

## Background documents to support the plan for the revision of Gothenburg Protocol, as amended in 2012

The following table contains a list of relevant documents for the revision process, prepared in recent years by the Convention's subsidiary bodies and their Task Forces. The documents listed in the table contain scientific and technical background information as well as information on air policies. This table was prepared by the WGSR Bureau for the sixty-second session of the WGSR (Geneva, 27-31 May 2024) to provide informative support to Parties for the discussion on the "Draft plan for the revision of the Gothenburg Protocol, as amended 2012" (ECE/EB.AIR/WG.5/2024/1). The table includes a column with a brief summary of the main content of the document in question, to give a quick idea of the relevance of the document, but without intending to be exhaustive. It also provides a column indicating for which of the items (a)-(h) listed in table 1 of the draft Plan the documents are of relevance.

**Table: Background documentation to support the Plan for the Revision of Gothenburg Protocol as amended in 2012**

<u>N°</u>	<u>Name of the Document</u>	<u>Present status / version / source / link</u>	<u>Main content</u>	<u>Relevant items in table 1 in the Draft Plan for the revision of the Gothenburg Protocol as amended in 2012</u>
1	<b>Gothenburg Protocol Review Report</b>	EB42 official document, ECE/EB.AIR/2022/3  <a href="https://unece.org/environment/documents/2022/09/working-documents/report-review-protocol-abate-acidification">https://unece.org/environment/documents/2022/09/working-documents/report-review-protocol-abate-acidification</a>	Provides the main <b>conclusions on the adequacy of the obligations and the progress made towards the achievement of the objectives</b> of the amended Gothenburg Protocol.	(a) to (h)
2	<b>Annex I: Scientific Information for the Review of the Gothenburg Protocol</b>	EB42 official document, ECE/EB.AIR/2022/4  <a href="https://unece.org/environment/documents/2022/09/working-documents/scientific-information-review-gothenburg-protocol">https://unece.org/environment/documents/2022/09/working-documents/scientific-information-review-gothenburg-protocol</a>	Provides the status of current knowledge in 2022. Contains information compiled by the scientific centres and task forces under the Convention to inform the review Gothenburg Protocol, as amended in 2012.	(a), (b), (c), (d), (e) and (g)
3	<b>Annex II: Technical Information for the Review of the Gothenburg Protocol</b>	EB42 official document, ECE/EB.AIR/2022/5 and ECE/EB.AIR/2022/5/Corr.1	Provides scenario analysis, highlighting that there are <b>technical and non-technical options for further improvement</b> and includes additional policy-relevant technical information to supplement the report on the review of the Gothenburg Protocol.	(a) to (h)

		<a href="https://unece.org/environment/documents/2022/09/working-documents/technical-information-review-göthenburg-protocol">https://unece.org/environment/documents/2022/09/working-documents/technical-information-review-göthenburg-protocol</a> and corrigendum <a href="https://unece.org/environment/documents/2022/12/working-documents/technical-information-review-göthenburg-protocol">https://unece.org/environment/documents/2022/12/working-documents/technical-information-review-göthenburg-protocol</a>	Includes information on <u>technological pathways</u> towards ratification of the amended Gothenburg Protocol: <b>case studies of four countries in Eastern and South-Eastern Europe, the Caucasus and Central Asia.</b>	
4	<b>Options to address the conclusions of the review of the Gothenburg Protocol, as amended in 2012</b>	EB43, official document, ECE/EB.AIR/2023/9 and ECE/EB.AIR/2023/9/Corr.1  <a href="https://unece.org/environment/documents/2023/10/working-documents/options-address-conclusions-review-göthenburg">https://unece.org/environment/documents/2023/10/working-documents/options-address-conclusions-review-göthenburg</a> and corrigendum <a href="https://unece.org/environment/documents/2023/11/standards/corrigendum-options-address-conclusions-review-göthenburg">https://unece.org/environment/documents/2023/11/standards/corrigendum-options-address-conclusions-review-göthenburg</a>	Provides a <b>list of policy options</b> accompanied by their comprehensive analysis. Based on that analysis presents recommendations to address and respond to the conclusions of the Gothenburg Protocol review and identifies a list of <b>key priority areas</b> that could be included in the revision process.	(a) to (h)
5	<b>Summary tables for the policy options document</b>	EB43, informal document n°4  <a href="https://unece.org/environment/documents/2023/11/informal-documents/agenda-item-5-summary-tables-policy-options">https://unece.org/environment/documents/2023/11/informal-documents/agenda-item-5-summary-tables-policy-options</a>	Provides an overview of relationship between Gothenburg Protocol Review <b>conclusion themes</b> and <b>policy</b> approaches described in document ECE/EB.AIR/2023/9	(a) to (h)
6	<b>Potential Options for Addressing Methane as an Ozone Precursor</b>	Heads of Delegation Meeting 2022, informal document  <a href="https://unece.org/sites/default/files/2022-09/GPG_potential%20options%20for%20addressing%20Methane_Version%202_HoD_Aug%2026%202022_clean.pdf">https://unece.org/sites/default/files/2022-09/GPG_potential%20options%20for%20addressing%20Methane_Version%202_HoD_Aug%2026%202022_clean.pdf</a>	Identifies ways to address methane as an ozone precursor and includes a <b>broad list of options for potentially addressing methane</b> as an ozone precursor under UNECE's Air Convention. Background information on other efforts for addressing methane, including other MEAs.	(d)

7	<b>Co-mitigation of methane and ammonia emissions from agricultural sources</b>	EB43, official document, ECE/EB.AIR/2023/5  <a href="https://unece.org/environment/documents/2023/10/working-documents/co-mitigation-methane-and-ammonia-emissions">https://unece.org/environment/documents/2023/10/working-documents/co-mitigation-methane-and-ammonia-emissions</a>	Provides information on <b>possible interactions between ammonia and methane mitigation measures</b> and on considerations to be taken into account for simultaneous mitigation.	(d), (e)
8	<b>Ammonia assessment report</b>	EB41 official document ECE/EB.AIR/WG.5/2021/7  <a href="https://unece.org/environment/documents/2021/03/working-documents/assessment-report-ammonia">https://unece.org/environment/documents/2021/03/working-documents/assessment-report-ammonia</a>	This assessment provides a policy-oriented overview of ammonia that brings together key data and research findings from various studies. It provides relevant conclusions that indicate, among others: <ul style="list-style-type: none"> <li>• Substantial reductions of ammonia emissions, even beyond the current obligations in the Gothenburg Protocol and the NECD Directive are still possible.</li> <li>• Further emission reduction of ammonia would require structural changes, including increasing the nitrogen use efficiency. Also, demand side changes would be needed, such as a reduction of food waste, overconsumption and dietary changes.</li> <li>• Linkages with water protection (e.g. nitrate leaching) and climate policies require attention in order to avoid negative side effects from ammonia abatement measures and to profit from potential synergies.</li> <li>• An increased use of energy crops in the transition towards a carbon neutral economy, would mean that we need to reduce the land occupied by other crops while maintaining food security. That means in practice reducing the land used to grow crops to feed animals.</li> <li>• Because of the transboundary role of ammonia in the formation of secondary particulate matter, biodiversity protection, and the linkages with climate and food security policies, it is important to continue the exchange of</li> </ul>	(e)

			information on technical and nontechnical abatement policies.	
9	Considerations for <b>ammonia</b> relevant to future review of the Gothenburg Protocol	WGSR59, informal document presented by TFRN  <a href="https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/Ammonia_inf_doc_for_WGSR58_note_from_TFRN_TFIAM_.pdf">https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/Ammonia_inf_doc_for_WGSR58_note_from_TFRN_TFIAM_.pdf</a>	Provides a summary note prepared by the TFRN on available documentation relevant for ammonia for the review of Gothenburg Protocol.	(e)
10	Guidance document on <b>integrated sustainable nitrogen management</b>	EB40, official document, ECE/EB.AIR/149  <a href="https://unece.org/sites/default/files/2021-08/ECE_EB.AIR_149-2104922E.pdf">https://unece.org/sites/default/files/2021-08/ECE_EB.AIR_149-2104922E.pdf</a> or <a href="https://unece.org/environment/documents/2021/04/working-documents/guidance-document-integrated-sustainable-nitrogen">https://unece.org/environment/documents/2021/04/working-documents/guidance-document-integrated-sustainable-nitrogen</a>	This Guidance document demonstrates how actions to control air pollution have co-benefits for climate, water, biodiversity, health and the economy. It identifies <b>24 principles</b> to help Parties understand and tailor solutions, summarises <b>76 measures and their performance for abatement of different nitrogen</b> forms and illustrates how to develop packages of measures to improve coherence.	(e), (h)
11	<b>Guidance document on reduction of emissions from agricultural residue burning</b>	EB41, official document, ECE/EB.AIR/2021/5  <a href="https://unece.org/sites/default/files/2023-03/2226205_E_PDF_WEB_0_0.pdf">https://unece.org/sites/default/files/2023-03/2226205_E_PDF_WEB_0_0.pdf</a> or <a href="https://unece.org/sites/default/files/2021-10/ECE_EB.AIR_2021_5-2113499E.pdf">https://unece.org/sites/default/files/2021-10/ECE_EB.AIR_2021_5-2113499E.pdf</a>	The implementation of the practices, methods, approaches and technical instruments described in the present guidance may significantly contribute to reducing air pollution from residue burning in agriculture and its negative impact on human health and the environment, within the ECE region and beyond.  Provides information on <b>alternative methods, practices and techniques to eliminate or reduce ARB</b> and its negative effects. Illustrates the advantages of adopting the fire-free practices, in the present guidance, by various successful experiences in several countries within the ECE region.	(b), (c)
12	TFTEI Background informal technical document for the Review of the	WGSR60 informal document no. 2 presented by TFTEI	Provides new ELVs technically feasible/consistent with the new/upgraded technologies now available, which would allow significant emission reductions, in many of the sector/fuel(activity)/technology combinations for:	(b)

	Gothenburg Protocol for <b>Industrial Processes Annexes IV, V, VI, X and XI</b>	<a href="https://unece.org/sites/default/files/2022-03/TFTEI%20review%20of%20annexes%20to%20the%20Gothenburg%20Protocol.pdf">https://unece.org/sites/default/files/2022-03/TFTEI%20review%20of%20annexes%20to%20the%20Gothenburg%20Protocol.pdf</a>	<p><b>Annex IV:</b> limit values for emissions of <b>sulphur</b> from <u>stationary sources</u>.</p> <p><b>Annex V:</b> limit values for emissions of <b>nitrogen oxides</b> from <u>stationary sources</u>.</p> <p><b>Annex VI:</b> limit values for emissions of <b>volatile organic compounds</b> from <u>stationary sources</u>.</p> <p><b>Annex X:</b> limit values for emissions of <b>particulate matter</b> from <u>stationary sources</u>.</p> <p><b>Annex XI:</b> limit values for emissions of <b>volatile organic compounds</b> of <u>products</u>.</p>	
13	TFTEI informal background document on <b>reduction techniques for mobile sources and the review of annex VIII</b> of the Gothenburg Protocol	<p>WGSR 61, informal document presented by TFTEI</p> <p><a href="https://unece.org/sites/default/files/2023-08/TFTEI-%20Informal%20background%20document%20on%20review%20of%20annex%20VIII%20-%20Mobile%20Sources%20of_0.pdf">https://unece.org/sites/default/files/2023-08/TFTEI-%20Informal%20background%20document%20on%20review%20of%20annex%20VIII%20-%20Mobile%20Sources%20of_0.pdf</a></p>	<p>Provides potential new LVs for:</p> <p><b>Annex VIII:</b> Limit values for <b>fuels and new mobile sources</b>.</p>	(b)
14	Draft Guidance document on technical measures for <b>reduction of methane emissions from landfill, the natural gas grid and biogas facilities</b>	<p>EB43, official document, ECE/EB.AIR/2023/6</p> <p><a href="https://unece.org/sites/default/files/2023-10/ECE_EB.AIR_2023_6%20%28E%29.pdf">https://unece.org/sites/default/files/2023-10/ECE_EB.AIR_2023_6%20%28E%29.pdf</a></p>	<p>Presents <b>measures for the reduction of methane</b> emissions to support Parties in reducing emissions from the main <b>non-agricultural sources</b>, such as <u>municipal solid waste landfills, natural gas supply systems and biogas facilities</u>.</p>	(d)

15	Draft guidance document on <b>technical measures for reduction of air pollutant emissions from shipping</b>	EB43, official document, ECE/EB.AIR/2023/7  <a href="https://unece.org/environment/documents/2023/10/working-documents/draft-guidance-document-technical-measures-0">https://unece.org/environment/documents/2023/10/working-documents/draft-guidance-document-technical-measures-0</a>	Presents techniques that should be considered when participating in further discussions and development of international rules (e.g., MARPOL, the United Nations Convention on the Law of the Sea) and in developing national emission reduction plans, <b>also considering synergies tackling air pollution and climate change/decarbonization simultaneously.</b>  Includes information on measures at the local level, especially on the quality and <b>type of fuels and on port infrastructure</b> , that are relevant at improving air quality in the concerned cities.	(b)
16	Report of the ad-hoc EG on <b>Black Carbon</b>	EB28, official document, ECE/EB.AIR/2010/7  <a href="https://unece.org/fileadmin/DAM/env/documents/2010/eb/eb/ece.eb.air.2010.7.e.pdf">https://unece.org/fileadmin/DAM/env/documents/2010/eb/eb/ece.eb.air.2010.7.e.pdf</a> and Corr. 1  <a href="https://unece.org/fileadmin/DAM/env/documents/2010/eb/eb/ece.eb.air.2010.7.corr.1.e.pdf">https://unece.org/fileadmin/DAM/env/documents/2010/eb/eb/ece.eb.air.2010.7.corr.1.e.pdf</a>	The EB established in 2009 an Ad Hoc Expert Group on Black Carbon (EGBC) in 2009 to assess available information on BC, and to identify options for potential revisions to the Gothenburg Protocol that would enable the Parties to mitigate BC as a component of PM.  The EB decided in 2010 inter alia to assign tasks to various Task Forces (e.g. on inventories, control technologies, monitoring and its reporting) and to consider inclusion of BC in the Gothenburg Protocol. The latter was not followed in the 2012 revision, but BC was included into Art. 10 as a priority item for any future revision. Related technical and scientific work continued within Task Force on Hemispheric Transport of Air Pollution.  Comprehensive information on BC available in 2010.	(c)
17	<b>Prioritizing reductions of particulate matter from sources that are also significant sources of black carbon</b> - analysis and guidance	EB41, official document, ECE/EB.AIR/2021/6  <a href="https://unece.org/sites/default/files/2021-10/ECE_EB.AIR_2021_6-2113500E.pdf">https://unece.org/sites/default/files/2021-10/ECE_EB.AIR_2021_6-2113500E.pdf</a>	Provides information in which sectors Parties to the Convention can implement fine particulate matter (PM2.5) emission reduction measures that will enable reductions of black carbon.  Includes a list with key <b>high BC priority sectors and measures for the scenarios</b> of: <ul style="list-style-type: none"><li>- Eastern European</li><li>- South-Eastern Europe and Turkey</li><li>- European Union, Norway, Switzerland and the United Kingdom of Great Britain and Northern Ireland</li></ul>	(c)

18	<b>Review on Black Carbon (BC) and Polycyclic Aromatic Hydrocarbons (PAHs) emission reductions induced by PM emission abatement techniques</b>	WGSR58, informal document, presented by TFTEI  <a href="https://unece.org/environment/documents/2020/12/informal-documents/review-bc-and-pah-emission-reductions">https://unece.org/environment/documents/2020/12/informal-documents/review-bc-and-pah-emission-reductions</a>	This report provides an overview of BC, PAH and also Ultrafine Particles (UFP) emissions and the effect of PM emission reduction measures on these species emissions. It also provides in depth analysis of capacities of techniques to really reduce BC and PAHs that served the review of ELVs (Emission Limit Values) of annex X of the AGP.  It identifies three target sectors, <b>small combustion sources</b> and <b>road transport</b> which are the major sources of BC, and <b>Gas Flaring</b> because this source is an important source for both <u>air quality and climate impact in the Arctic regions</u> .	(c)
19	Background documentation on <b>past review and barriers to implementation and ratification</b> to the Convention's Protocols	WGSR58, Informal Document presented by GPG  <a href="https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/Informal_Doc_EB_40_EECCA_and_reference_documentsrev.pdf">https://unece.org/fileadmin/DAM/env/documents/2020/AIR/WGSR/Informal_Doc_EB_40_EECCA_and_reference_documentsrev.pdf</a>	Contains reference documents of the <u>first</u> GP review (2012), the current review, and specifically on EECCA.	(f)
20	Review of the <b>flexibility provisions</b> to facilitate ratification and implementation	EB42, official document, ECE/EB.AIR/2022/6  <a href="https://unece.org/environment/documents/2022/10/working-documents/review-flexibility-provisions-facilitate">https://unece.org/environment/documents/2022/10/working-documents/review-flexibility-provisions-facilitate</a>	The document provides an input to the review of the Gothenburg Protocol as amended in 2012. Includes a general overview and assessment of the flexibility provisions in the amended Protocol, in particularly: <ul style="list-style-type: none"> <li>• an overview and review of the responses to a questionnaire sent to the national focal points for the Convention in 2021 to support the review of the flexibilities in the amended Protocol.</li> <li>• views expressed recently and in previous years by non-Parties to the present Protocol on the current barriers to ratification and implementation, despite the new flexibilities introduced by the 2012 amendment.</li> <li>• views expressed by the Coordinating Group on the promotion of actions towards implementation of the Convention in Eastern Europe, the Caucasus and Central Asia (the Coordinating Group) at EB41 with regard to the</li> </ul>	(f)

			<p>possible forthcoming revision of the amended Gothenburg Protocol.</p> <ul style="list-style-type: none"> <li>key conclusions and possible options for next steps respectively.</li> </ul>	
21	<b>New approaches for EECCA countries, Western Balkan countries and Türkiye</b>	<p>EB43, informal document presented by expert</p> <p><a href="https://unece.org/environment/documents/2023/11/informal-documents/agenda-item-5-new-approaches-eecca-countries">https://unece.org/environment/documents/2023/11/informal-documents/agenda-item-5-new-approaches-eecca-countries</a></p>	<p>Provides information on how to incorporate new approaches into a revised version of the amended Gothenburg Protocol. The paper examines in detail the following approaches:</p> <ol style="list-style-type: none"> <li>Staged ratification approach</li> <li>Phased commitment approach</li> <li>Separate section approach</li> <li>Sector-based approach</li> <li>Individual commitment approach</li> </ol>	(f)
22	<b>Concrete example of introducing a staged ratification approach in the gothenburg protocol</b>	<p>EB43, Appendix to informal document on new approaches for EECCA countries, WB countries and TR</p> <p><a href="https://unece.org/environment/documents/2023/11/informal-documents/agenda-item-5-example-staged-ratification">https://unece.org/environment/documents/2023/11/informal-documents/agenda-item-5-example-staged-ratification</a></p>	<p>Provides an example to explain how a staged ratification approach can be implemented.</p>	(f)
23	<b>Technological pathways in Serbia, Georgia, Kazakhstan, Moldova, Montenegro and Armenia</b> Draft version	<p>WGSR61, informal document presented by TFTEI</p> <p><a href="https://unece.org/sites/default/files/2023-08/TFTEI%20informal%20document%20on%20Technological%20Pathway%20analysis%20in%20six%20EECCA%2C%20SEE%2C%20Balkan%20countries_v2.pdf">https://unece.org/sites/default/files/2023-08/TFTEI%20informal%20document%20on%20Technological%20Pathway%20analysis%20in%20six%20EECCA%2C%20SEE%2C%20Balkan%20countries_v2.pdf</a></p>	<p>Presents a technical assessment for Serbia, Georgia, Kazakhstan, Moldova, Montenegro and Armenia based on the following analysis:</p> <ul style="list-style-type: none"> <li>Situation in term of ratification of the CLRTAP and its Protocols1 and main strategic programmes developed;</li> <li>Assessment of air quality for SO<sub>2</sub>, PM, NO<sub>x</sub>;</li> <li>Assessment of the main sources of SO<sub>2</sub>, PM, NO<sub>x</sub> and VOC;</li> <li>Assessment of current regulations implemented for activities covered by annexes IV (SO<sub>2</sub>), V (NO<sub>x</sub>), VI (VOC), VIII (mobile sources), X (PM) and XI (VOC in products);</li> </ul>	(b), (f)



			<ul style="list-style-type: none"> <li>Assessment of additional programmes to reduce air pollution and to develop policies and measures related to activities covered by Annex IV (SO<sub>2</sub>), Annex V (NO<sub>x</sub>), Annex VI (VOC), VIII (mobile sources), X (PM) and XI (VOC in products).</li> </ul> <p><b>Provides recommendations for the respective Party on possible technological pathways toward the ratification of the amended Gothenburg Protocol.</b></p>	
24	Informal document on <b>Non-technical and Structural Measures</b>	<p>EB41, informal document presented by GPG</p> <p><a href="https://unece.org/sites/default/files/2021-11/Informal%20doc%20on%20non-technical%20measures.pdf">https://unece.org/sites/default/files/2021-11/Informal%20doc%20on%20non-technical%20measures.pdf</a></p> <p><i>Draft guidance document expected to be submitted , 2024-2025 workplan (2.2.3)</i></p>	<p>Provides preliminary information on additional actions in the form of “non-technical” measures could be considered, at the national or local level to address further emission reductions. The additional measures could include <b>encouraging a faster substitution of old and polluting technologies by new and cleaner technologies, facilitating the use of cleaner fuels or feedstocks, or stimulating a greener behaviour of consumers.</b> The latter could include a <b>modal shift from private to public transport, dietary changes or domestic energy saving.</b> Sometimes such measures prove to be more efficient and less costly than implementing stricter ELVs.</p> <p>Includes examples of policy instruments such as: <u>regulatory</u>, <u>economic</u>, <u>social</u> (information and communication) and <u>public investments</u> (including Research and Development) and highlights its benefits.</p>	(a), (g), (h)
25	Background informal technical document on the <b>analysis of the impact of decarbonisation on emissions of air pollutants in selected industrial sectors</b> (first draft)	<p>WGSR 61, informal document presented by TFTEI</p> <p><a href="https://unece.org/sites/default/files/2023-08/Agenda%20item%20%282%29%20Impact%20of%20decarbonization%20on%20emissions%20.pdf">https://unece.org/sites/default/files/2023-08/Agenda%20item%20%282%29%20Impact%20of%20decarbonization%20on%20emissions%20.pdf</a></p>	<p>It is analysed the <b>most important industrial emitters of CO<sub>2</sub></b> which are the <b>steel industry, the cement industry and oil refineries</b> and as a representative of energy intensive mineral processing, and also took into account the <b>glass production.</b> The four considered sectors have the potential to trigger a positive chain reaction, resulting in reduced emissions of various air pollutants beyond just greenhouse gases.</p> <p>Decarbonization efforts, primarily aimed at reducing greenhouse gas emissions, can inadvertently lead to a cascade of positive</p>	(h)

			impacts on various air pollutants. However, the specific outcomes on air pollutants will depend on the strategies chosen for decarbonization, technological advancements, and regional factors. <b>By embracing cleaner technologies and practices</b> , these sectors can contribute to healthier environments, sustainable economic growth, and a more resilient and responsible industrial landscape.	
26	<b>Cost of Inaction</b>	EB 42, official document, ECE/EB.AIR/2022/7  <a href="https://unece.org/environment/documents/2022/09/working-documents/cost-inaction">https://unece.org/environment/documents/2022/09/working-documents/cost-inaction</a>	Provides a comparison of the <b>costs of inaction</b> on air pollution – defined as the damage to health, ecosystems, and economy – with the costs of taking action, defined as the costs of abatement measures. Contains the following <b>key messages</b> , among others: <ul style="list-style-type: none"> <li>• The cost-benefit analyses indicate that, in most cases, <b>the costs of reducing emissions are far lower than the corresponding reduction of damage costs</b>.</li> <li>• In nearly half of the countries in the UNECE (26 of 56) the current monetary damage costs to health and ecosystems due to ambient air pollution corresponds to over <b>5 per cent of gross domestic product (GDP)</b>.</li> <li>• The largest part of the damage costs consists of <b>reduced life expectancy</b>, followed by <b>morbidity costs</b> (e.g., hospital admittance, sick leave, medicine costs), and <b>damage to ecosystems</b>. The monetized damage is – as a percentage of GDP – higher in the Eastern than in the Western part of the ECE region.</li> <li>• Globally, <b>labour productivity losses</b> (mainly via work absenteeism) due to air pollution make up approximately 5–9 per cent of the total damage costs.</li> <li>• There are societal values yet to be monetized and included in the damage cost estimates, foremost the <b>damage to biodiversity</b>.</li> </ul>	(a), (b)
27	<b>Integrated assessment modelling</b>	9 <sup>th</sup> joint session of EMEP SB and WGE, official,	Provides relevant information scenarios based on the updated GAINS model, The impacts of climate and energy measures on air quality are included in the analysis and can zoom in from the	(a), (g), (h)

		<p>ECE/EB.AIR/GE.1/2023/INF.2–ECE/EB.AIR/WG.1/2023/INF.2</p> <p><a href="https://unece.org/sites/default/files/2023-09/Agenda%20item%20%282%29%20Integrated%20assessment%20modelling.pdf">https://unece.org/sites/default/files/2023-09/Agenda%20item%20%282%29%20Integrated%20assessment%20modelling.pdf</a></p>	<p>continental to the city level. <b>It is shown that measures are needed at all political levels to meet WHO air quality guideline values everywhere.</b></p> <p>Additionally, the document presents the following policy scenarios to the policy bodies of the Air Convention:</p> <ol style="list-style-type: none"> <li>1) scenarios aimed at a 50% reduction of air quality related health impacts.</li> <li>2) scenarios aimed at the protection (of e.g. 30%) of the nitrogen sensitive ecosystems.</li> <li>3) scenarios that illustrate the impact of successive (staged) sectoral control policies. Highlights the need to discuss further alternative scenarios to with policy makers.</li> </ol> <p>The final conclusions indicate that, among others:</p> <ul style="list-style-type: none"> <li>• GAINS is fit for supporting policy development, both at the continental and local level.</li> <li>• to reduce health risks by 50%, additional measures, including structural and behavioural changes are needed especially in Balkan and EECCA countries.</li> <li>• further evaluation of the model assumptions, and further discussion on base year and target year are needed.</li> <li>• further targets also addressing ecosystem improvements in the long term need to be discussed and assessed.</li> <li>• the currently best available estimates based on recent TF health results on economic values of health effects show that morbidity impacts would add 33% to the mortality impacts (when valuing mortality with VOLY).</li> <li>• global emissions of CH<sub>4</sub> substantially contribute to ozone pollution in Europe, and its importance is likely to increase in the future.</li> <li>• emissions from shipping require attention in hemispheric and other models. New policy initiatives (North Atlantic &amp;</li> </ul>	
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			<p>Mediterranean emission control areas) and technologies such as the use of NH<sub>3</sub> as an energy carrier are discussed and need to be assessed.</p> <ul style="list-style-type: none"> <li>• climate measures can still offer significant reductions in NO<sub>x</sub> and PM emissions, but some climate strategies need further attention from an air pollution perspective.</li> <li>• non-technical measures guidance document should, in addition to already considered measures, include successful examples on measures that reduce residential wood burning emissions.</li> </ul>	
28	<b>Synergies and Interactions with Other Policy Areas</b>	<p>WGSR60, Informal document no. 1  <a href="https://unece.org/sites/default/files/2022-03/Latest%20Revised%20version_Item%204_Synergies%20and%20interactions%20with%20other%20policy%20areas%20%28220320%209.pdf">https://unece.org/sites/default/files/2022-03/Latest%20Revised%20version_Item%204_Synergies%20and%20interactions%20with%20other%20policy%20areas%20%28220320%209.pdf</a></p>	<p>Provides information on synergies with other policy areas with particular the focus on air-climate synergies to inform consideration of methane in a future instrument. Indicates that there can also be <b>trade-offs: when policy is focussed on one environmental goal only</b>. For example, <b>substitution of fossil fuels by biomass could increase air pollution related health risks and increase the loss of biodiversity</b>. Also, the use of <b>carbon capture and storage</b> could be a potential source of additional emissions of air pollutants. An <u>approach tackling climate change and air quality challenges simultaneously</u> could effectively address such trade-offs.</p>	(h)
29	<b>Policy brief on potential targets to reduce risks for health and ecosystems</b> (draft)	<p>EB43, informal document presented by TFIAM  <a href="https://unece.org/sites/default/files/2023-11/Item%203b_Policy%20brief%20on%20potential%20targets.pdf">https://unece.org/sites/default/files/2023-11/Item%203b_Policy%20brief%20on%20potential%20targets.pdf</a>  <i>final version to be presented at WGSR62</i></p>	<p>Describes policy scenarios up to 2050, as calculated with GAINS for the UNECE region, including EECCA-countries (including Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan, Tajikistan) and West-Balkan countries.</p> <p>The document focusses on the <b>attainability of an illustrative 50% reduction target of health risks due to exposure to particulate matter and ozone</b>.</p> <p>The scenarios cover options to address <b>particulate matter and ozone precursors, including methane</b> and <u>the potential policy targets</u> that would be attainable.</p> <p>Provides country-tables emissions in GAINS-LRTAP scenarios.</p>	(a), (g), (h)