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Policy options to address the conclusions of the review of sufficiency and effectiveness of the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone, as amended in 2012

Options to address the conclusions of the review of the Gothenburg Protocol, as amended in 2012

Submitted by the expert group on policy option development

Summary

At its forty-second session (Geneva, 12–16 December 2022), the Executive Body adopted the final report on the review of the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Gothenburg Protocol), as amended in 2012 (ECE/EB.AIR/150/Add.2, forthcoming). The Executive Body recognized the need to address the conclusions of the review and requested the Working Group on Strategies and Review to develop options for next steps and to make recommendations on appropriate policy responses. It decided that a dedicated ad hoc group of experts should be convened by the Chair of the Working Group.

The present document, prepared by the ad hoc group, provides a list of policy options accompanied by their comprehensive analysis. The Working Group is invited to discuss the options and recommendations of the ad hoc group and to provide its own recommendations to the Executive Body meeting at its forty-third session (Geneva, 11–14 December 2023).

I. Introduction

1. The review of the amended Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Gothenburg Protocol) was initiated by the Executive Body at its thirty-ninth session (Geneva, 9–13 December 2019) through paragraph 1 of its decision 2019/4.[1] At its forty-second session (Geneva, 12–16 December 2022), the Executive Body decided through paragraph 6 of its decision 2022/4 that the review had been completed and adopted the final report on the review (ECE/EB.AIR/150/Add.2, forthcoming).

2. The present document responds to paragraph 8 of decision 2022/4, in which the Executive Body requests the development of policy options to address the conclusions of the Gothenburg Protocol review. In accordance with paragraph 9 of said decision, an ad hoc group of experts was established for this purpose.

3. The purpose of this document is to provide information that can help the Executive Body to take a decision on possible next steps to respond to the conclusions of the Gothenburg Protocol review and in doing so contribute to the achievement of the Convention's long-term objectives. The approaches presented in this document are not necessarily stand-alone in nature, but rather could be combined in several possible pathways for action. To enable a transparent and inclusive process, a draft of the ad hoc group's report was shared with National Focal Points for input on 24 March 2023. This draft was discussed during an informal intersessional webinar (17–18 April 2023).

4. The key conclusions on the adequacy of the obligations and the progress made towards the achievement of the objectives of the amended Gothenburg Protocol can be found in paragraph 90 of the report on the review of the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone, as amended in 2012. Briefly summarized, these conclusions, among other things, state that:

(a) Despite the emission reductions achieved by Parties as a result of the introduction of measures to achieve the long-term objectives of the amended Gothenburg Protocol, adverse effects on human health, ecosystems and materials persist;

(b) Current legislation will not be sufficient to achieve the long-term objectives of the amended Gothenburg Protocol. Increased emission reduction efforts will be necessary;

(c) To increase the effectiveness of the amended Gothenburg Protocol, ratification and implementation will also need to be increased. This will require new solutions to remove barriers to ratification. The emission reduction potentials for current non-Parties are still particularly large;

(d) To achieve the long-term objectives of the amended Protocol, it will not be sufficient to rely solely on available technical measures (i.e. Best Available Techniques (BATs)). Non-technical and structural measures, synergies of climate and energy policies, as well as additional efforts outside the United Nations Economic Commission for Europe (ECE) region could deliver the required additional reductions;

(e) In particular, additional action is needed in the agricultural sector (ammonia (NH_3) and methane (CH_4)), the energy sector (nitrogen oxides (NO_x)), road transport (NO_x, volatile organic compounds (VOCs), black carbon (BC) and non-exhaust particulate matter (PM)), (international) shipping (NO_x), solvent use (VOCs), domestic wood burning (fine particulate matter ($PM_{2.5}$), BC and VOCs), agricultural residue burning ($PM_{2.5}$ and BC), gas flaring (BC and CH_4) and landfills (CH_4);

(f) In addition to reduced emissions of NO_x, VOCs and CH_4 within the ECE region, global CH_4 reductions are needed to further reduce ground-level ozone (O_3) in the ECE region.

[1] All Executive Body decisions referred to in the present document are available at https://unece.org/decisions.

5. In addition, paragraph 91 of the report on the review of the amended Gothenburg Protocol includes suggestions for next steps and further work. These are summarized as follows:

(a) Consider different options for making further progress towards the long-term objectives of the amended Protocol, including the option of a revision thereof;

(b) Consider additional action on NO_x, SO_2, $PM_{2.5}$ (BC), VOCs and in particular NH_3 emissions;

(c) Consider potential action to achieve CH_4 reductions to reduce O_3;

(d) Remove and take due consideration of barriers to ratification of the amended Gothenburg Protocol and implementation of abatement measures (technical annexes);

(e) Apply a multi-pollutant/multi-effect approach in identifying possible future air pollution control policies, taking into account non-technical measures and synergies with other policy areas.

6. Section II of the present document provides a description of the available policy options, which were identified based primarily on their ability to respond to the conclusions of the Gothenburg Protocol review, taking into consideration the long-term objectives of the Convention. Section III provides an analysis of the advantages and disadvantages of the policy options described in section II. Section IV applies a set of criteria to the different policy options to determine how effective those options could be at meeting environmental objectives. Based on the information and analysis presented in sections II–IV, recommendations for next steps are proposed in section V.

II. Description of policy options

7. A number of policy options are available to address the adopted conclusions of the review of the amended Gothenburg Protocol. These options are grouped into four main approaches, as summarized in table 1 below. Each of the approaches, as well as the options described within them, can be stand-alone or used in combination with any number of the other options. For example, one pathway could be to combine approach 1 (no revision) with approach 3 (develop a new instrument); another could be to combine approach 2 (revise amended Gothenburg Protocol) with approach 4 (cross-cutting). The list of options contained in this section is not exhaustive.

Table 1
Overview of the main approaches to policy options

Approach No.	*Outline*
1	Continue with amended Gothenburg Protocol in its current form
2	Revise amended Gothenburg Protocol (a) Targeted revisions of technical annexes IV–XI (b) Comprehensive revisions of Protocol text and annexes
3	Develop new instrument(s)/measure(s) (a) Non-binding instrument(s)/measure(s) (b) Binding instrument(s)/measure(s)
4	Cross-cutting: Continue and/or enhance capacity-building, awareness-raising, cooperation and other support (a) Capacity-building and awareness-raising (b) Communication, outreach and cooperation (c) Other support

8. For convenience, a summary table of how each approach listed in table 1 above corresponds to the issues/themes raised in the review conclusions that need to be addressed is available as an informal document to the sixty-first session of the Working Group on

Strategies and Review. It summarizes the extent to which these themes can be addressed by each of the approaches. The clean-up of articles of the amended Gothenburg Protocol is not retained as a theme in the table, as this would only be possible and/or relevant in the case of the revision of the text of the amended Gothenburg Protocol.

9. The four above-mentioned approaches are described in detail below; these approaches are not prioritized and the options within each approach are non-exhaustive.

A. Approach 1: Continue with the amended Gothenburg Protocol in its current form

10. This approach would involve continuing to work with the ratification and implementation of the amended Gothenburg Protocol in its current form, including continued scientific work as envisaged by the Protocol. This approach would focus on reporting of emissions and implementation of emission abatement measures, compliance review, exchange of information and technology, awareness-raising, research, development and monitoring. This is the least ambitious approach as the number of possible initiatives without amending the Gothenburg Protocol is limited. Further initiatives could include:

(a) Continuing work to improve Parties' emission inventories, harmonizing emission inventories for air pollutants with those for greenhouse gases;

(b) Making operational improvements to flexibility provisions to further facilitate implementation/compliance, such as:

(i) Guidance on the application and reporting of different emission reduction strategies in accordance with articles 3 (2)–(3) and 7 (1) (a), and guidance on what the term "technically or/and economically feasible" means throughout the Protocol;

(ii) Amending existing guidance (e.g., for the adjustment procedure).

(c) Updating existing and developing new guidance documents on abatement techniques.

B. Approach 2: Revise the amended Gothenburg Protocol

11. A distinction has been made between targeted revisions to technical annexes IV–XI and a comprehensive revision of the Protocol text and all its annexes, as amendments to technical annexes IV–XI may become effective within one year of adoption for those Parties that have accepted the silence procedure pursuant to article 13 bis (6)–(7) of the Protocol. For new incoming Parties, however, the regular ratification procedure will still apply.

Targeted revisions of technical annexes IV–XI

12. This option includes amendments to one or more of technical annexes IV–XI, for which acceptance using a silence procedure is now optional. New amendments to these technical annexes may include minor changes or an overall revision that could include the introduction of specific provisions for countries of Eastern Europe, the Caucasus and Central Asia and other non-Parties, with the aim of further facilitating ratification and implementation. Targeted revisions to technical annexes could include the following:

(a) Improvements to current flexibility provisions (e.g., timescales in annex VII) and/or the introduction of additional/different flexibility provisions to overcome barriers to ratification and implementation;

(b) Specific/single amendments to technical annexes IV–XI to the Protocol (e.g., specific simplification of requirements);

(c) Restructuring technical annexes IV–XI (e.g., by source category and/or by including separate sections for countries of Eastern Europe, the Caucasus and Central Asia,[2] Western Balkan countries[3] and Türkiye);

(d) Focusing/concentrating first on emission limit values for new installations in the technical annexes (to avoid expensive retrofitting of existing installations in poorer economies) and/or focusing on key categories or most cost-effective solutions in the technical annexes.

13. The Executive Body may adopt a decision declaring that requirements set by the technical annexes shall not be subject to compliance review.

14. It should be noted that some amendments to the technical annexes also require amendments to the text of the Protocol. For such amendments, the standard ratification procedure must be followed pursuant to article 13 bis (2) of the amended Gothenburg Protocol.

Revision of the Protocol text and annexes

15. This option includes a comprehensive revision of the whole amended Protocol, including its text, annex I, obligations to reduce emissions as specified in annexes II–III, and technical annexes IV–XI.[4] A comprehensive revision of the text of and the annexes to the Protocol addressing (all/part of the) conclusions of the review of the amended Gothenburg Protocol could include the following:

(a) New emission reduction commitments – specified for each Party and each pollutant currently regulated by the amended Protocol, to be attained by a specified target year, and possibly specifying interim targets. Negotiation of new emission reduction commitments could take place based on modelled scenarios (multi-pollutant, multi-effect) showing how agreed targets for the protection of human health and the environment could be met in a cost-effective way;

(b) Specific amendments/focus on annex IX – recognition that measures are needed to achieve NH_3 emissions ceilings; strengthen existing measures on, for example, manure application/storage and animal housing in annex IX and extend its scope (e.g., to include cattle); further define how to reduce losses from the whole nitrogen cycle such as the consideration of including NO_x from soil, incorporate new and state-of-the-art BATs for NH_3 reductions, potential policies on food choice as part of an NH_3 reduction plan;

(c) Expanding the scope of the Protocol to include requirements on other ozone precursors, in particular CH_4 – a number of options are available to address CH_4 in a revision of the amended Gothenburg Protocol. Specific options to address CH_4 outside of a revision of the amended Protocol could also include development of a new binding or non-binding instrument (see approach 3 for more detail), and/or additional capacity-building (see approach 4 for more detail). Options to address CH_4 as part of a revision of the Gothenburg Protocol include:

(i) Adoption of national emission reduction targets/optimized national/regional CH_4 reduction commitments, which could be binding or non-binding, collective or individual. Binding emission reduction commitments on CH_4 would set an example for other regions and might include a smaller number of countries; possible overlap with other targets such as the Global Methane Pledge, work under the Arctic Council to develop a potential collective CH_4 reduction goal, or sector-specific CH_4 targets

[2] Countries of Eastern Europe, the Caucasus and Central Asia include Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. Tajikistan, Turkmenistan and Uzbekistan are not Parties to the Convention.

[3] Western Balkan countries include Albania, Bosnia and Herzegovina, North Macedonia, Montenegro and Serbia.

[4] Note: (i) for amendments to the text and annex II the classic ratification procedure applies; (ii) for amendments to annexes I and III a silence procedure applies; and (iii) for amendments to annexes IV–XI a silence procedure applies for those Parties that accepted this procedure upon ratification.

such as under the North American Leaders' Summit. It should also be considered that some initiatives may become obsolete by the time a revision of the Gothenburg Protocol has entered into force. Given that, for example, the Global Methane Pledge has a 2030 goal, any potential target on CH_4 should be framed as "building on the efforts" of the Pledge and addressing the remaining share of CH_4 after global emissions thereof have been reduced by at least 30 per cent below 2020 levels (Pledge commitment);[5]

(ii) A new technical annex on CH_4 (and/or an integrated annex for agricultural emissions) could potentially be addressed by a separate Executive Body decision and, thus, ratified separately. CH_4 emission limit values for certain activities could be included in this annex. Potential issues for consideration include different requirements by sector, a new technical annex including emission limits and BATs, and guidance documents on best practices for major activities in certain sectors such as landfills, coal mining, oil and gas, as well as agriculture. Guidance documents could be shared with other multilateral environmental agreements and initiatives. Regarding facilitation of the uptake of renewable gases, technical annexes could be too stringent or result in barriers to implementation. Key sources of CH_4 differ between parts of the ECE region, uniform requirements on all CH_4-producing activities may be less cost-effective to achieve certain emission reductions. There is a risk that technology is evolving rapidly and CH_4 limit values will quickly become out-of-date. Sector-focused approaches such as guidance for monitoring and reporting of data for the oil and gas sector (leak detection, remote sensing) could be considered. There is a risk of duplication of efforts – at the regional/global scale the International Methane Emission Observatory is already taking on satellite remote sensing work. At the facility level, the Oil and Gas Methane Partnership 2.0 – a voluntary partnership of oil and gas companies that has reporting requirements and CH_4 targets, etc. – requires remote sensing for oil and gas facilities;

(iii) Compiling, reviewing and improving CH_4 emissions information – the United Nations Framework Convention on Climate Change (UNFCCC) requires reporting of emissions annually on 15 April for all years, from the base year to two years prior to the current reporting year, by annex 1 Parties. Parties provide both tabular emissions data and a National Inventory Report describing data sources and methods. All this information is publicly available on the UNFCCC website.[6] The data must meet reporting requirements for annex 1 countries,[2] including three tiers of reporting, and are reviewed through an established process. There are also international UNFCCC working groups, which aim for continual improvement to CH_4 emissions information. The Arctic Council Expert Group on Black Carbon and Methane Summary of Progress and Recommendations includes historical and projected CH_4 emissions for parties that provide this information, which are aligned with UNFCCC reporting. This option duplicates existing UNFCCC emissions data collection, review and improvement. More information is needed on the scope of this work and it should be narrowed to differentiate from existing work; for example, describing specific convention data need that are not available from the UNFCCC inventory. The Parties to the Convention could consider potentially encouraging/requiring countries not currently submitting CH_4 data to the UNFCCC inventory to do so under the Gothenburg Protocol. However, although this option was assessed for completeness, work to compile, review and improve CH_4 emissions information should not be considered as a viable revision to the Gothenburg Protocol because this work is being undertaken by UNFCCC.[7] Any inventory-related information that might be required by the Convention to support work under the Gothenburg Protocol should make use of the existing UNFCCC inventory;

(iv) Quantifying the benefits of current global efforts to reduce CH_4 emissions on ozone concentrations: CH_4 mitigation is currently a global climate change priority.

[5] Global Methane Pledge, p. 2, first operative paragraph. Available at www.ccacoalition.org/en/resources/global-methane-pledge.

[6] See https://unfccc.int/ghg-inventories-annex-i-parties/2021.

[7] ibid.

Countries are taking action to reduce CH_4 emissions under a variety of global forums. These efforts are geared towards mitigating the climate warming impacts of CH_4. Further efforts could be made to improve understanding of the air quality, human health and ecosystems benefits of reducing CH_4 as an ozone precursor beyond what has already been included in the Global Methane Assessment.[8] Likewise, quantifying health and ecosystem benefits of ozone reductions could allow for the calculation of the economic benefits of global CH_4 efforts. Better quantification of these impacts would help to: reinforce the value of considering air quality and climate change together when developing and selecting emission mitigation strategies; quantify the economic value of CH_4 measures, incorporating climate and health benefits across sectors; and, identify whether any air quality-relevant mitigation gaps persist. However, the Convention would need to ensure that new information is being provided and that it does not duplicate existing studies and ongoing work under other initiatives (see, e.g., the Global Methane Assessment, launched by the Climate and Clean Air Coalition and the United Nations Environment Programme (UNEP).

(d) Expanding requirements on BC by including, for example, emission reduction requirements, reporting requirements, new requirements on BC as a component of PM in annex X, requirements on BC from agricultural residue burning and/or a separate annex on BC;

(e) Expanding the application of article 3 (8) and (10) on ammonia control measures as specified in annex IX beyond the geographical scope of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), in combination with the options considered as part of updating annex IX as per paragraph 15 (b) above;

(f) Focusing on overcoming barriers to ratification and implementation, such as by adding new flexibilities like timescales that would, for example, allow for sufficient time for retrofitting or gradual decommissioning of old installations, by allowing alternative base years for the emission reduction commitments, by indicating in the revised text that new measures/requirements would not be mandatory for new Parties (idea proposed by the Coordinating Group on the promotion of actions towards implementation of the Convention in Eastern Europe, the Caucasus and Central Asia (Coordinating Group)). Additional ratifications of the amended Gothenburg Protocol, or an update thereof, are, rather, a means to an end, although their value and merit as legally binding long-term commitments by Parties should not be underestimated;

(g) Introducing a staged approach, where (revised) technical annexes are accepted and ratified gradually (ratification of one annex at a time, or as appropriate), or where the Protocol is ratified in one go, with phased commitments described in the Protocol itself. Both options require amendments to the Protocol text to introduce this gradual approach. For further information, see section III; *[Placeholder – this section is pending additional information]*

(h) Allowing automatic incorporation of relevant emission limit values in the technical annexes upon ratification for specific groups of countries (similar to the approach for Canada under article 3 (11 bis) of the amended Gothenburg Protocol);

(i) Replacing some or all technical annexes by referring to guidance documents, to allow Parties to implement the emission reduction measures they consider most effective;

(j) Addressing all articles of the Protocol and assessing them for continued relevance, if articles are spent like the timescales, updating the preambular text to include stronger language on CH_4 as an ozone precursor, include more specific information on short-lived climate pollutants in general, updating the language on the articles to reduce the administrative burden associated with the older protocols.

[8] See *Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions* (Nairobi, United Nations Environment Programme (UNEP), 2021); and *Global Methane Assessment: 2030 Baseline Report – Why Act Now: a New Era for Accelerated Implementation* (Nairobi, UNEP, 2022).

C. Approach 3: Develop new instrument(s) or measure(s)

16. This approach could include one or more new binding and/or non-binding instrument(s) or measure(s), or a combination thereof. A new instrument could be considered to replace or complement the amended Gothenburg Protocol (i.e. a new kind of multi-pollutant protocol and/or a complementary instrument for a specific pollutant (i.e. CH_4). Under this approach, there are binding and non-binding options that could be undertaken, some of which have overlaps with approaches 1–2 and 4.

Non-binding instrument(s)/measure(s)

17. A non-binding instrument could include:

(a) Developing voluntary programmes such as the Batumi Action for Cleaner Air (2016–2021) initiative (ECE/BATUMI.CONF/2016/7), under which Governments were invited to voluntarily commit to implementing specific individual actions to combat air pollution and share their successes and further challenges with others. Further to this, Parties are encouraged to implement commitments that would implement and potentially lead to ratification of the protocols to the Convention. An option would be to utilize and revive this initiative under a new treaty or protocol;

(b) Developing also links to existing commitments of other international agreements to which Parties to the Convention are also a party, which may help to further achieve the long-term objectives of the Convention or a new protocol. This could include:

(i) Developing a framework of voluntary targets for additional action on air pollution, such as done by the Convention on Biological Diversity Global Biodiversity Framework for biodiversity conservation. Through such an instrument, Parties to the Convention could agree on common aspirational targets, actions and implementing and reporting measures. Such an agreed instrument would appear as more of a commitment than the Batumi initiative, but would still not be legally binding;

(ii) In addition to the action noted above under approach 2b on a comprehensive revision of the Gothenburg Protocol, additional voluntary actions to fulfill the global ambition of the Global Methane Pledge, which is operationally overseen by the Climate and Clean Air Coalition, could also be considered.

(c) Undertaking greater action to build momentum towards implementing measures – this option could be informed by other conventions and consider involving multiple levels of Government and communities. This could include:

(i) Moving from a focus on compliance to a more facilitating role for the Convention and promoting technical areas for improvements (such as inventories, policy measures, technical guidance for abatement) to help non-Parties to the Gothenburg Protocol to take further steps to implement measures to reduce air pollution;

(ii) Building in cooperation with existing programmes from the World Bank, the Climate and Clean Air Coalition, or the C40 Cities Climate Leadership Group to encourage more action at the national or subnational level.

(d) To some extent, the creation of the forum for international cooperation on air pollution could allow any of the above measures to be undertaken as part of the forum, as well as building more links to other regions and organizations tackling air pollution.

Binding instrument(s)/measure(s)

18. A binding option could be a new binding instrument, replacing the existing Gothenburg Protocol, or a new protocol with different or additional obligations to the existing Gothenburg Protocol. As a new treaty is a clean slate, the obligations could be very different from the existing provisions of the Gothenburg Protocol:

(a) A new treaty to cover multiple pollutants – a new treaty could be initiated to deal with existing and new pollutants together in a new or different “framework/structure”

than the Gothenburg Protocol. The choice for a new treaty may depend on the scope and number of amendments to be made;

(b) A sector-based treaty – a new protocol or treaty could instead seek to harmonize production, trade, or reduce proliferation of emissions of certain sectors, such as the International Maritime Organization does for shipping emissions, or the Montreal Protocol on Substances that Deplete the Ozone Layer does for hydrofluorocarbons;

(c) A single pollutant treaty – a new treaty could instead look again at targeting single air pollutants for action by Parties, which was the practice of the Convention prior to the 1999 Gothenburg Protocol. This could be aimed at swift action against certain pollutants/ozone pre-cursors (i.e. CH_4) and include a specific emission reduction target for each Party;

(d) A phased approach treaty – a new treaty could take account of different levels of development of air quality management by allowing Parties to make "phased" commitments to a protocol towards an overall objective. This would build up ratification of provisions as countries are able to implement measures to address air pollution. This could be modelled on existing frameworks employed by European Union Framework Directives as an example.

D. Approach 4: Continue/expand capacity-building, awareness-raising, cooperation and other support

19. Regardless of which approach or options are chosen, capacity-building, awareness-raising, cooperation and other support are cross-cutting efforts that could be continued and/or expanded to help to further address the Gothenburg Protocol review's conclusions and long-term Convention objectives. This approach includes actions that could be initiated in the short term, sustained in the long term, and adjusted/changed to best serve the Convention's objectives. These options are described further below. These potential activities could be combined with any other approach (and/or options within the other approaches) presented in this document, and the cross-cutting approach is intended to be a very flexible option that can be tailored to complement the other approach(es) selected.

20. The level of complexity, effort, timeline and resources required for this approach would depend largely on the number of activities selected and the extent to which the Executive Body would like to increase capacity-building, outreach and cooperation under the Convention. Selection of this approach would also require further discussion on the resources required and on who would be responsible for each action (e.g., the secretariat, the Chair of the Executive Body, task forces, Convention Parties, etc.). Political will would be important for the success of actions in cross-cutting approach 4. A visible political Executive Body decision could help to generate political will in support of expanded capacity-building and cooperation.

Expand capacity-building efforts

21. This option identifies several actions Parties could take, subject to availability of resources, to advance capacity-building efforts that provide long-term and targeted support in countries and on topics where further action on air quality management could have the greatest impact in line with approaches 1–3. Specific activities could include:

(a) Needs assessment – review the current work on capacity-building, awareness-raising, communication and cooperation to evaluate the effectiveness of current approaches and identify possible gaps in the Convention's current work plan;

(b) Identify and match available resources/assistance with capacity needs/gaps;

(c) Workplan – identify opportunities in the 2024–2025 workplan activities for "science", "policy" and "compliance" to strengthen information exchange, capacity-building and links between the Convention's task forces and non-Parties;

(d) Review the task forces' mandates and include separate sections for non-Parties;

(e) Identify specific follow-up activities or coordination actions targeting countries of Eastern Europe, the Caucasus and Central Asia, Western Balkan countries and Türkiye, taking into account the request of the Executive Body made at its forty-second session to review the Coordinating Group's mandate;[9]

(f) Continue to translate relevant documentation and communication materials into Russian and, upon request, provide support for their translation into other national languages;

(g) Strengthen the Convention's technical assistance to non-Parties with the aim of providing targeted, long-term support that responds to country-specific challenges and contexts. Technical assistance could include additional action such as support for monitoring networks (including low-cost sensors and passive samplers), further support for emissions inventories and emissions projections, and/or support to develop country-specific implementation action plans.

Increase awareness-raising activities

22. Actions to further raise awareness could include, subject to availability of resources, the following:

(a) Review of the effectiveness of the Convention's communication and public outreach plans, including the Convention and task force websites, and development/implementation of a plan to make enhancements to improve effectiveness (possible role for secretariat);

(b) Implement public awareness-raising campaigns on the human health impacts of air pollution (possible role for secretariat);

(c) Host additional national clean air dialogues (possible role for secretariat and/or task forces);

(d) Extend air pollution monitoring in countries of Eastern Europe, the Caucasus and Central Asia and Western Balkan countries to build awareness among the general public and decision-makers. This could also include the creation of additional real-time data portals with publicly available information (possible role for the Task Force on Integrated Assessment Modelling and/or Convention Parties);

(e) Organize high-level events to raise political awareness among decision-makers, not only those responsible for the environment, but also among those responsible for other policy areas that are higher on the political agenda (e.g., energy, climate, finance, agriculture) (possible role for the secretariat, Convention Parties and/or the Task Force on International Cooperation on Air Pollution (TFICAP));

(f) Host Convention meetings periodically in countries of Eastern Europe, the Caucasus and Central Asia, Western Balkan countries and Türkiye (possible role for secretariat);

(g) Increase international pressure for further action on air pollution, including implementation and ratification, such as by discussing the Convention in ministerial meetings, including air pollution in bilateral agreements, etc. (possible role for Parties and/or TFICAP);

(h) Host additional outreach events at key international meetings (e.g., side events at meetings organized by UNFCCC, the Climate and Clean Air Coalition, the United Nations Environment Assembly of UNEP, the Intergovernmental Panel on Climate Change (IPCC)) (possible role for the secretariat, Parties and/or TFICAP);

(i) Use of the forum for international cooperation on air pollution and TFICAP to raise awareness and build political will.

[9] ECE/EB.AIR/150 (advance version), para. 24 (f).

Strengthen cooperation with other organizations or bodies outside of the Convention to further raise awareness and improve technical capacity

23. Such actions could include, subject to availability of resources, further cooperation with entities including, but not limited to:

(a) The science-policy panel on pollution: In its resolution 5/8,[10] the United Nations Environment Assembly of UNEP decided that a science-policy panel should be established to contribute further to the sound management of chemicals and waste and to prevent pollution. The scope of the panel is being negotiated in a series of open-ended working groups through 2024; these discussions provide an opportunity for the Convention's stakeholders to advocate for the inclusion of air pollution in the scope. The panel, once set up, could also present opportunities to elevate the science and work of the Convention, produce global or regional assessments beneficial for the work of the Convention, and could raise global awareness of the latest science on air pollution. The Parties to the Convention could consider greater outreach and cooperation with UNEP and the science-policy panel during its setting up and once the panel is active. Such engagement could be a role for the secretariat, the Chair of the Executive Body, TFICAP and/or Parties;

(b) The World Health Organization (WHO): Cooperation with WHO could focus on raising awareness of the public health impacts of air pollution and the importance of taking action at the global, regional and national levels to address air pollution. Technical cooperation could also present opportunities to seek complementarity with and contribute to WHO databases, tools and initiatives, including the global air pollution and health technical and scientific advisory groups. Such cooperation could benefit the Convention's scientific work and also raise awareness at key public health and political levels. Such engagement could be a role for the secretariat (outreach) or the task forces (technical cooperation);

(c) The World Meteorological Organization (WMO): Cooperation with WMO could present opportunities for the Convention to share its scientific work more broadly and to work with WMO on globally relevant data and modelling. The WMO annual Air Quality and Climate Bulletin, which, among other things, provides updates on global distribution of air pollutants, could be a useful tool for awareness-raising. Such engagement could be a role for the task forces;

(d) UNFCCC: Cooperation with UNFCCC could present opportunities for high-level events at annual meetings of the Conference of the Parties to raise awareness of the links between air pollution and climate change. Strengthened cooperation with UNFCCC could also include making use of UNFCCC CH_4 data sets to project ozone levels and health impacts. Such engagement could be a role for the secretariat, Executive Body Chair, and/or Convention Parties;

(e) IPCC: Cooperation with IPCC could present opportunities for joint workshops or targeted assessments to highlight the complementarities and need for action between air pollution and climate change. Such engagement could be a role for the task forces;

(f) The Climate and Clean Air Coalition: Cooperation with the Coalition's proposed new Air Quality Flagship and existing Methane Flagship presents opportunities for the Convention to amplify action on air pollution and build upon a strong, existing global effort. The Flagships provide scientific assessments and tools that support decision-making, political engagement at all levels, awareness-raising and national action. Such engagement could be a role for the task forces and TFICAP in particular. Many Convention Parties are already active Coalition members. Other forums, such as the Global Methane Initiative, could also be considered;

(g) UNEP: Convention Parties' cooperation with UNEP could help to shape UNEP focus areas, both in terms of priority topics and regions. UNEP could also be a useful partner in developing and amplifying platforms, tools and resources on air quality management, which could include elements developed by and useful for the Convention, including non-Parties to the Gothenburg Protocol. Such engagement could be a role for the task forces, the secretariat and/or the Executive Body Chair. Convention Parties could also

[10] UNEP/EA.5/Res.8.

engage with UNEP through funded programmes, the UNEP Committee of Permanent Representatives and the United Nations Environment Assembly of UNEP.

Initiate other support/action to address barriers that current non-Parties face

24. Additional action and other kinds of support may be needed to address barriers to ratification and implementation that current non-Parties face (for more details on these barriers, see informal document no. 2 for the forty-second session of the Executive Body).[11] Potential options to expand other support could include:

(a) Increased voluntary contributions. Continue fundraising and calls to Convention Parties to provide financial support to support ratification and implementation of the Gothenburg Protocol. One possibility is that, if a needs assessment is completed, countries could identify in-kind and financial support in service of the gaps identified in the needs assessment. This could be the role of the secretariat and specific centres/task forces;

(b) New funding mechanism. Develop a new funding mechanism linked to the amended Gothenburg Protocol (or to a new instrument, if appropriate) to support implementation. It should be noted that, depending on how such a mechanism is developed, this may require a revision to the Protocol. Setting up this funding mechanism would require a thorough analysis – coordination could be carried out by the secretariat;

(c) Coordinated outreach to financial institutions. Initiate a dialogue with financial institutions such as the World Bank, the Asian Development Bank or the European Investment Bank[12] to explore funding opportunities for non-Parties (e.g., to finance/reduce the costs of mitigation measures). This could be the role of the secretariat;

(d) Develop a mid-term strategy and/or country-specific implementation action plans for current non-Parties. Develop a specific mid-term strategy for non-Parties, drawing an appropriate distinction between the three following groups of current non-Parties: (a) the countries of Eastern Europe, the Caucasus and Central Asia; (b) the Western Balkan countries; and, (c) Türkiye. Such a strategy should identify what is technically and politically feasible for these countries by certain target years. This strategy could also be paired with country-specific implementation action plans that provide more detail on the steps countries would need to follow to improve implementation of the amended Gothenburg Protocol and make progress towards ratification.

III. Advantages and disadvantages of policy options

25. Section III discusses the advantages and disadvantages of the policy options described in section II and combinations thereof. This includes specific considerations for countries of Eastern Europe, the Caucasus and Central Asia, Western Balkan countries and Türkiye.

A. Advantages/disadvantages of approach 1: Continue with the amended Gothenburg Protocol in its current form

26. The Convention has 51 Parties, 31 of which are Parties to the original Gothenburg Protocol and 27 of which have accepted the 2012 amendments thereto.[13] Among Parties to the Protocol as amended are the European Union and most of its member States, countries of Western Europe and of North America. Countries of Eastern Europe, the Caucasus and Central Asia, Western Balkan countries and Türkiye have not yet ratified the amended Protocol. The review of the amended Gothenburg Protocol concluded that the emission reduction potential for current non-Parties is still particularly large. More ratifications and improved implementation could increase the effectiveness of the amended Gothenburg

[11] Available at https://unece.org/sites/default/files/2022-11/Item%203_Barriers%20to%20ratification%20and%20implementation%20and%20solutions.pdf.

[12] Executive body decision 2018/5, annex, para. 73.

[13] As at 25 May 2023.

Protocol.[14] Among possible initiatives to remove barriers towards ratification, helping countries to improve their emission inventories seems to be the most helpful one.

27. A possible advantage of relevance for approach 1 seems to be that, in the absence of any other policy developing activity, current and possible new Parties would have the opportunity to fully focus on the implementation of the Gothenburg Protocol as amended. However, developments since 2012 indicate that it is unlikely that a large number of additional Convention Parties will ratify the amended Protocol. The long-term objectives of the Gothenburg Protocol are unlikely to be achieved with approach 1.

B. Advantages/disadvantages of approach 2: Revise the amended Gothenburg Protocol

Targeted revisions of technical annexes IV–XI

28. Additional separate sections in the technical annexes:

(a) Currently, the technical annexes are divided into three sections: a section for the EMEP region, a section for Canada and a section for the United States of America. The separate sections respect the difference in governance between the countries of these areas. One option is to provide separate section(s), with their own requirements, for the countries of Eastern Europe, the Caucasus and Central Asia, the Western Balkan countries and Türkiye. The rapid entry into force for some Parties of amendments to the technical annexes under the silence procedure can be seen as an advantage;

(b) The focus of the annexes could also be shifted from expensive retrofitting of existing installations to new installations. Consideration should be given to the share that the total cost of additional policy measures represents in gross domestic product (GDP) when setting the ambition levels for the countries of Eastern Europe, the Caucasus and Central Asia, the Western Balkan countries and Türkiye;

(c) The countries of Eastern Europe, the Caucasus and Central Asia and Western Balkan countries are moving at different speeds, have different needs and face different barriers to ratification. A “one-size-fits-all” solution to overcoming all barriers is difficult to find or may not even exist. A major barrier to ratification is the complex and demanding nature of the technical annexes. Countries fear that a new revision of the amended Gothenburg Protocol will further increase the complexity of the technical annexes (i.e. by introducing new stricter uniform limit values for all). The introduction of separate sections in the technical annexes for these current non-Parties would allow for a tailor-made approach. Combined with a staged approach, this would allow for more ratifications over time;

(d) One risk or disadvantage of this option is the possibility of compromising ambition and accountability to make meaningful reductions as the requirements may be reduced to the minimum ambition level of the slowest-moving country. There may also be challenges with implementation for some non-Parties. Emission inventories continue to need improvement, as some countries are still using the tier 1 approach. Relying solely on emission inventories to assess the level of implementation of the Protocol may not lead to adequate information. Making the technical annexes less complicated may assist with this assessment.

29. Removing mandatory annexes IV–XI:

(a) The practical usefulness of the technical annexes needs to be taken into consideration. That is to say whether they are best implemented through: mandatory technical annexes; non-mandatory guidance documents; or a combination of both (with, e.g., only mandatory requirements for key categories and/or new installations). This issue is relevant to both Parties and current non-Parties. For current non-Parties in particular, this is likely to depend on whether the technical annexes could be simplified or restructured (with, e.g., specific sections for Eastern Europe, the Caucasus and Central Asia) and/or whether a phased approach would be applied). In addition, the current technical annexes continue to act for some as a barrier to ratification, being considered overly prescriptive and complicated;

[14] ECE/EB.AIR/2022/3, para. 89 (e)–(f).

(b) Enforcement/compliance verification (by the Implementation Committee) of the obligations arising from annexes IV–XI is very difficult and time-consuming and is currently rarely carried out;

(c) At the current rate of ratification and entry into force of the Convention's protocols, technical annexes are out-of-date before they become legally applicable (annexes to the amended Gothenburg Protocol were established and negotiated years before their adoption in 2012). Technical annexes are rigid, unlike guidance documents, which can be updated more easily and regularly (e.g., every five years);

(d) On the other hand, the (mandatory) emission limit values in the technical annexes serve to: achieve the emission reduction commitments of annex II; achieve directly and indirectly the objectives of the Protocol; and, ensure a basic level playing field for countries and sectors. Their mandatory nature may provide higher confidence/certainty in achieving set targets (emission reduction commitments);

(e) Imposing emission reduction commitments (annex II) without imposing emission limit values (annexes IV–XI) allows for more flexibility in achieving the emission reduction commitments (e.g., by also allowing non-technical measures to be valued, such as encouraging the replacement/phasing out of old plants), but the lack of underlying mandatory requirements can, in turn, make it more difficult to achieve the emission reduction commitments;

(f) If it were decided to delete annexes IV–XI and rely solely on the BAT guidance documents, those documents would have to be thoroughly revised to clearly define the (most up-to-date) BATs and the emission levels that can be achieved with them, as well as their applicability;

(g) Replacing annexes IV–XI with non-mandatory guidance documents would shift the focus of the Gothenburg Protocol solely to the emission reduction commitments, as the remaining basic obligation. For countries of Eastern Europe, the Caucasus and Central Asia and Western Balkan countries such commitments have not yet been calculated/set because the quality of their emission inventories is still insufficient. A transition to a Protocol retaining only annex II would require additional efforts to improve these countries' emissions inventories.

Comprehensive revisions of Protocol text and annexes

30. The Gothenburg Protocol has a long history and is a well-known instrument within the community of stakeholders dealing with air pollution and beyond. Its added value is widely recognized, as demonstrated by the Convention's long-term strategy.

31. As a binding instrument, and through the shared ambition of its Parties, continuing with the Gothenburg Protocol would further help and motivate countries to adopt national measures and to further contribute to the highly valued science developed under the umbrella of the Convention (tools, methodologies, etc.).

32. A comprehensive revision would allow for the consideration of further flexibilities to be included in the Protocol, such as an indication in the revised text of the Protocol that new measures and reporting provisions are not mandatory for new Parties. Alternatively a new Party at the time of ratification could "express its intention" to be a Party to the unamended version of the Protocol (compare with Vienna Convention on the Law of Treaties, art. 40 (5)).

33. This approach would allow for the technical annexes to be made non-mandatory for new Parties (current non-Parties). They could instead be used as advisory guidelines instead of obligations. This would allow the focus to be shifted slightly from obligations (emission limit values, emission reduction commitments) to benefits/policy targets (from "stick" to "carrot"). This could be used as an entry point that could generate greater political will and commitment from current non-Parties (e.g., air quality in major cities and its impact on health).

34. Furthermore, the removal of the time limits for flexible mechanisms' application from the text would become possible in a comprehensive review. Parties might wish to consider

where this option would need to be accompanied by implementation action plans for each country to ensure eventual implementation of all delayed measures.

35. As previously mentioned (see paras. 12 and 15 above), under this approach, separate/specific conditions for countries of Eastern Europe, the Caucasus and Central Asia (e.g., a special annex listing countries and respective obligations) could also be added, as has been established for Canada and the United States of America, but for countries outside the geographic scope of EMEP. Automatic incorporation of relevant limit values in the technical annexes upon ratification by countries of Eastern Europe, the Caucasus and Central Asia and other countries not yet Parties to the current Protocol into the technical annexes (similar to the approach for North America) could also be considered.

36. There is a risk that ratification by current non-Parties would become even more difficult if the level of ambition for all were set too high in a revised version of the Protocol. A comprehensive revision needs to also consider solutions to the main barriers, especially regarding the implementation of the emission limit requirements of the technical annexes. Further raising the level of ambition should be considered, along with new approaches for the technical annexes (e.g., phased approach, separate sections instead of new uniform stricter limit values applicable to all Parties).

37. Furthermore, the amended Gothenburg Protocol could be revised in a way that would allow for incremental ratifications of separate groups of new (bundled) amendments (similar to the approach used when amending the Protocol on Persistent Organic Pollutants).

38. As previously mentioned (see para. 34 above) regarding the time limits for the application of flexible provisions, removing the time limits and/or extending the timescales for the application of limit values could be useful. A customized approach could be used for the timescales according to the specific circumstances of a given country (different for each country, to be declared upon ratification).

39. A staged approach could also be considered. This refers more specifically to an approach where one of the two following paths is taken:

(a) Emission reduction commitments and/or the technical annexes (by pollutant or sector) are accepted and ratified gradually (staged ratification);

(b) The Protocol is ratified in one go, with phased commitments described in the Protocol itself (phased implementation). *[Placeholder – this section is pending additional information]*

40. The staged approach is an option already widely supported by (several) countries of Eastern Europe, the Caucasus and Central Asia. Preference for such an approach has been expressed in the past. This would allow for a focus first on those annexes regarding which countries have made the most progress and/or on what they want to prioritize and thereby make progress in gradual implementation that can be demonstrated to the outside world. This approach could also allow for the application of a tiered approach over time, prioritizing key categories and having a set of minimum requirements (harmonized for all Parties). If this approach were to be used for annex II, Parties would be able to apply progressively increased emission reduction commitments, with possibly different timing per pollutant. Keeping the requirements of the technical annexes aligned with such progression would be a challenge.

41. The staged ratification approach might lead to legal and procedural complexity and possibly to additional administrative burden, as each country (the countries of Eastern Europe, the Caucasus and Central Asia, the Western Balkans countries or Türkiye) could take its own path to ratification. Additional legal complexity would be less for a staged commitment approach where the Protocol would be ratified only once.

42. For annexes IV–XI (grouped by pollutant, as is currently the case, or by sector), this approach could also have an undesirable impact on the intended integrated (multi-pollutant/multi-effect) and/or synergistic approach (should each Party choose its own path), time horizon (given the significant period of time needed for a new protocol to enter into force and the even greater period of time required for the staged commitments to become effective) and might compromise the overall ambition level. Due consideration of the integrated multi-pollutant, multi-pollutant approach within a staged approach would be a

challenge. The horizontal annex VII on the timescales for the application of the limit values also needs to be taken into consideration.

43. A process for monitoring the implementation of the obligations of the Protocol using this approach would need to be created and might increase the workload of the group tasked with tracking said process (e.g., the Implementation Committee).

C. Advantages/disadvantages of approach 3: Develop new instruments/measures

44. There are advantages, disadvantages and risks involved in taking the "new treaty" approach, both for binding and non-binding frameworks. Overall, it should be noted that often the advantages and disadvantages of a new treaty are similar in some respects to a full revision of the Gothenburg Protocol.

45. Previous analysis by the ad-hoc group of legal experts[15] shows that there are only minor legal differences when considering a new treaty or full revision of the Gothenburg Protocol in terms of ratification by Parties and non-Parties to the existing Protocol. Therefore, primarily any advantages and disadvantages are political rather than legal in this respect. In the case of a new protocol, consideration should be given to the issue of how to deal with existing protocol obligations dealing with the same subject matter (including the older protocols on sulfur, VOCs and nitrogen oxides).

46. Many of the advantages and disadvantages of new binding and non-binding agreements are similar to the issues discussed in the sections on approaches 1–2 and 4. Therefore, this section will only focus on the options not dealt with in those sections:

(a) The "framework" approach using aspirational targets would have advantages in being able to show long-term aspiration and potentially tangible goals towards a long-term objective, which the current Gothenburg Protocol with its current targets would take longer to achieve. However, the disadvantages of aspirational targets lie in how they are reported, enforced and achieved. Also, the objective of a new treaty would have to be demonstrably different from that of the existing Gothenburg Protocol, which would be challenging to determine and negotiate;

(b) A sector-based treaty would allow for an entirely different approach to air quality management across the ECE region. The advantages of this would be to integrate sectors and products fully into the regulation of air pollutants and harmonize standards across the region. Further advantages would be to control emissions from various products and industries (i.e. transport) in a harmonized way across the ECE region. However, the disadvantages are the administrative burdens involved in enforcing a protocol of this kind and the ambition required of Parties to negotiate such a protocol. Further analysis could be done to understand the benefits and drawbacks of protocols such as the Montreal Protocol in managing the production and sale of hydrofluorocarbons;

(c) A single pollutant treaty has a significant advantage in that it could be negotiated faster than a framework (depending on its ambition). Therefore, it could be employed to provide a quicker solution to individual problems or pollutants (i.e. CH_4). However, the main drawback would be the relationship between a single pollutant and existing framework protocols. This could add to the administrative burden on Parties in terms of reporting and of whether any provisions have cross-overs to other Protocols (i.e. the Gothenburg Protocol). Also, the single pollutant approach (as well as the sector-based

[15] See informal document No. 14, submitted to the twenty-sixth session of the Executive Body. Available at https://unece.org/fileadmin/DAM/env/documents/2008/EB/EB/Informal%20Documents/14%20amendment%20v%20%20new%20protocol%20and%20successive%20treaties%20version%202.pdf; and informal document No. 3, submitted to the forty-fifth session of the Working Group on Strategies and Review. Available at https://unece.org/fileadmin/DAM/env/documents/2009/EB/wg5/wgsr45/Informal%20docs/No%203%20Amended%20versus%20new%20Protocols%20CLRTAP%2C%20FINAL.pdf.

approach) is likely less cost-effective in achieving targets than the integrated multi-pollutant, multi-effect approach used by the Gothenburg Protocol.

47. The overall advantage of the "new treaty" approach is that it would involve considering managing air quality within the ECE region in an entirely different way, employing new and novel approaches. Under this approach, it would be possible to consider issues identified during the Gothenburg Protocol review (and other sources) and come up with new solutions to meet new objectives. It would also be an opportunity to consider the collective objectives of the Convention and respond to a changing environment and atmosphere in a holistic way.

48. However, to achieve this goal, sustained ambition and effort is required by all Parties to define a higher or different ambition for a new kind of protocol to achieve the outcomes of the Gothenburg Protocol review (and any other problems being considered). Any new treaty would likely require other changes across the Convention and potentially increase the administrative burden on Parties and the secretariat to report, enforce and make further changes to the protocols.

D. Advantages/disadvantages of approach 4: Continue/expand capacity-building, awareness-raising, cooperation and other support

49. Cross-cutting approach 4 is a flexible approach with the primary advantages of being implementable in the short term and flexible in that it could be tailored to any action or priority the Convention might pursue. The approach could be combined with any of the other approaches presented in this document.

50. Action on approach 4 could begin quickly, as many possible actions are a continuation or expansion of existing Convention efforts. Moreover, there is no need to wait for other approaches – and potentially lengthy and complex negotiations – to be implemented before taking action. Additionally, this approach could be both a short-term action, as well as a sustained, long-term investment in the Convention's priorities. The approach's flexibility would be an advantage, as prioritization of and adjustments to capacity-building, outreach and other cooperation could occur often, such as each time the Executive Body reviews and adopts a two-year workplan or when new priorities emerge. While additional capacity-building, outreach and cooperation with other entities and forums would require significant effort on the part of the secretariat, task forces, the Chair of the Executive Body and Convention Parties, the overall level of effort would be low compared to that required for approaches 2 and 3, as approach 4 would not require negotiations. For the same reasons, approach 4 has the advantage of being less complex than other actions.

51. The approach also has significant potential to encourage implementation and to build political will, which might be beneficial to encourage ratification. Capacity-building efforts directly linked to the Convention priorities and future actions, responsive to non-Party needs, and implemented with a long-term strategic approach could lessen barriers to implementation and ratification. Another benefit of this approach is it would be unlikely to make the playing field less level than it currently is for Parties and non-Parties, and in fact has significant potential to build capacity and raise the level of technical expertise of non-Parties. This approach could be one way for the Convention to invest in overcoming differences between Parties and non-Parties.

52. Awareness-raising, including with the general public and with key political officials, in a strategic fashion could also help to galvanize the necessary political will for non-Parties to sustain actions to improve air quality management and move towards ratification. Cooperation with other international forums could also be valuable in furthering build political will among non-Parties, and importantly, encouraging global action on air pollution outside of the ECE region that could benefit air quality in the region. Cooperation outside of the ECE region could raise the ambition of this approach significantly.

53. The disadvantages of this approach include the fact that the approach by itself would likely not be sufficient to respond to the conclusions of the Gothenburg Protocol review, and other action would be needed to address challenges such as global reductions in CH_4 to reduce ground-level ozone in the ECE region, or the need to update technical annexes.

54. Capacity-building and increased cooperation are very resource intensive and progress is slow. The effectiveness of these actions remains difficult to assess. Much depends on stable and adequate employment of air quality experts within the Party concerned and on the availability of technical and financial resources to continue the process in a sustainable manner.

55. Another key disadvantage of this approach is that Convention resources are limited; thus, effective implementation of expanded capacity-building, outreach and cooperation efforts would likely require discussion on how to most effectively use limited resources and might likely require additional financial and/or human resources from current Parties, the secretariat and other partners. If no, or only limited, additional resources were available, capacity-building, outreach and other cooperation might only be increased at the expense of other tasks carried out within the framework of the Convention.

56. As the effectiveness of capacity-building, outreach and cooperation would drive this approach's contribution to the achievement of the Convention objectives, it would be important for actions pursued to have a clear scope and intended impact and for the effectiveness of actions to be regularly reviewed and incorporated into further efforts. Visibility of the Convention's commitment to actions in cross-cutting approach 4, such as through an Executive Body decision or another means, could help to drive political will and improve the effectiveness of actions.

57. Additionally, at the country level, it might not be possible to overcome through Parties' efforts some barriers to further progress such as lack of political will, personnel turnover, or insufficient human resources. Country buy-in and commitment to making steady progress and the necessary institutional investments would be crucial to the long-term success of any capacity-building or outreach undertaken.

IV. Comparison of policy options

58. This section will present a qualitative comparison of the policy options using the following criteria, which are considered important in evaluating the options:

(a) Level of ambition: extent to which a particular approach could achieve a meaningful (adequate) ambition level to make further progress towards the long-term objectives of the Gothenburg Protocol (effectiveness);

(b) Level of effort: extent to which negotiations would be needed and level of effort required to pursue and develop a particular approach;

(c) Expected timeline: time required to (ratify and) implement a particular approach (short/medium/long term);

(d) Costs and resources: extent to which an intended level of ambition could be achieved for a given level of resources/costs/administrative burden (efficiency), according to the ability of each Party;

(e) Level of complexity: extent to which a particular approach would increase legal complexity;

(f) Level playing field: ability of a particular approach to maintain a minimum level playing field (general minimum standards) to avoid distortion of competition between countries and sectors; extent to which diverging obligations between current Parties and non-Parties could be avoided;

(g) Potential to encourage ratification and/or implementation: ability of a particular approach to address ratification and/or implementation barriers;

(h) Future-proof: potential to remain relevant in the future; agile requirements that could easily be updated; ability to take into account non-technical measures and synergies (maintaining coherence with long-term climate neutrality and key objectives in other policy areas). [*Placeholder - The comparison of the policy options will in the following/final version of this document be presented in a summary table. The conclusions from this table will further contribute to arriving at the appropriate recommendations]*

V. Recommendations

59. The following recommendations are expert opinions based on the analysis of the above sections to date and do not preclude other action that Parties may wish to discuss to take forward the conclusions of the Gothenburg Protocol review. A complete comparison between the approaches and the assessment criteria in section IV is also still pending and will be available for the final draft to be submitted to the Executive Body at its forty-third session and reflected in the recommendations.

60. Some action is possible without opening formal negotiations (see approaches 1 and 4). Such action could be taken to make further progress in addressing transboundary air pollution within the ECE region, but would likely not be sufficient to achieve the Protocol's long-term objectives over time, nor would it fully address the conclusions of the review of the amended Gothenburg Protocol.

61. However, to address more fully the conclusions of the Gothenburg Protocol review, further action could be considered by Parties to:

(a) Consider a comprehensive revision of the text and annexes of the amended Gothenburg Protocol (approach 2) with due regard to removing barriers to ratification and implementation, as well as setting further emission reduction targets;

(b) Also consider a “hybrid” approach, which would combine a revision of the protocol (approach 2) in the long term while also undertaking shorter-term action short of a revision (approaches 1 and 4);

(c) Further consider the synergies with other policy areas, such as climate and energy, and work closely with other forums addressing these issues.

62. No matter which approach is chosen, any activities that do not require opening formal negotiations should be given appropriate consideration by the Executive Body and, subject to availability of resources, be added to future Convention workplans.