gothenburg Protocol and to whether these emission reduction commitments are adequate or not.

Annex I Question(s):

1.1	(CEIP)
1.3	(CEIP, TFEIP)
1.5(e)	(Parties)
4.4	(CEIP, CIAM, TFIAM)
6.5	(Working Group on Strategies and Review)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

G. Emission limit values, technical annexes and related guidance documents of the Protocol (with priority given to black carbon and ammonia measures)

13. Assessment of the implementation rate and adequacy of the technical obligations of the amended Gothenburg Protocol and related guidance documents (their contribution in meeting the emission reduction commitments). Identification of gaps or redundancies, and technical requirements and guidance that are obsolete (i.e., assessment against new legislation and updated best available techniques since 2012). Identification of technical requirements that are too demanding or too detailed and should best be adapted to overcome barriers for ratification. Identification of additional implemented or available measures. Specific focus on black carbon (as component of particulate matter) and ammonia.

[9] The Task Force on Health.

[10] The Centre on Integrated Assessment Modelling.

[11] Greenhouse Gas-Air Pollution Interactions and Synergies.

Annex I Question(s):

1.5(a), 1.5(b), 1.5(d)	(TFTEI[12], TFRN[13], Parties)
1.6(a), 1.6(b), 1.6(c), 1.6(d)	(TFTEI, TFRN)
4.2(d), 4.2(e)	(TFTEI, CIAM, TFIAM)
5.1, 5.2(a), 5.2(b)	(TFRN)
6.4	(TFTEI, TFRN, TFIAM)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

H. Specific sector approaches (such as residential solid fuel, agriculture, shipping)

14. Focus on key activities that require specific attention in further reducing their emissions and impacts on human health and the environment. Review of emission reporting, future trends, available measures and emission reduction potential. Focus on following pollutants: particulate matter and black carbon (residential solid fuel burning), ammonia, methane, nitrogen oxides, volatile organic compounds (agriculture) and nitrogen oxides (shipping).

Annex I Question(s):

1.2(c)	(CEIP, TFEIP)
3.4	(TFHTAP[14])
4.2(d), 4.2(e)	(TFTEI, CIAM, TFIAM)
5.1, 5.2(a), 5.2(b), 5.3	(TFRN)
6.3(a)	(TFIAM, TFTEI)
6.5	(TFTEI, CEIP, TFMM, Working Group on Strategies and Review)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

I. Non-technical measures, best available techniques and energy-efficiency requirements

15. Assessment of the emission reduction potential of (best available) non-technical and structural measures. Review of best available techniques to reduce emissions. Specific focus on black carbon (as component of particulate matter), ammonia and methane. Assessment of the need to include requirements on energy efficiency.

Annex I Question(s):

1.5(a), 1.5(b), 1.5(c)	(CIAM, TFIAM, TFTEI, TFRN)
3.5(c)	(CIAM, TFIAM, TFTEI)
4.2(d), 4.2(e)	(TFTEI, CIAM, TFIAM)

[12] The Task Force on Techno-economic Issues.
[13] The Task Force on Reactive Nitrogen.
[14] The Task Force on Hemispheric Transport of Air Pollution.

5.2(a), 5.2(b) (TFRN)

5.4(a), 5.4(b), 5.4(c) (TFRN)

6.3(a) (TFIAM, TFTEI)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

J. Flexibility provisions

16. Description of the complexity of the amended Gothenburg Protocol and its main barriers to ratification. Assessment of the adequacy and effectiveness of current flexibility provisions to facilitate further ratifications. Proposals for alternative solutions and new approaches, with pros and cons, to overcome barriers and increase ratification.

Annex I Question(s):

6.1(a), 6.1(b), 6.1(c) (Working Group on Strategies and Review)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

K. Convention Parties that are not parties to the Protocol

17. Given the high importance of increasing ratification and implementation of the Gothenburg Protocol, this separate chapter for non-Parties to the Gothenburg Protocol summarizes the key findings for these parties resulting from the other chapters as an aid to arriving at appropriate recommendations.

Annex I Question(s):

1.2(d) (CEIP, TFEIP)

1.4(d) (TFEIP, TFIAM)

1.5(d) (TFTEI, TFRN)

1.6(b), 1.6(c) (TFTEI, TFRN)

3.1(c), 3.1(e), 3.1(g) (CIAM, TFIAM)

5.1 (TFRN)

6.1(a), 6.1(b), 6.1(c) (Working Group on Strategies and Review)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

L. Canada and the United States of America

18. This section recognizes that the amended Gothenburg Protocol includes a number of commitments for parties outside the geographical scope of EMEP, which in most cases includes Canada and the United States of America, unless otherwise specified. It also recognizes that Canada and the United States are bilaterally addressing cross-border air pollution under the Canada-United States Air Quality Agreement, which includes commitments by both countries to reduce emissions of sulphur dioxide, nitrogen oxides, and volatile organic compounds. Although the review report will integrate inputs from Canada

and the United States of America into the relevant chapters/sections, as appropriate to national circumstances, this section will include all other relevant information.

19. Canada and the United States of America have ratified the 1999 Gothenburg Protocol (in December 1999 and December 2018 for the United States and Canada respectively) and its 2012 amendments (in January 2017 and November 2017 for the United States and Canada respectively), and have, upon ratification, submitted their respective emission reduction commitments to annex II and relevant emission limit values into annexes IV, V, VI, VIII, X and XI. Canada and the United States of America have a long history of bilateral cooperation on transboundary air pollution through the 1991 Canada-United States Air Quality Agreement. The two countries plan to undertake a review of the effectiveness of the agreement in terms of meeting its environmental objectives as well as its sufficiency in addressing transboundary air pollution. The scope and content of the review are being finalized. It is expected to focus on issues covered by the Air Quality Agreement including acid rain and ozone and their transboundary impacts, while discussions are underway on how and whether to address fine particulate matter, as well as other appropriate additional topics. Although the work schedule for the review of the Air Quality Agreement is not yet confirmed, it is expected to begin in the first half of 2021, with a tentative completion date in 2022.

20. Ammonia is not covered by the Air Quality Agreement, but it is also of concern in Canada and the United States of America as atmospheric ammonia is a key precursor to the formation of fine particulate matter and contributes to acid deposition and eutrophication. Additional assessments are needed to quantify the impacts. Discussions are ongoing.

Annex I Question(s):

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

M. Hemispheric transport

21. Description of the role of hemispheric transport. Assessment of current and future contributions of emission sources outside the ECE region to ecosystems and health impacts in the ECE region. Assessment of emission reduction potentials outside the ECE region. Special focus on ozone and particulate matter (black carbon) and their precursors.

Annex I Question(s):

3.2, 3.3, 3.4 (TFHTAP, MSC-W)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

N. Integrated multi-pollutant multi-effect approach

22. The use and further development of an integrated approach to address air pollution through a multi-pollutant and multi-effect approach (e.g., GAINS model), that takes into account i.e., climate, energy and agricultural policies and measures, that considers interactions with climate change, biodiversity loss and other environmental problems and that can achieve multiple benefits and avoid trade-offs.

Annex I Question(s):

3.1(a), 3.1(g) (CIAM, TFIAM)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

O. Synergies and interactions with other policy areas

23. Assessment of synergies and interaction with *inter alia* climate change, energy, transport, agricultural and nitrogen management policies. Estimation of the contribution of implemented and new policies and measures in these other policy areas on the emission reductions of air pollutants covered by the Gothenburg Protocol. Assessment of the availability of more cost-effective measures in these other policy areas. Feedback on the effects of reducing air pollution on *inter alia* climate change, biodiversity loss, nitrogen pollution (and vice versa).

Annex I Question(s):

1.4(b) (TFEIP, TFIAM)

3.1(f) (CIAM, TFIAM)

3.5(a) (CIAM, TFIAM, TFTEI)

5.3 (TFRN)

6.3(b) (TFIAM, TFTEI)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

P. Progress towards achieving the objectives of the Protocol

24. Assessment of the progress towards achieving the objectives of the amended Gothenburg Protocol. The chapter should provide an answer to the question of whether the protocol obligations, if fully implemented, would lead to the desired results in reducing emissions of sulphur, nitrogen oxides, ammonia, volatile organic compounds and particulate matter, including black carbon, and their effects on human health and the environment, in view of the latest best available scientific knowledge.

Annex I Question(s):

3.1 (CIAM, TFIAM, TFTEI, TFRN, TFEIP)

3.5(a), 3.5(b), 3.5(c) (CIAM, TFIAM, TFTEI)

3.6 (TFIAM)

4.2(a), 4.2(b), 4.4 (TFTEI, CIAM, TFIAM)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

Q. Additional policy issues

25. Assessment of adequacy and suitability of key articles (including but not limited to objectives in article 2, reporting provisions in article 7, review provisions in article 10, adjustment provisions in article 13, and amendments procedures in article 13bis) of the amended Gothenburg Protocol. Assessment of the need and best approach to include methane in a future instrument. Description of the policy implications of including condensable particles in reporting of emissions of particulate matter.

Annex I Question(s):

6.2(a), 6.2(b) (Working Group on Strategies and Review)

6.3(d) (Working Group on Strategies and Review)

6.5 (Working Group on Strategies and Review)

Key documentation: see correlation table

Timeline for completion of input: to be added

Resource implications: to be added as appropriate

R. Conclusions

26. Description of main review findings and conclusions on the adequacy of the obligations and the progress made towards the achievement of the objectives of the amended Gothenburg Protocol. Recommendations for next steps and further work.

III. The correlation table linking documentation to applicable chapter[15]

Documentation	*Link*	*Chapters*
General background		
1999 Protocol to Abate Acidification, Eutrophication and Ground-level Ozone to the Convention on Long-range Transboundary Air Pollution, as amended on 4 May 2012 (ECE/EB.AIR/114)	https://unece-modl.dotsoft.gr/DAM/env/documents/2013/air/eb/ECE.EB.AIR.114_ENG.pdf	1, 17
Scientific assessment of the Convention "Towards Cleaner Air"	https://unece.org/DAM/env/lrtap/ExecutiveBody/35th_session/CLRTAP_Scientific_Assessment_Report_-_Final_20-5-2016.pdf	1
Supplementary information to document ECE/EB.AIR/2017/3 entitled Policy response to the 2016 scientific assessment of the Convention	https://unece.org/fileadmin/DAM/env/documents/2017/AIR/WGSR/INFORMAL_DOCUMENT_6_PRG_integrated_final.pdf	1
Decision 2018/5 Long-term strategy for the Convention on Long-range Transboundary Air Pollution for 2020−2030 and beyond	https://unece.org/fileadmin/DAM/env/documents/2018/Air/EB/correct_numbering_Decision_2018_5.pdf	1, 18
Decision 2019/4 The review of the Gothenburg Protocol, as amended in 2012	https://unece.org/DAM/env/documents/2019/AIR/EB_Decisions/Decision_2019_4.pdf	1, 2
Legal requirements – ammonia and black carbon – informal documents		
Considerations for ammonia relevant to the future review of the Gothenburg Protocol'	https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/Ammonia_inf_doc_for_WGSR58__note_from_TFRN__TFIAM_.pdf	2, 7, 8, 9
Draft guidance document on prioritizing reductions of particulate matter so to also achieve reduction of black carbon	https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/Informal_doc_no_1_Draft_guidance_on_prioritizing_PM_reductions_201120.pdf Final report: ECE/EB.AIR/WG.5/2021/8, forthcoming	2, 7, 8, 9

[15] Additional documentation to be added as the table is further developed.

Documentation	*Link*	*Chapters*
The Task Force on Techno-economic Issues and the Task Force on Integrated Assessment Modelling		
Background informal technical document on techniques to reduce methane emissions in Europe from landfill gases, the natural gas supply system and biogas facilities	https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/TFTEI_methane_background_document-december_2020.pdf	8, 15
Background informal technical document on maritime shipping emissions, reduction techniques and determination of their costs	https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/TFTEI_informal_doc_on_shipping_emissions-final-december2020.pdf	3, 8
Background informal technical document on techniques to reduce emissions from aluminium production	https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/TFTEI_aluminium_background_document-december_2020.pdf	7, 9
Background informal technical document on techniques to reduce pollutant emissions from cement production and determination of their costs	https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/TFTEI_Cement_final_document-december-2020.pdf	7, 9
Review on black carbon and polycyclic aromatic hydrocarbons emission reductions induced by particulate matter emission abatement techniques	https://unece.org/sites/default/files/2020-12/Review%20on%20BC%20and%20PAH%20emission%20reductions%20.pdf	7
Informal document on costs of inaction on air pollution	https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/Cost_of_inaction_TFIAM_two_pager.pdf	15, 16
Report for policymakers on costs of inaction	Final report: ECE/EB.AIR/WG.5/2021/6, forthcoming	15, 16
Draft guidance document on the reduction of agriculture residue burning	https://www.unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/TFTEI_ICCI_Draft_Guidance_Document_on_Open_Agricultural_Burning.docx Final document: ECE/EB.AIR/WG.5/2021/5, forthcoming	7
Draft guidance document on prioritizing reductions of particulate matter so to also achieve reduction of black carbon	https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/Informal_doc_no_1_Draft_guidance_on_prioritizing_PM_reductions_201120.pdf Final report: ECE/EB.AIR/WG.5/2021/8, forthcoming	7, 8, 9
The Task Force on Integrated Assessment Modelling, including the expert panel on clean air in cities and the Centre for Integrated Assessment Modelling		
Report meetings	https://iiasa.ac.at/web/home/research/researchPrograms/air/policy/past_meetings.html	6, 14, 15, 16
Ammonia Assessment Report - draft November 2020	https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/Final_Assessment_Report_on_Ammonia_v2_20201126_b.pdf Final Report: ECE/EB.AIR/WG.5/2021/7, forthcoming	7, 8 , 9
The Task Force on Reactive Nitrogen		

Documentation	*Link*	*Chapters*
Draft Guidance document on integrated sustainable nitrogen management	https://unece.org/fileadmin/DAM/env/documents/2020/AIR/EB/ECE_EB.AIR_2020_6-2008239E.pdf	7, 8, 9
The Working Group on Effects, including the Task Force on Health, and the EMEP including the Task Force on Measurements and Modelling, the Meteorological Synthesizing Centre-West, the Meteorological Synthesizing Centre-East		
EMEP Status report 1-2020 (Transboundary particulate matter, photo-oxidants, acidifying and eutrophying components)	https://emep.int/publ/reports/2020/EMEP_Status_Report_1_2020.pdf	4
EMEP publications from MSC-W	https://www.emep.int/mscw/mscw_publications.html#2020	4, 5
EMEP publications from MSC-E	http://en.msceast.org/index.php/publications/reports	16
Progress report on Assessment of PAH pollution levels, key sources and trends: contribution to analysis of the effectiveness of the POPs Protocol Progress Report	http://en.msceast.org/reports/2_2020_tech.pdf	16
The current status of air pollution effects on materials and United Nations Educational, Scientific and Cultural Organization world cultural heritage sites in Europe (ECE/EB.AIR/GE.1/2019/20−ECE/EB.AIR/WG.1/2019/13)	https://unece.org/fileadmin/DAM/env/documents/2019/AIR/EMEP_WGE_Joint_Session/ECE_EB.AIR_GE.1_2019_20-1909811E.pdf	5
Report No 88 Trends in pollution, corrosion and soiling 1987-2019.	http://www.corr-institute.se/icp-materials/web/page.aspx?refid=18	5
Regional assessment of the current extent of acidification of surface waters in Europe and North America. 2018	https://drive.google.com/file/d/1oezPUSfpYXjq7ii-nxWbJw7wWQkUGe_a/view	5
Trends in ecosystem and health responses to long-range transported atmospheric pollutants	https://unece.org/DAM/env/documents/2016/AIR/Publications/Trends_in_ecosystem_and_health_responses_to_long-range_transported_atmospheric_pollutants.pdf	5
Ozone Pollution: A hidden threat to food security	https://icpvegetation.ceh.ac.uk/sites/default/files/Ozone%20Pollution%20-%20A%20hidden%20threat%20to%20food%20security.pdf	5
European critical loads: database, biodiversity and ecosystems at risk, CCE Final Report 2017, Coordination Centre for Effects, RIVM Report 2017-0155, Hettelingh J-P, Posch M, Slootweg J (eds.) (2017) Bilthoven, Netherlands	https://www.umweltbundesamt.de/sites/default/files/medien/4038/dokumente/1_cce_sr2017.pdf	4
Residential heating with wood and coal: health impacts and policy options in Europe and North America	https://www.euro.who.int/en/health-topics/environment-and-health/air-quality/publications/2015/residential-heating-with-wood-and-coal-health-impacts-and-policy-options-in-europe-and-north-america	5
The current extent of surface water acidification in Europe and North America	https://unece.org/fileadmin/DAM/env/documents/2018/Air/EMEP/ECE_EB.AIR_GE.1_2018_20-1810846E.pdf	5

Documentation	*Link*	*Chapters*
(ECE/EB.AIR/GE.1/2018/20−ECE/EB.AIR/WG.1/2018/13)		
The Task Force on Hemispheric Transport of Air Pollution		
Answers to policy-relevant questions	http://htap.org/q/	13
Informal document with answers to 4 Policy-Relevant Questions about Hemispheric Transport Based on HTAP2, AQMEII3, MICS3, and TOAR	http://staging2.unece.org.net4all.ch/fileadmin/DAM/env/documents/2020/AIR/EMEP_WGE_Joint_Session/Informal_Document_on_HTAP2_Answers_g.pdf	13
The Task Force on Emission Inventories and Projections and the Centre on Emission Inventories and Projections		
2021 submission of emissions and projections	https://www.ceip.at/status-of-reporting-and-review-results	3
Review of emission inventories	https://www.ceip.at/review-of-emission-inventories	3
Review of adjustments	https://www.ceip.at/gothenburg-protocol/review-of-adjustments	3, 6, 10
The Working Group on Strategies and Review		
Informal document on non-technical and structural measures	https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/Note_on_non-technical_and_structural_measures_-201120.pdf	9
WHO review report of the air quality guidelines	Forthcoming	4, 5
Existing guidance documents, guidelines and codes		
Code of good practice for wood-burning and small combustion installations (ECE/EB.AIR/2019/5)	https://unece.org/gothenburg-protocol	7, 8
Guidelines for estimation and measurement of emissions of volatile organic compounds (ECE/EB.AIR/WG.5/2016/4)	https://unece.org/gothenburg-protocol	7, 9
Guidance Document on Emission Control Techniques for Mobile Sources (ECE/EB.AIR/138)	https://unece.org/gothenburg-protocol	7, 9
United Nations Economic Commission for Europe Framework Code for Good Agricultural Practice for Reducing Ammonia Emissions (ECE/EB.AIR/129)	https://unece.org/gothenburg-protocol	7, 8
Guidance document on health and environmental improvements using new knowledge, methods and data (ECE/EB.AIR/124)	https://unece.org/gothenburg-protocol	7, 9
Guidance document on control techniques for emissions of sulphur, nitrogen oxides, volatile organic compounds and particulate matter (including PM10, PM2.5 and BC) from stationary sources (ECE/EB.AIR/117)	https://unece.org/gothenburg-protocol	7, 9
Guidance document on economic instruments to reduce emissions of regional air pollutants (ECE/EB.AIR/118)	https://unece.org/gothenburg-protocol	7, 9

Documentation	*Link*	*Chapters*
Guidance document on national nitrogen budgets (ECE/EB.AIR/119)	https://unece.org/gothenburg-protocol	7, 9
Guidance document on preventing and abating ammonia emissions from agricultural sources (ECE/EB.AIR/120)	https://unece.org/gothenburg-protocol	7, 8, 9
Europe (including the European Union, Switzerland, Norway and the United Kingdom of Great Britain and Northern Ireland and other countries)		
EU - The second clean air outlook report (2021)	https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2021%3A3%3AFIN	6, 16
EU - Report on the progress made on the implementation of the NEC Directive (2020)	https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1593765728744&uri=CELEX:52020DC0266	6, 16
EU - National Air Pollution Control Programmes from EU MS (NEC Directive)	https://ec.europa.eu/environment/air/reduction/NAPCP.htm	6, 16
EU - Strategy to reduce methane emissions (2020)	https://ec.europa.eu/energy/sites/ener/files/eu_methane_strategy.pdf	
EU - Overview of Union source-based air pollution control legislation for NEC pollutants	https://ec.europa.eu/environment/air/reduction/legislation.htm	7, 8, 9
EU - BAT Reference Documents (BREFs)	https://eippcb.jrc.ec.europa.eu/reference	9
EEA - briefing: National Emission reduction Commitments Directive reporting status (2020)	https://www.eea.europa.eu/publications/national-emission-reduction-commitments-directive	6, 16
EEA - Report No 09/2020 Air quality in Europe - 2020 report	https://www.eea.europa.eu/publications/air-quality-in-europe-2020-report	4
EIONET Central Data Repository	http://cdr.eionet.europa.eu/	3
North America (Canada and the United States of America)		
2018 Canada-United States Air Quality Agreement Progress Report	https://www.epa.gov/airmarkets/us-canada-air-quality-agreement-progress-reports	12
Eastern Europe, the Caucasus and Central Asia and non-Parties		
Background documentation on past reviews and barriers to implementation and ratification to the Convention's Protocols (informal document for the 58th session of the Working Group on Strategies and Review)	https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/Informal_Doc_EB_40_EECCA_and_reference_documentsrev.pdf	10, 11
Draft report on the workshop to promote ratification of the protocols to the Convention with a focus on countries in Eastern Europe, the Caucasus and Central Asia (2019)	https://unece.org/fileadmin/DAM/env/documents/2019/AIR/Capacity_Building/BAT_workshop_2019/Report_on_EECCAWorkshop_2019_5.pdf	10, 11
Saltsjöbaden VI workshop - Topic 3 Clean Air in Eastern Europe, the Caucasus and Central Asia (2018)	https://saltsjobaden6.ivl.se/topics/cleanairfortheeeccaregion.4.1369484715f59ce4bab19c5.html	10, 11
Batumi Action for Cleaner Air	https://unece.org/baca	10, 11

Documentation	*Link*	*Chapters*
Implementation of the Batumi Action for Cleaner Air: fostering progress towards improved air quality (ECE/CEP/2019/6)	https://unece.org/fileadmin/DAM/env/documents/2019/AIR/WGSR/E_-_ECE_CEP_2019_6.pdf	10, 11

Annex

Questions to the subsidiary bodies of the Convention for the review of the Gothenburg Protocol

N°	*Question*	*Who*	*Timing*
1	**Review of obligations in relation to emission reductions**		
1.1	What is the status of meeting the 2020 emission reduction obligations by the Parties[16]?	CEIP	Spring 2022
1.2	a. What is the quality of reported emission data by parties in terms of comparability, completeness, completeness, consistency, accuracy and transparency? [17] b. What are the uncertainties for key categories? c. What is the current coverage and quality of emission reporting for shipping? d. What are the key findings and recommendations of the stage 1, 2 and 3 reviews of the emission inventories reported by non-Parties to the Gothenburg Protocol? e. Is the EMEP/EEA air pollutant emission inventory guidebook sufficiently comprehensive and fit for purpose to support quality emission data? What are the main gaps and challenges? For which sectors and pollutants does the guidance need to be further improved? In what way?	CEIP, TFEIP	Spring 2021
1.3	How do updated and most recently reported emission estimates for the base year 2005 compare to the 2005 estimates listed in tables 2–6 of annex II to the amended Protocol? For which pollutants and categories have Parties submitted an adjustment application between 2014 and 2020? What are the relative differences between reported totals and adjusted totals for these pollutants and categories for the historic years between 2010 and now?	CEIP, TFEIP	Spring 2022
1.4	a. What are the emission trends of the various pollutants from 2005–2018? b. What are the main causes of emission reductions? What is the relative contribution to these reductions of climate / energy, transport and agricultural policies and measures in the ECE region? c. What are remaining large emission sources? d. What are key sectors with large reduction potentials, specifically in Eastern, South-Eastern Europe and Turkey, the Caucasus and Central Asia?	TFEIP, TFIAM	Fall 2021 - Spring 2022
1.5	a. To what extent have best available techniques and emission limit values and other technical provisions in annexes IV, V, VI, VIII, IX, X and XI been implemented by the Parties[18]? b. Have Parties implemented additional or newer source- oriented measures? What are the contributions of these measures?	TFTEI, TFEIP CIAM, TFRN, Parties	Spring 2022

[16] For Member States of the European Union: see the report from the European Commission on the progress made on the implementation of the National Emission Ceilings (NEC) Directive (26 June 2020): see https://op.europa.eu/en/publication-detail/-/publication/7199e9c2-b7bf-11ea-811c-01aa75ed71a1/language-en.

[17] Check the in-depth-reviews of the emission inventories carried out by the European Commission under the NEC Directive and carried out under the Convention (stage 3 review reports by the Centre on Emission Inventories and Projections): https://www.ceip.at/ms/ceip_home1/ceip_home/review_process/index.html.

[18] A questionnaire might be helpful to get the information needed. This was last done by the Task Force on Reactive Nitrogen on national ammonia code in May 2018. At the time, not many Parties were complying with their commitments.

N°	*Question*	*Who*	*Timing*
	c. Have Parties implemented other (non-technical or structural) measures that contribute in meeting the 2020 emission reduction obligations? What are the expected contributions of these measures in 2020 and beyond? d. What barriers have been identified by Parties and non-Parties to implement the obligations in the technical annexes?[19] e. What barriers have been identified by the Parties to meet the 2020 emission reduction obligations?		
1.6	a. Which emission limit values and other technical requirements in the technical annexes are not up to date anymore? b. Which technical annexes should be adapted to better address key sectors in Eastern, South-Eastern Europe and Turkey, the Caucasus and Central Asia? c. Where are the current technical annexes too detailed, complex and/or demanding? d. Which gaps or redundancies in technical annexes can be identified?	TFTEI, TFRN	Spring 2022
2	**Review of progress made towards achieving the environmental and health objectives of the Protocol**		
2.1	a. What are the observed and projected trends in air quality for ozone, sulphur dioxide, particulate matter (species) and oxidised and reduced nitrogen? b. To what extent are these trends associated with emission trends in the region or dependent on transcontinental transport of air pollutants? c. What are the observed and projected trends in urban air quality? What is the contribution of long-range transport to air pollutant concentrations in cities? What is the distance to the WHO air quality guideline values (including to updated values, if available on time)?	MSC-W, TFMM TFHTAP, TFIAM (EPCAC)	Spring 2021
2.2	a. What are the observed and projected trends in deposition of reduced and oxidised nitrogen on land and waters (including marine ecosystems)? b. What is the annual change (or change every 5 years) in exceedance of critical loads for acidification and eutrophication between1990 and 2018/2019 in terms of percentage ecosystems with exceedances and accumulated excess, based on current critical loads[20]. What are projected changes up to 2030 and beyond? c. What is the annual change (or change every 5 years) in water, soil and ecosystem quality indicators between 1990 and 2018/2019? What are projected changes up to 2030 and beyond?	MSC-W WGE, ICP Modelling and Mapping and other ICPs	Fall 2021
2.3	a. What is the observed and projected trend in ozone exposure of the population above critical levels? b. What are the observed and projected trends in vegetation risk of damage due to ozone (using various metrics)?	WGE, TFH, ICP Vegetation	Fall 2021
2.4	a. What is the observed and projected trend in life years lost due to exposure to ozone, particulate matter and nitrogen dioxide? b. What are observed and projected trends for other health metrics, e.g. morbidity?	TFH, CIAM	Fall 2021
2.5	a. What is the observed and projected trend in damage to materials and cultural heritage due to air pollution above critical levels and loads?	WGE, ICP Materials	Fall 2021
2.6	What has been the influence of improved atmospheric modelling (e.g. the higher spatial resolution) on the effectiveness of emission	MSC-W TFHTAP	Fall 2021

[19] The Task Force on Techno-economic Issues used a questionnaire for countries in Eastern Europe, the Caucasus and Central Asia to explore the barriers and the possible facilitating factors. Results are in the report of the 2019 Berlin workshop: http://www.unece.org/fileadmin/DAM/env/documents/2019/AIR/Capacity_Building/BAT_workshop_2019/Report_on_EECCAWorkshop_2019_5.pdf.

[20] Possible additional question: if updated values for critical loads will be available on time to be considered for the review report that is to be delivered by December 2022, how and where will these updated values affect the exceedances?

N°	*Question*	*Who*	*Timing*
	reductions for air quality improvement and deposition? Did this increase the challenge to meet environmental quality and health targets?		
2.7	Is the monitoring and modelling system of the Convention sufficient to observe, assess and project air pollution and its effects related to the Gothenburg Protocol in the ECE region? If no, what are the main challenges and what is needed to meet them?	WGE, EMEP	Fall 2022
2.8	What are the expected impacts of new scientific findings on environmental and health effects assessments, for example on: - critical loads, - critical levels of ozone, particulate matter, nitrogen dioxide and ammonia - dynamic modelling of ecosystem recovery, - inclusion of marine ecosystems protection,[21] - interactions between air pollution, climate change, nitrogen fluxes and other stress factors for biodiversity (e.g. land use changes), - additional or new metrics on health, damage to crops, ecosystems and/or materials?	WGE	Fall 2022
3	**Review of adequacy of obligations in attaining the environmental and health objectives of the Protocol**		
3.1	a. What are the latest emission projections by the Parties, compared with the latest GAINS[22]-scenarios, taking into account recent climate, energy and agricultural policies, new source legislations and latest updated emission inventories by the Parties? Will the Protocol obligations be met based on latest emission projections?[23] What would be the optimized emission reduction obligations, given the updated emission inventories and projections and the same gap-closure ambitions as used in the preparation of the revised Gothenburg Protocol? The review should evaluate the emission reduction commitments in the amended Gothenburg Protocol for 2020, not the fixed emissions ceilings in the original protocol for 2010. b. Are emission reduction obligations adequate for meeting long term environmental and health protection targets of the protocol? E.g. what will be the outcomes for health risks from ozone and particulate matter and for nitrogen deposition in 2030 and 2050? c. What are the estimated reductions based on the best available emission projections for non-Parties to the revised protocol? Will these reductions contribute to meeting long term environmental and health protection targets? d. Will implementation of best available techniques and emission limit values and other technical provisions set in the technical annexes be adequate for meeting long term environmental and health protection targets of the protocol beyond 2020? E.g. for reducing ozone and particulate matter related health risks and nitrogen deposition? e. What would be the contribution to meeting environmental and health protection targets if non-Parties to the revised protocol implemented	CIAM, TFIAM, TFTEI, TFRN, TFEIP	Fall 2021

[21] Information and knowledge for this assessment to be explored with, for example, the Baltic Marine Environment Protection Commission, as discussed at the sixth joint session of the EMEP Steering Body and the Working Group on Effects, with the aim to analyse optimized emission reduction allocations with and without taking into account effects of air pollution marine ecosystems.

[22] Greenhouse Gas-Air Pollution Interactions and Synergies.

[23] See the NEC Directive reporting status 2020 from the EEA. While not taking into account inventory adjustments and effects of the CoViD-19 crisis, it indicates that the majority of Member States of the European Union and the United Kingdom of Great Britain and Northern Ireland must make additional efforts to meet 2020 emission reduction commitments (NEC Directive and thus also the Gothenburg Protocol). https://www.eea.europa.eu/themes/air/air-pollution-sources-1/national-emission-ceilings/national-emission-reduction-commitments-directive.

N°	*Question*	*Who*	*Timing*
	best available techniques and the emission limit values and other technical provisions set in the technical annexes? f. What would be the impact on emissions reductions of climate and energy measures in the long term (2030-2050)? What would be the impact of new policies and measures on biodiversity, bioeconomy, circular economy, nitrogen management etc.? g. What are the latest improvements of the GAINS model with respect to scenario development (i.e. cost updates)? What is the state of play of the GAINS model with respect to applied data for countries in Eastern, South-Eastern Europe and Turkey, the Caucasus and Central Asia?		
3.2	What is the current contribution and will be the expected future contribution of emission sources outside the ECE-region to ecosystems and health impacts in the ECE region, in particular for ozone, particulate matter (and black carbon)?[24]	TFHTAP, MSC-W	Fall 2021
3.3	What is the projected future trend in methane emissions? What is the impact on ozone formation? In which regions and in which sectors outside the ECE region is there potential for emission reductions that have a significant effect on reducing ozone effects in the ECE region?	TFHTAP, MSC-W	Fall 2021
3.4	What is the projected future trend in NOx-emissions from shipping? What is impact on ozone formation and nitrogen deposition? What and where is the potential for emission reductions that have a significant effect on reducing ozone effects in the ECE region?	TFHTAP, MSC-W	Fall 2021
3.5	a. What will be the costs of additional (air pollution) measures in the ECE region that would not exceed the external costs of inaction, with due consideration of synergies and other interactions with and more cost-effective measures potentially available in other policy areas (e.g. climate, energy, nitrogen management,)? b. In which sectors can such measures be found? c. What are the best available non-technical measures, what policy instruments are effective to trigger behavioural change and what can such measures contribute to environmental and health improvement?	TFIAM, CIAM, TFTEI	Fall 2021
3.6	Are additional local air quality measures sufficient and cost-effective to reduce health risks or strive towards WHO air quality guideline values (or to strive towards updated WHO values, if available on time)?	EPCAC/TFIAM	Fall 2021
4	**Evaluation of mitigation measures for black carbon[25] emissions**		
4.1	What is the current coverage and quality of black carbon (elemental carbon and organic carbon) emission reporting?	CEIP, TFEIP	Spring 2021
4.2	a. To what extent have the measures implemented to meet the emissions reduction obligations for particulate matter contributed to reduce black carbon and polycyclic aromatic hydrocarbons emissions (see art 2(2) of the amended Gothenburg Protocol on prioritization). b. What are projected trends in black carbon and PAH-emissions? c. What is the contribution of residential solid fuel burning to black carbon and PAH-emissions?[26] d. Which additional particulate matter measures (technical and non-technical) are also effective for reducing black carbon and PAH-emissions?[27]	TFTEI, TFIAM, CIAM	Spring 2021

[24] E.g. see: Monica Crippa et al, Forty years of improvements in European air quality: regional policy-industry interactions with global impacts, Atmos. Chem. Phys., 16, 3825–3841, 2016, https://doi.org/10.5194/acp-16-3825-2016.

[25] Black carbon is considered to cover both elemental carbon and organic carbon (including polycyclic aromatic hydrocarbons).

[26] See the code of good practice for wood-burning and small combustion installations (ECE/EB.AIR/2019/5) prepared by TFTEI.

[27] A TFIAM/TFTEI guidance document on prioritization reductions of particulate matter in its sources is forthcoming in 2020-2021.

N°	*Question*	*Who*	*Timing*
	e. What are best available techniques to reduce black carbon emissions? f. What would be appropriate definitions and calculation methods (emission factors) for black carbon and the condensable part of particulate matter?		
4.3	The formation of particulate matter from condensable compounds is currently not fully included in estimates of exposure to particulate matter. What is the contribution of condensables to the population exposure and what are associated health impacts if these can be established separately?	MSC-W, CIAM	Spring 2022
4.4	What will be the impact of the inclusion of condensables in reporting of particulate matter emissions for residential heating on the national emission trends and on the importance of the residential heating sector? What will be the effect of the inclusion of particles from condensables on the effectivity of abatement measures? What particulate matter emission reductions will be achieved between 2005 and latest reported year based on the inclusion of condensables in reporting of particulate matter emissions compared to its non-inclusion? What is the difference between optimized emission reduction allocations with and without particles from condensables?	CEIP, CIAM, TFTEI	Spring 2022
5	**Evaluation of ammonia control measures and consideration of the need to revise annex IX**		
5.1	What are the main barriers to effectively reduce ammonia emissions and implement annex IX or existing Guidance Documents? What barriers exist for non-Parties?	TFRN	Spring 2021
5.2	a. What are best available control measures to further reduce ammonia emissions? b. Which elements of annex IX and guidance documents need to be updated?	TFRN	Spring 2021
5.3	To what extent will new agricultural or integrated nutrient management policies (e.g. the European Union ‘Farm to Fork’ strategy and the reform of the European Union agricultural funding policies (CAP reform)) contribute to ammonia emission changes?	TFRN	Spring 2022
5.4	a. What is the potential for dietary change? b. What environmental and health benefits are associated with dietary change? c. What policy instruments are available to change diets?	TFRN, WGE	Spring 2022
6	**Additional inputs for the review**		
6.1	a. Are current flexibility provisions adequate and/or effective for ratification and implementation (focus on Eastern, South-Eastern Europe and Turkey, the Caucasus and Central Asia)? b. What new flexibilities and/or approaches would potentially help non-Parties to move towards ratification and implementation? c. What are other options for achieving emission reductions (in lieu of technical annexes)?	WGSR	Fall 2022
6.2	a. Are key articles on inter alia objectives, reporting obligations and amendments still fit for purpose? b. Do articles 4 (exchange of information) and 8 (research development) adequately address international cooperation and integrated environmental policy as indicated in the long-term strategy for 2020-2030 and beyond?	WGSR	Fall 2022

N°	*Question*	*Who*	*Timing*
6.3[28]	a. What are the (best) available emission abatement techniques and measures for the reduction of methane emissions from key sources? b. What is the contribution of implemented and new climate measures on the reduction of methane emissions? c. What is the projected future trend in methane emissions and subsequent improvements in air quality, human health effects and ecosystems impacts? d. How could methane be addressed in a future instrument?	TFTEI, TFRN, TFIAM, WGSR, WGE	Spring 2021 (a and b) Spring 2022
6.4	Which guidance documents require an update in view of new available information, new emerged challenges and in view of further contributing to meet the long term environmental and health targets of the protocol? What new guidance documents are needed?	WGSR, TFTEI, TFRN, TFIAM, WGE	Spring 2022
6.5	What are the policy implications of including particles formed from condensable compounds in particulate matter -reporting? Implications include ability to report and compliance?	WGSR	May 2021

Abbreviations: CEIP, Centre on Emission Inventories and Projections; CIAM, Centre for Integrated Assessment Modelling; EEA, European Environment Agency; EPCAC, Expert panel on clean air in cities; ICP, International Cooperative Programme; ICP Materials, ICP on Effects of Air Pollution on Materials, including Historic and Cultural Monuments; ICP Modelling and Mapping, ICP on Modelling and Mapping of Critical Levels and Loads and Air Pollution Effects, Risks and Trends; ICP Vegetation, ICP on Effects of Air Pollution on Natural Vegetation and Crops; MSC-W, Meteorological Synthesizing Centre-West; TFEIP, Task Force on Emission Inventories and Projections; TFH, Task Force on Health; TFHTAP, Task Force on the Hemispheric Transport of Air Pollution; TFIAM, Task Force on Integrated Assessment Modelling; TFMM, Task Force on Measurements and Modelling; TFRN, Task Force on Reactive Nitrogen; TFTEI, Task Force on Techno-economic Issues; WGE, Working Group on Effects; WGSR, Working Group on Strategies and Review.

[28] Check i.a the EU strategy on methane focusing on reducing methane emissions in the energy, agriculture and waste sectors (see https://ec.europa.eu/energy/topics/oil-gas-and-coal/methane-gas-emissions_en), its roadmap and related documents (https://ec.europa.eu/info/events/workshop-strategic-plan-reduce-methane-emissions-energy-sector-2020-mar-20_en).