

Barriers to ratification and implementation, and solutions

1. At its sixtieth session, the Working Group welcomed the proposal of the Gothenburg Protocol Review Group to prepare an informal document on barriers to ratification and implementation of the amended Gothenburg Protocol, including possible solutions to overcome them. This informal document builds on the formal document ECE/EB.AIR/WG.5/2022/5 entitled “Review of the flexibility provisions to facilitate ratification and implementation”. It provides a categorisation of the barriers identified so far, together with possible solutions to overcome each type of barrier. It also provides information on the risks, benefits and drawbacks of proposed solutions involved, as well as some initial key findings and conclusions. This document will be presented for consideration at the thematic session on flexibilities and barriers scheduled at the forty-second session of the Executive Body and is intended to serve as a basis for non-Parties to identify and communicate their specific protocol-related barriers and their specific suggestions for solutions during the discussions at this session. A separate list of questions on barriers, flexibilities and other possible solutions to initiate and guide the discussion during the thematic session will be sent to the non-Parties prior to the session. The list of questions will be based on this informal document and on the document on the review of flexibility provisions presented at the sixtieth session of the Working Group of Strategies and Review.

2. The term “non-Parties” in this document refers to the current Parties to the Convention that have not yet ratified the amended Protocols: in particular, the countries of Eastern Europe, the Caucasus and Central Asia (further abbreviated in this document as “EECCA countries”), the Western Balkans and Turkey. The EECCA countries include the following 12 countries: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. Of these 12 countries, Tajikistan, Turkmenistan and Uzbekistan are not Parties (yet) to the Convention. The UN Western Balkans include Albania, Bosnia and Herzegovina, North Macedonia, Montenegro and Serbia. The Western Balkan countries are EU candidate or potential EU candidate countries and all have Stabilisation and Association Agreements with the EU in force. As part of the accession, EU legislation (including environmental legislation) has to be implemented. This offers an opportunity for these countries to ratify the amended Protocols in due course. Ukraine and Moldova have recently been granted EU candidate status. Turkey is also an official candidate for EU membership (but accession negotiations are currently at a standstill).

3. In view of this document it is useful to recall paragraph 53 of the ‘Long-term Strategy for the Convention on Long-range Transboundary Air Pollution for 2020–2030 and beyond’: “When considering updates to the Protocols, the Parties ... should also consider whether additional flexibilities could be incorporated and whether new approaches, could be adopted in order to facilitate ratification and implementation by countries in Eastern Europe, the Caucasus and Central Asia.” Paragraph 53 emphasises the EECCA countries.

4. The information presented in this paper should in no way be considered as a criticism of any of the current Parties or non-Parties to the amended Gothenburg Protocol, or of the Secretariat of the Convention. Significant progress towards ratification and implementation has been

made in recent years, not least thanks to the continued support of many Parties, technical bodies and the Secretariat in the form of outreach, capacity-building, training activities and other support.

5. The information presented in this paper does not take into account the large-scale human, environmental and economic impacts of the Russian aggression against Ukraine and the enormous barriers to any future ratification and implementation of the protocols to the Convention this has created. Solutions to overcome these barriers (revitalisation of the economy, reconstruction of infrastructure and industrial facilities, environmental remediation, ...) are largely beyond the capabilities and scope of the Air Convention.

6. This paper is structured as follows:

- I. Overview of potential barriers
- II. Linking potential solutions to barriers
- III. Benefits, risks and drawbacks of solutions
- IV. Initial key findings and possible next steps
- V. Reference documents

I. Overview of potential barriers

7. The following categorisation of potential barriers is an attempt to structure the different types of barriers that non-Parties may face in part and to varying degrees. These barriers are largely interrelated and should not be seen in isolation. There are other ways to categorise these barriers and provide some structure and clarity. It should also be noted that the barriers listed do not necessarily apply only to non-Parties. Some of them may also apply to current Parties in their efforts to implement the protocol's requirements.

(a) Political barriers

- (i) Low political priority for air pollution control and monitoring or for human health and the environment in general, required as a first step to adapt and implement national legislation consistent with the Protocol's obligations; Lack of political will to ratify the Convention's protocols, as this is not considered a priority;
Economic considerations and other priorities such as energy security, competitiveness, agriculture and climate change prevail;
- (ii) Low political awareness of the health and environmental risks associated with air pollution and lack of a sense of urgency to improve air quality and protect public health and the environment;
Lack of awareness may also exist among the industrial stakeholders and the general public;
- (iii) Low political profile of the Air Convention;
Unconvinced or unaware of the added value of ratifying and implementing the Convention's protocols, including of the potential benefits in economic and competitive terms;
- (iv) Domestic political instability (corruption, brain drain, ...) hindering the progress of the ratification process (whereas the transposition of the protocol requirements is a long-term political process);

- (v) Geopolitical instability, affecting economic activities and emissions;
 - (vi) Uncertainties associated with a developing economy (emission projections);
- (b) Financial and economic barriers
- (i) Unfavourable economic conditions;
 - (ii) Lack of financial resources to enable the ratification and implementation of the Convention's protocols: the financial resources are lacking for the various stakeholders (government, industry, citizens, ...) and needed for capacity-building as well as for advanced mitigation;
Long-term uncertainty in financing due to changing circumstances and priorities;
 - (iii) Initial investment costs in modern monitoring stations and subsequent operational and maintenance costs are high;
 - (iv) Abatement costs as a percentage of GDP to meet comparable levels of ambition (protocol requirements) are higher in EECCA and Western Balkan countries than in EU or NA countries;
 - (v) Several protocol provisions require substantial investments and costs, in part to modernize and reconstruct old industrial facilities;
 - (vi) Lower average incomes may hamper ambitious policy measures (some protocol requirements may also indirectly affect citizens' expenditures);
 - (vii) High (disproportionate) costs of retrofitting existing emission sources (implementing BAT): the need to prioritize available financial resources (on new installations);
 - (viii) Economic sanctions, resulting in substitution of imports by domestic production and additional investments;
- (c) Institutional barriers
- (i) Weak institutions, lack of institutional structure for developing legal instruments and policies and measures on air quality issues, lack of continuity, institutional instability;
 - (ii) Lack of or insufficient coordination and exchange of information between the different governmental bodies;
The need for clear roles and responsibilities within and between the different government departments and agencies;
- (d) Regulatory barriers
- (i) Outdated and inadequate laws and regulations, including on air quality standards;
 - (ii) Inadequate or lack of legal frameworks for permitting, monitoring, emission reporting and enforcement, required to implement the complex amended Gothenburg Protocol (and other Convention's protocols);
 - (iii) Inadequate or lack of a national legal system for issuing integrated BAT based permits for the industrial installations covered by the amended Gothenburg Protocol. Integrated permits (integrating air, water, soil) require additional coordination and resources;

- (iv) The need to develop a range of implementing regulations consistent with the requirements of the technical annexes of the amended Gothenburg Protocol, requiring significant efforts and time;
- (e) Capacity and knowledge barriers
- (i) Weak (inadequate) technical and administrative capacity and expertise in air quality management, monitoring and modelling, preparing and reporting of emission inventories and projections, and development of policies and legal instruments, partly due to lack of (financial) resources and institutional instability;
Insufficient technical staff, expertise, knowledge and support;
Frequent turnover of technical or management staff leading to loss of acquired knowledge and expertise;
 - (ii) Slow development of air quality and effects-based monitoring networks;
Lack of up-to-date measurement equipment and methodologies;
 - (iii) Limited knowledge of the appropriate and most cost-effective abatement strategies, policies and measures at national and local level;
 - (iv) Limited knowledge on how to assess air pollution at national level;
Lack of experience in developing national actions plans or roadmaps;
 - (v) Insufficient understanding of the costs and benefits of abating air pollution (introduction of best available techniques): cost-benefit analysis is essential for designing cost-effective abatement strategies, which form the basis for decision-making, communicating and raising awareness on air pollution;
 - (vi) Gaps in understanding of the protocol provisions and what is needed to ratify and implement them;
 - (vii) Language can be a barrier. Some technical information is only available in English. There may be a need for technical documentation (BAT guidance) in the country's own language (other than English, Russian, French);
- (f) Technical and protocol design related barriers
- (i) Incomplete and uncertain emission and projection data that prevent Parties of properly preparing, evaluating and monitoring the implementation of policies and legislation. Difficulties in developing gridded data;
The use of different approaches or lack of national methodologies;
Insufficient quality of emission inventories for the five main pollutants (SO₂, NO_x, VOC, NH₃ and PM_{2.5}) to be able to establish meaningful emission reduction commitments;
 - (ii) Limited availability/reliability of activity and other statistical data for using higher Tier methods to estimate emissions, in particular because of gaps in data for the older historical years; the use of 2005 as the base year for emission reduction commitments can be a barrier in this respect;
 - (iii) The complexity and the large number of the protocol provisions (contributing to a capacity gap that acts as a barrier);
Retrofitting (and regulating) existing installations is more complex and demanding and not always feasible due to installation specific or local circumstances;

Retrofitting existing installations to meet the protocol limit values is considered as one of the major barriers towards ratification;

The use of obsolete and inefficient technologies offers specific challenges;

Capacities are not always well known;

Some technical annexes are more challenging to implement than others for various reasons (number and nature of installations involved, ambition level, ...);

Difficulties in meeting only some of the protocol requirements may be sufficient reason not to ratify the entire protocol;

- (iv) The protocol requirements are not sufficiently adapted to the (economic) circumstances of current non-Parties. The flexibility provisions available are not adequate or suitable enough to overcome the protocol related barriers.

II. Linking potential solutions to barriers

A. State of play in addressing barriers

8. A key priority of the Long-term Strategy for the Convention, adopted in 2018 taking into account the 2016 Scientific Assessment Report and the policy response to it, is to increase ratification and implementation of the amended Protocols, particularly in the EECCA countries. The strategy highlights the remaining challenges in this regard and presents options to address the main barriers to ratification. The strategy clarifies the importance of maximising the Convention's impact through further ratifications, improving its scientific and technical basis, and further focusing communication and cooperation on achieving the Convention's strategic priorities. These priorities are translated into work items in the biennial workplans of the Convention.

9. The 2022-2023 biennial workplan, like the previous workplans, is built on five main areas of work: science; policy; compliance; capacity-building and awareness-raising; and communication, outreach and cooperation. In line with the priorities of the 2030 Long-term Strategy for the Convention, work in these five main areas during the period 2022-2023 will focus, inter alia, on further supporting the ratification and implementation of the amended Protocols throughout the UNECE region, with a particular emphasis on the countries of the EECCA region. Many of the work items listed in the 2022-2023 workplan are of relevance to remove barriers and further facilitate ratification, especially those in Section IV (capacity-building and awareness-raising to promote ratification and implementation) and Section V (communication, outreach and cooperation). Informal documents 5 and 6 to the 41th session of the Executive Body provide overviews of the capacity-building, awareness-raising, communication and outreach activities carried out by (or with the support of) the Secretariat in 2021 to promote ratification and implementation, in accordance with the Convention's workplan. A comprehensive overview of capacity building projects and activities already completed can be found [here](#). Work on capacity building will need to continue.

10. During the biennium of the workplans, the Convention task forces and centres carry out the activities in accordance with their mandates, as revised in 2018 and 2019, and also carry out the additional activities of the task forces and centres that are included in the workplans and not referred to in the mandates. The revised mandates of the Task forces and centres contain several standard tasks dedicated to capacity-building and other activities to support the EECCA countries in their ratification efforts. The Task Force on Techno-Economic Issues (TFTEI) has a long history of fruitful cooperation with the EECCA countries and their EECCA coordinating group

(coordinating group on the promotion of actions towards implementation of the Convention in Eastern Europe, the Caucasus and Central Asia, established in 2010, EB decision 2010/17). More information on TFTEI's cooperation with EECCA countries can be found on a [dedicated webpage](#) on the website of TFTEI. The 2022-2023 workplan contains various capacity-building and awareness raising activities where the EECCA coordinating group is in co-lead. It is also worth noting that the Task Force on Reactive Nitrogen has set up an Expert Panel on Nitrogen in countries of Eastern Europe, the Caucasus and Central Asia (EPN-EECCA).

11. In 2019 the [Forum for International Cooperation on Air Pollution](#) was established, followed in 2021 by the adoption of a mandate for the Task Force for International Cooperation on Air Pollution (TFICAP). Given its mandate (e.g. sharing information on funding opportunities and technical capacity-building, exchanging information on best practices and policy approaches, awareness raising, ...) the TFICAP could be part of the solution to removing some of the barriers to ratification and implementation for the EECCA and the Western Balkan countries. In this context it might be useful to reflect on what TFICAP can do or mean for these countries.

12. In accordance with the recent workplans of the Convention and the (revised) mandates, many initiatives have been launched and efforts are ongoing to assist the EECCA and Western Balkan countries in the ratification and implementation of the amended protocols. However, this work, which started even before the amended protocols were adopted in 2009 and 2012, is not yet complete. It needs to continue and more needs to be done. Recently, the Secretariat launched the [e-learning course](#) on the Air Convention and its Protocols, available in English and Russian, which is a tool that can also help current non-Parties to the Protocols to improve their knowledge base on the Convention, its Protocols and air pollution in general. The [Batumi Action for Cleaner Air](#) (ECE/BATUMI.CONF/2016/7) is another useful initiative to support Governments in the UNECE region in their efforts to improve air quality. Under this initiative, which ran from 2016 to 2021, governments were invited to voluntarily commit to implementing specific actions and share their successes and further challenges. It also aimed to aid the further implementation of the commitments under the UNEC Air Convention and its protocols and to invite stakeholders to support actions that improve air quality, in particular capacity-building and technical assistance actions. At the 41th session of the Executive Body the representative of Switzerland, suggested options to continue using the initiative beyond the Ninth Environment for Europe Ministerial Conference (5-7 October 2022, Cyprus), including as an international version within FICAP.

13. One of the preliminary conclusions of the [formal document ECE/EB.AIR/WG.5/2022/5](#) entitled "[Review of the flexibility provisions to facilitate ratification and implementation](#)", is that to date the current flexibility provisions in the amended Gothenburg Protocol have not proven adequate and/or effective in facilitating further ratification by non-Parties, in particular to overcome the complexity and degree of ambition of the technical annexes to the amended Gothenburg Protocol. Possible solutions to help non-Parties to move towards ratification and implementation have been proposed in paragraphs 26, 34 and 37 of this document. To a large extent these solutions are possible new options for a potential revision of the amended Gothenburg Protocol and can mainly be considered as possible solutions for the technical and protocol related barriers, although they also partially apply to the other types of barriers.

B. Potential solutions per type of barrier

14. Possible solutions to overcome the different types of barriers are listed below according to the categorisation of the potential barriers as proposed in chapter I of this paper. Where

appropriate, reference is made to the options proposed in the flexibility document ECE/EB.AIR/WG.5/2022/5, the activity items included in the current Convention's workplan and the mandates of the Task forces and the centres and ongoing relevant work. To overcome some of the barriers, current activities in the areas of capacity-building, training and awareness raising to implement the workplan, will to large extent need to continue (and/or be stepped up). The responsibilities for implementing or incorporating the proposed solutions are largely unspecified in the overview below. It is largely self-explanatory (who takes the lead/initiative) and in most cases it is a shared responsibility between the secretariat, parties, non-parties, Convention bodies and Task Forces or others.

(a) Potential solutions for political barriers

- (i) Continue the awareness raising activities as described in workplan item 4.4 of the 2022-2023 workplan, aimed at raising awareness, particularly at the political level, of the need to improve air quality and of the benefits of ratifying the Protocols (in line with paragraph 46 of the Long-term Strategy), of the environmental and health effects of air pollution, as well as of pollution abatement measures (BAT) and their high benefit-cost ratio. At the same time, continue to take action to further raise the Convention's political profile in EECCA countries and other non-Parties. Current planned activities include the organisation of targeted national clean air dialogues, (high level) events and campaigns;
- (ii) Continue the communication activities (through the Convention's website, press releases and other communication materials) as described in workplan item 5.1 of the 2022-2023 workplan, aimed at raising public awareness of the Convention and the overall visibility of air pollution issues throughout the ECE region and beyond. In accordance with paragraphs 46, 70 and 71 of the Long-term Strategy continue to intensify efforts to communicate the work under the Convention, the achievements, the remaining challenges and the environmental, health and economic imperatives for action on air pollution in order to raise awareness among decision-makers and the public;
- (iii) Raise awareness and place 'clean(er) air' higher on the political agenda among decision makers and other relevant stakeholders from different ministries, not only those responsible for the environment, but also politicians and stakeholders from foreign affairs, agriculture, energy and climate and finance. Highlight the synergies and wider benefits of taking action such as economic and competitiveness gains. To increase political commitment to reduce air pollution, emphasise the links between combating air pollution and other policy areas that may be higher on the political agenda (climate change, energy security, etc.);
- (iv) Promote the use of the e-learning starter course on the Convention to decision-makers and new staff in the countries who deal with the Convention, as an instrument to sustainably raise awareness of the benefits of the Convention and better air quality management at large;
- (v) Further increase international political pressure to ratify the protocols to the Convention;
- (vi) Explore possible (new) entry points for the EECCA countries to create the necessary political will and drive to abate air pollution and to advance towards achieving the objectives of the Convention and its protocols. For example, a

focus on the health risks of air pollution may create more political will than on solving the ecosystem impacts. EECCA countries could start by setting intermediate policy targets (endpoints) and take steps in this direction;

- (vii) Explore the potential of international projects like the Pollutant Management and Environmental Health Program (or its successor) of the World Bank (see <https://www.worldbank.org/en/programs/pollution-management-and-environmental-health-program>) for EECCA countries, focused on clean air in cities, but with a multilevel governance approach. Try to generate political momentum from the bottom-up, from city level to national level (as clean air in cities requires national action). Raise interest from the World Bank or other financial institutions to also apply a multilevel approach in EECCA and Balkan countries. Possibly, reach out to the C40 network of world-leading cities delivering action on climate or other institutes focusing on cities. Put our efforts where it is most welcome, where the political energy is (instead of focusing on quick ratification);
 - (viii) Extend air pollution monitoring in EECCA countries as an element to improve awareness. Real time information on air quality can convey relevant and simple messages to the general public and politicians;
 - (ix) Consider continuing the Batumi Action for Cleaner Air initiative beyond 2021¹, including as a tool to further raise political awareness of the need to improve air quality and the benefits of ratifying the protocols;
- (b) Potential solutions for financial and economic barriers
- (i) Initiate a dialogue with financial institutions such as the World Bank, the Asian Development Bank and the European Investment Bank (see paragraph 73 of Long-term Strategy) to explore funding opportunities for EECCA countries and other non-Parties (e.g. to finance / reduce the costs of mitigation measures). Explore possibilities for receiving loans for retrofitting existing plants or for investments in new plants that meet the protocol's standards: for using such an organisation for due diligence (incorporation of the protocol requirements in the technical specifications to avoid awarding the contract to the cheapest offer and to ensure progress). Share information on funding opportunities;
 - (ii) Continue fundraising efforts to support in particular the EECCA countries in implementing the provisions of the amended Protocols (Secretariat to coordinate); Make additional financial contributions to the Convention trust funds to support the implementation of the Convention and its Protocols in countries with economies in transition. Seek additional or new financial support to enable implementation of the Convention and its Protocols;
 - (iii) Bring the economic rationale for taking action on air pollution to the attention of those responsible for financing and budgetary control;

¹ See the "Final report on the implementation of the Batumi Action for Cleaner Air", which will be submitted to the 9th EFe Ministerial Conference (Nicosia, Cyprus, 05-07 October 2022). This final report will include an assessment of the progress made in the implementation of the voluntary commitments under BACA, based on the responses from a survey conducted in Spring 2022 among States and organisations concerned.

- (iv) Prioritize action on air pollution mitigation as needed. Concentrate first on new installations and/or most cost-effective solutions, rather than on the expensive retrofitting of existing installations;
 - (v) Clarify / specify what the term 'economically not feasible' means in the option to derogate from emission limit values applicable to existing stationary sources under the technical annexes to the amended Gothenburg Protocol: this could provide greater legal certainty for new Parties wishing to ratify;
- (c) Potential solutions for institutional barriers
- (i) As a first step, perform an analysis of the institutional and coordination gaps in the field of air quality management and pollution control and identify the needs;
 - (ii) With support of the Secretariat and other partners of the Convention, EECCA countries and other non-Parties should strengthen relevant institutional and administrative capacities and improve institutional and coordination structures based on the needs assessment. Reprioritise where possible. Keep this under constant attention of the Convention;
 - (iii) Seek support from relevant partner organisations, international financial institutions and other networks;
- (d) Potential solutions for regulatory barriers
- (i) Continue the capacity-building activities as described in workplan item 4.1 of the 2022-2023 workplan, in particular item 4.1a on the development of a gap-analysis of the national legal framework, an economic and environment impact assessment, and a national action plan for implementation. Support current non-Parties requesting it, to the extent that the available resources allow and with the necessary prioritisation, in (the initial phase of) the national action plan process and in the implementation of an analysis of the current legal frameworks and the identification of legal gaps. Focus specifically on a gaps and needs assessment towards compatibility with the requirements of the amended Protocols, drawing on the experiences of projects on the analysis of national legal frameworks carried out in the recent past (Azerbaijan, Georgia, Kazakhstan, Tajikistan, ...). The activities for these projects were carried out in close cooperation with the stakeholders in these countries, prepared and supported by a group of international experts under the coordination of the UNECE;
 - (ii) Strengthen capacity to (further) adapt national legislation, develop an integrated permitting system, incorporate BAT into national legislation and update air pollution policies and measures, in order to enable implementation of the technical requirements of the amended Protocols. Examine the state of development of the necessary laws and legal systems (e.g. in the context of the EU association agreements). Support current non-Parties requesting it (and as resources allow), in adapting their national legislation to the provisions of the Convention;
 - (iii) Examine the UNEP first Global Assessment of Air Pollution Legislation and the Global Air Quality Policy update report (for Europe and Central Asia), including its recommendations;

- (e) Potential solutions for capacity and knowledge barriers
- (i) Continue the capacity-building raising activities as described in the related workplan items of section IV of the 2022-2023 workplan, aimed to (in line with paragraph 47 of the Long-term Strategy) “enhance skills; increase understanding of the provisions of the Protocols; improve the use of existing capacity; share lessons learned; and transfer knowledge related to air quality monitoring, emission inventories and projections and abatement strategies ... so that countries, particularly EECCA countries, can adopt the best available techniques and implement emission reduction commitments”. Current workplan items include the organisation of technical workshops on BAT implementation, including permitting systems and reduction measures in sectors of interest, and on the improvement of national emission inventories, including estimating road transport emissions using advance methods, gridded emissions and emission projections. They also include demonstration projects on BAT implementation, providing assistance in the development of emission reduction scenarios (cost-effectiveness analysis, cost-benefit analysis), emission reduction targets and progress and needs assessments in relation to ratification; Tailor assistance to the specific needs of the country in question (moving at different speeds);
 - (ii) Continue cooperation between EECCA countries and the technical bodies of the Convention, in particular TFTEI, on information and knowledge sharing, capacity-building and networking and beyond (long-term collaboration); Further develop the clearinghouse hosted by TFTEI, with focus on EECCA countries;
 - (iii) Continue (international) cooperation between EECCA countries, the Secretariat, individual Parties, Convention partners and other actors (acting as donors for specific capacity-building projects);
 - (iv) Improve understanding of protocol provisions. Promote the use of the e-learning starter course on the Convention in order to improve the knowledge base on the Convention, its Protocols and air pollution in general;
 - (v) Continue to translate relevant documentation and communication materials into Russian and upon request, provide support for their translation into the national language;
 - (vi) In line with their revised mandates, the Task Forces continue to support the Convention’s capacity-building activities in EECCA countries, as resources allow, including organising expert meetings, training activities, sharing information and providing expertise;
- (f) Potential solutions for technical and protocol design related barriers
- (i) See the list of possible options proposed in paragraph 34 of formal document ECE/EB.AIR/WG.5/2022/5 entitled “Review of the flexibility provisions to facilitate ratification and implementation”. Paragraph 34 presents a range of options in response to question 6.1(b) of annex I to the preparatory Gothenburg Protocol review document ECE/EB.AIR/2020/3–ECE/EB.AIR/WG.5/2020/3: “*What new flexibilities and/or approaches would potentially help non-Parties to move towards ratification and implementation?*”;

- (ii) See the possible options of the EECCA coordinating group in paragraph 26 of the flexibility review document ECE/EB.AIR/WG.5/2022/. As a follow up, EECCA countries and other non-Parties should identify and communicate their specific protocol-related barriers to ratification and make specific suggestions for additional/different flexibilities to overcome these barriers;
- (iii) See potential solutions (b)(i) and (iv) for financial and economic barriers. Focus on new installations in the short term, allow sufficient time for retrofitting or gradual decommissioning of old installations;
- (iv) Explore the potential of drivers other than 'ratification' for better air quality: e.g. shift the focus from 'sticks' to 'carrots', from the current focus on obligations to national and local benefits (solving health problems related to air quality in big cities), consider a more facilitating role for the Convention.

III. Benefits, risks and drawbacks of solutions

15. The benefits of solutions to overcome barriers to ratification and implementation are clear. Solutions that are fit for purpose will further facilitate ratification and implementation of current non-Parties to the amended Gothenburg Protocol. They will contribute to the key priority identified in the Long-term strategy for the Air Convention. Paragraph 45 of this strategy states that: *"The highest priority for work under the Convention is to maximize its impact by meeting the objectives of the three most recent protocols as amended, in particular, in terms of emissions reductions, and to realize the associated environmental and health benefits. Increasing ratification and implementation of these protocols, including through effective enforcement of compliance, and ensuring that they are kept under review and that appropriate action is taken are key elements of this effort".* Paragraph 46 of the Long-term strategy further specifies that *"Increased ratification and implementation of the three most recent protocols, as amended, are of central importance in the countries of Eastern Europe, the Caucasus and Central Asia".*

16. The essential element in the whole chain of ratification, implementation, enforcement, compliance and review to realize emission reductions in line with the objectives of the amended Gothenburg protocol is implementation. Additional ratifications of the amended Gothenburg protocol or an update thereof are rather a means to an end, although their value and merit should not be underestimated, in particular for current Parties that benefit from mandatory instruments to continue progress in reducing the harmful effects of air pollution. Implementation of policies and measures to abate air pollution can also be achieved in other ways, including through the use of (new) facilitating and non-mandatory approaches. When looking for solutions that would potentially help non-Parties to move towards ratification and implementation, some of the options mentioned above are measures aimed at facilitating implementation. They can be considered separately from or in combination with solutions with a focus on additional ratification. In striving for a higher level of ambition in order to achieve the long-term objectives of the Convention and in particular of the amended Gothenburg Protocol, it is important not to lose sight of the fact that what really is at stake is the actual implementation of measures to abate air pollution.

17. Some of the risks and drawbacks with introducing new approaches or additional/different flexibilities to remove barriers were already mentioned in paragraph 35 of the formal document ECE/EB.AIR/WG.5/2022/5 to the 60th session of the WGSR. These are:

(a) It will remain a difficult balance to maintain a meaningful (increased) level of ambition and to strive for more ratification and implementation. It will be a challenge to facilitate more ratifications through new approaches while maintaining a similar level of stringency and ambition;

(b) Some new approaches and flexibility options could lead to (more) diverging obligations for different Parties, which may not be desirable for several reasons and could increase complexity;

(c) Legal and procedural aspects of some new approaches may become more complex and/or further increase the workload and administrative burden; the assessment of progress may become less straightforward.

18. In addition, the following risks or drawbacks can further be identified (or risks and drawbacks slightly formulated differently than in paragraph 17 above):

(a) In pursuit for more ratifications, there is a risk to levelling down the standard of ambition (or add on flexibilities) in order to get all Parties on board. Current non-Parties are at different levels in making progress towards ratification and implementation and in addressing the current complexity of the amended Gothenburg Protocol. There is a risk that the slowest party would dictate the pace of environmental improvement in the whole sub-region;

(b) In pursuit for more ambition, there is a risk to get further disconnected from current non-parties to the amended Gothenburg Protocol;

(c) Targeted approaches and/or different sets of flexibilities (or different levels of ambition)) for the different subregions within the UNECE region can put undue pressure on the level playing field that is an important criterion for several Parties. Currently, a minimum level playing field is guaranteed by the technology-based requirements set in the technical annexes (emission limit values and other). A step-by-step ratification process can lead in practice to each EECCA country having its own path to ratification;

(d) Additional flexibilities or other approaches to the technology-based requirements of the amended Gothenburg Protocol (e.g. the technical annexes) may impact the achievability or ambition level of other requirements (e.g. emission reduction commitments of Annex II). It may also put undue pressure on the integrated approach pursued by the protocol as to achieve multiple goals and benefits. There is a need to ensure overall consistency / alignment between the protocol requirements;

(e) Additional flexibilities or other approaches may require additional staff and financial resources on their reporting, monitoring, compliance reviewing and enforcement. Additional resource intensive mechanisms as the adjustment procedure should not be prioritized;

(f) Technical flexibilities or the use of thresholds can result in undesired loopholes or escape routes, lowering the predefined level of ambition;

(g) Voluntary action or programmes can kick off immediately, contrary to the entry into force of revisions of protocols that can take as long as 10 years with no guarantee on success to attract more Parties, but they cannot be enforced and their end result is unclear at the outset. It may not provide the necessary push to convince the political level to take action;

(h) Further outreach, capacity-building and increased cooperation are necessary steps, but they 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 available technical and financial resources to continue the process in a sustainable manner;

(i) The implementation of several solutions (support for capacity-building, outreach, ...) will require financial and/or human resources from the current Parties, the Secretariat of the Convention, and other partners with similar goals. As additional resources may not be possible, or only to a limited extent available, this may be at the expense of other tasks carried out within the framework of the Convention. Further consideration may therefore need to be given to the overall priorities (and workplan) of the Convention.

IV. Initial key findings and possible next steps

19. The EECCA and Western Balkan countries have made real progress towards ratification and implementation of the latest amended Protocols in recent years, not least thanks to the broad and continued support of many Parties, technical bodies and the Secretariat of the Convention in the form of outreach, capacity-building, training activities and other support. Many initiatives have been launched and efforts are ongoing to further assist these countries in moving forward. However, it is clear that still more needs to be done. The EECCA and Western Balkan countries are moving at different speeds and have different needs. They remain at different levels of understanding of the complexity and implementation issues with regard to the amended Protocols.

20. Further assistance, tailored to their specific needs, would improve the possibility for the EECCA countries and other non-Parties to take the necessary additional steps. As the needs of the different non-parties to ratification and implementation vary, it is difficult to find solutions that work for everyone. A tailor-made approach may be useful, but inevitably involves risks.

21. It is difficult to identify the common key barriers to ratification as these vary among the current non-Parties, but a lack of financial resources in combination with the technical complexity and demanding nature of the amended Gothenburg Protocol stands out for most non-Parties. In this context, EECCA countries have already expressed concern that a possible revision of the amended Gothenburg Protocol would further increase its ambition and complexity, further jeopardizing ratifications.

22. The introduction of new flexibilities or a transition to new approaches or other instruments to potentially help non-Parties on their way to ratification and implementation may entail certain risks (lowering the level of ambition, resulting in diverging commitments or needs for additional resources, etc.). As regards solutions to overcome the protocol-related barriers of the amended Gothenburg Protocol, which could possibly be pursued in a next step following the completion of the review of the amended Gothenburg Protocol, the following tracks can be considered (without expressing a preference for any of them at this stage):

(a) Pursue solutions without revising or modifying the amended Gothenburg Protocol: make operational improvements to the current flexibility provisions (e.g. revise existing or develop new implementing guidance on flexibility) and focus on capacity-building and non-related protocol barriers;

(b) Pursue solutions within the framework of the amended Gothenburg Protocol: make use of the expedited amendment procedure pursuant to paragraphs 6 and 7 of article 13bis to adopt amendments to technical annexes IV to XI, notwithstanding the fact that three Parties have declared not to be bound by this procedure. New amendments to these technical annexes

can include quick and specific solutions, changes to the timescales, new flexibilities or a comprehensive overhaul with the introduction of specific provisions for EECCA countries and other non-Parties in these technical annexes;

(c) Pursue solutions within an overall revision of the amended Gothenburg Protocol, requiring the classic ratification route by the Parties to enter into force;

(d) Pursue solutions within a new approach (a new mandatory or voluntary instrument, other type of action, etc.);

(e) Pursue a combination of approaches to meet the varying needs of the Parties to the Convention while still advancing the goals of the Convention to reduce transboundary air pollution and protect health and the environment from harmful effects of air pollution.

23. Further near term actions for consideration:

(a) Review current progress of non-Parties towards ratification and implementation of the amended Gothenburg protocol, including roadmaps for ratification and/or national action plans for implementation;

(b) Update the 2012 needs assessment of the non-Parties (see Annex II to document ECE/EB.AIR/2012/15) (taking into account, inter alia, the feedback from the non-Parties on their specific protocol-related barriers communicated at the thematic session);

(c) Review the current work on capacity-building, awareness raising, communication and cooperation and identify possible gaps in the Convention's current work plan on the basis of the updated needs assessment;

(d) Review mandates of the Task Forces and include separate sections for non-Parties;

(e) Develop a vision and a specific mid-term strategy for non-Parties, with an appropriate distinction between the EECCA countries (with Ukraine and Moldova recently been granted EU candidate status), the Western Balkan countries (EU candidate or potential EU candidate countries) and Turkey (EU candidate, at standstill). Include in this strategy the end points (policy targets) that these countries consider technically and politically feasible for 2030 and 2040, as well as the most effective pathway to these end-points. Address the elements in this document, the conclusions in the Gothenburg Protocol review and the continued progress that current Parties to the Gothenburg Protocol need to continue to achieve;

(f) Draw up a list of key questions for non-Parties as a first step to developing the vision and strategy for these countries.

V. Reference documents

21. Useful documentation with information on barriers to ratification and implementation by current non-Parties to the Gothenburg Protocol is included in the table below.

Year	Documentation	Link
2012	Report on the action plan for the implementation of the long-term strategy for the Convention: see Annex II: "Needs assessment of UNECE member States that have not ratified the Convention"	https://unece.org/fileadmin/DAM/env/documents/2012/EB/ECE_EB_AIR_2012_15_E.pdf
2014	Oslo workshop to promote the ratification of the CLRTAP Protocols: see presentations	https://unece.org/info/events/event/18620
2016	Scientific Assessment Report "Towards Cleaner Air": see section 10.1: "Obstacles to ratification"	https://unece.org/environment-policy/publications/towards-cleaner-air-scientific-assessment-report-2016
2016	Berlin workshop to promote the understanding and implementation of best available techniques with a focus on countries in Eastern Europe, the Caucasus and Central Asia: see report and presentation	https://unece.org/fileadmin/DAM/env/documents/2016/AIR/WGSR/Docs_December/ECE_EBAIR_WG5_2016_3.pdf https://unece.org/fileadmin/DAM/env/documents/2016/AIR/WGSR/PPT_WGSR54/Item_3/3_Joint_Workshop_of_the_EECCA_Coordination_Group_and_TFTEI.pdf
2017	Document ECE/EB.AIR/WG.5/2017/3 of 55 th session of WGSR: Policy response to the 2016 scientific assessment of the Convention: see section II.B.1: "Ratification and Implementation of the protocols"	https://unece.org/fileadmin/DAM/env/documents/2015/AIR/WGSR/E_ece_eb_air_wg_5_2017_3.pdf
2018	Saltsjöbaden VI workshop - session "Clean Air for the EECCA region": see session report and presentations	https://saltsjobaden6.ivl.se/topics/cleanairfortheeeccaregion.4.1369484715f59ce4bab19c5.html
2018	Long-term strategy for the Convention on Long-range Transboundary Air Pollution for 2020–2030 and beyond (decision 2018/5)	https://unece.org/DAM/env/documents/2018/Air/EB/correct_numbering_Decision_2018_5.pdf
2019	Berlin Workshop to Promote the Ratification of Protocols of the Air Convention with Focus on Countries in the EECCA Region: see report and presentations	https://unece.org/info/Environmental-Policy/Air-Pollution/events/17984
2021	Report on capacity-building and awareness-raising to promote ratification and implementation (informal document No.5 for the 41 th session of the Executive Body, December 2021)	https://unece.org/sites/default/files/2021-12/informal%20doc%205_capacity%20building.pdf
2021	Report on communication and outreach activities (informal document No.6 for the 41 th session of the Executive Body, December 2021)	https://unece.org/sites/default/files/2021-12/Informal%20doc%206_Communications%20and%20outreach%20note_final.pdf
2021	2022–2023 workplan for the implementation of the Convention	https://unece.org/sites/default/files/2022-06/%28Advance%29_ECE_EB.AIR_148_Add.1.pdf
2022	Document ECE/EB.AIR/WG.5/2022/5 of the 60 th session of WGSR: "Review of the flexibility provisions to facilitate ratification and implementation"	https://unece.org/sites/default/files/2022-02/ECE_EB.AIR_WG.5_2022_5-2201158E.pdf
2022	Informal document to the 60 th session of WGSR: "Compilation of responses to the questionnaire to support the review of the flexibilities in the amended Gothenburg Protocol"	https://unece.org/sites/default/files/2022-03/Compilation%20of%20responses%20to%20the%20questionnaire.pdf
2022	E-learning course Air Convention	https://unece.org/environment-policy/air/e-learning
2022	Capacity building	https://unece.org/capacity-building-4