
**Montreal Protocol
on Substances that
Deplete the Ozone Layer**

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**Thirty-Fourth Meeting of the Parties to
the Montreal Protocol on Substances
that Deplete the Ozone Layer**
Montreal, Canada, 31 October–4 November 2022

**Issues for discussion by and information for the attention of the
Thirty-Fourth Meeting of the Parties to the Montreal Protocol****Note by the Secretariat****I. Introduction**

1. The present note sets out an overview of the issues on the provisional agenda¹ for the Thirty-Fourth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer. Section II provides an overview of items on the provisional agenda for the preparatory segment and section III an overview of items on the provisional agenda for the high-level segment. For each item, a brief summary of the background is given, in particular the relevant discussion that took place during the forty-fourth meeting of the Open-ended Working Group of the Parties to the Montreal Protocol, held in Bangkok from 11 to 16 July 2022.
2. Further information on certain agenda items will be provided in an addendum to the present note when relevant additional information becomes available, primarily through volumes of the Technology and Economic Assessment Panel September 2022 report, namely the Panel's final report on the evaluation of critical-use nominations for methyl bromide and its report on the review of alternatives to hydrofluorocarbons (HFCs), in response to decision XXVIII/2, paragraph 4. The addendum will provide summaries of those reports and any other relevant information.
3. Issues that are not directly related to the implementation of decisions and related follow-up but that may be of interest to the parties are addressed in an information note on issues that the Secretariat would like to bring to the attention of the parties (UNEP/OzL.Pro.34/INF/3).

**II. Overview of items on the provisional agenda for the preparatory
segment (31 October–2 November 2022)****A. Opening of the preparatory segment (item 1 of the provisional agenda for the
preparatory segment)**

4. The preparatory segment of the meeting will be opened at 10 a.m. on Monday, 31 October 2022, at the headquarters of the International Civil Aviation Organization in Montreal, Canada.
5. The preparatory segment will be chaired jointly by Mr. Osvaldo Álvarez-Pérez (Chile) and Mr. Martin Sirois (Canada), the Co-Chairs of the Open-ended Working Group.
6. As the meeting will be virtually paperless, participants are urged to bring their own laptops and handheld devices for accessing meeting documents and information.

¹ UNEP/OzL.Pro.34/1.

7. A statement will be made by the Executive Secretary of the Ozone Secretariat, also representing the United Nations Environment Programme.

B. Organizational matters (item 2 of the provisional agenda for the preparatory segment)

1. Adoption of the agenda of the preparatory segment (item 2 (a) of the provisional agenda for the preparatory segment)

8. The provisional agenda for the preparatory segment is set out in section I of document UNEP/OzL.Pro.34/1 and will be before the parties for adoption. The parties may wish to adopt the agenda, including any items that they may agree to raise under item 17, "Other matters".

2. Organization of work (item 2 (b) of the provisional agenda for the preparatory segment)

9. Under item 2 (b), the Co-Chairs are expected to present a proposal to the parties on how they wish to proceed with the work on the items on the agenda.

C. Administrative matters (item 3 of the provisional agenda for the preparatory segment)

1. Budget of the Trust Fund for the Montreal Protocol and financial reports (item 3 (a) of the provisional agenda for the preparatory segment)

10. The budget of the Montreal Protocol is considered annually by the Meeting of the Parties. In accordance with decision XXXIII/14 of the Thirty-Third Meeting of the Parties, budgets for 2023 and 2024 are presented in document UNEP/OzL.Pro.34/4. The budgets are presented according to two scenarios: (a) the recommended budget, which reflect the needs foreseen; and (b) the zero nominal growth budget pegged to the approved budget for 2019.

11. The recommended budget for 2023, including additional activities, is \$5,802,550, \$52,579 less than the approved 2022 budget of \$5,855,129 including additional activities. The recommended budget for 2024 is \$5,731,925, \$70,625 less than the recommended budget for 2023. In accordance with paragraph 10 of decision XXXIII/14, the Secretariat has produced activity fact sheets on its areas of work for 2023 and related activities, in a format similar to that used by the Secretariat since 2019.² The fact sheets are presented in document UNEP/OzL.Pro.34/INF/1.

12. The Secretariat has chosen not to present a revised budget for the current year for the parties' consideration and approval. This choice was based on three considerations: (a) a revised budget was not necessary for 2022, as the 2022 activities will be implemented as planned; and (b) budget movement between the different cost categories will not exceed 10 per cent, nor will the total expenditure exceed the approved budget. This choice aligns with usual practice in the United Nations Environment Programme. The budget performance report for 2022 as at 30 September 2022 is provided as an information document (UNEP/OzL.Pro.34/INF/2).

13. The financial reports for the trust funds for the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol are considered by the parties annually. The certified financial statements for 2021 for the Vienna Convention and the Montreal Protocol trust funds, the certified financial statements for 2021 for the earmarked contributions that support the work of the Ozone Secretariat and an overview of the budget performance report for 2021 for the two trust funds are set out in document UNEP/OzL.Pro.34/5.

14. The main information on the Vienna Convention and the Montreal Protocol trust funds includes the following:

(a) The budget utilization rates were 77 per cent and 79 per cent respectively in 2021.

(b) The reserves and fund balance at the end of 2021 totalled \$2,612,135 for the Vienna Convention trust fund and \$12,033,757 for the Montreal Protocol trust fund, and the cash balances for the funds were \$2,236,886 and \$11,611,218 respectively.

² The format was adapted from that of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants.

(c) The reserves and fund balance at the end of 2022 is projected to be \$2,658,000 for the Vienna Convention trust fund and \$9,794,000 for the Montreal Protocol trust fund, and the forecast cash balances are \$2,263,000 and \$9,232,039 respectively.

15. Under item 3 (a) of the provisional agenda for the preparatory segment, the parties are expected to establish a budget committee to deliberate on and recommend a draft decision on the budget for adoption, as appropriate, during the high-level segment. A placeholder draft decision is set out in document UNEP/OzL.Pro.34/3 as draft decision XXXIV/[AA].

2. Consideration of the membership of Montreal Protocol bodies for 2023 (item 3 (b) of the provisional agenda for the preparatory segment)

(a) Members of the Implementation Committee (item 3 (b) (i) of the provisional agenda for the preparatory segment)

16. Each year, the Meeting of the Parties considers the membership of the Implementation Committee. In accordance with the non-compliance procedure adopted by the parties, the Committee consists of 10 parties, each of which selects an individual to represent it. Those parties are elected for two years on the basis of equitable geographical distribution – that is, two are elected to represent each of the regional groupings of African States, Asia-Pacific States, Eastern European States, Latin American and Caribbean States and Western European and other States. Committee members may serve two consecutive two-year terms. A party that has completed a second consecutive two-year term as a Committee member is eligible for election again only after an absence of one year from the Committee.

17. From the current members of the Committee, China, Costa Rica, Egypt, Poland and the United States of America will complete the first year of their two-year terms in 2022; they will therefore continue as members for 2023. Bhutan, Chile, North Macedonia and Senegal will conclude the second year of their first two-year terms in 2022 and will therefore have to be replaced or re-elected. The European Union will conclude the second year of its second two-year term in 2022 and will therefore have to be replaced.

18. In accordance with decision XII/13, the Committee selects its president and vice-president from among its members, through consultations among the Committee members during a Meeting of the Parties to ensure the continuity of the two offices. The Secretariat has included a placeholder draft decision on the matter in document UNEP/OzL.Pro.34/3 as draft decision XXXIV/[BB].

19. During the preparatory segment, the parties may wish to consult among themselves with the aim of nominating new Committee members. The Secretariat will include the names of nominated parties in the draft decision for consideration and possible adoption, with any amendments that the parties may deem appropriate, during the high-level segment.

(b) Members of the Executive Committee of the Multilateral Fund (item 3 (b) (ii) of the provisional agenda for the preparatory segment)

20. The Thirty-Fourth Meeting of the Parties will consider the membership of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol. In accordance with its terms of reference, the Executive Committee consists of seven members from parties operating under paragraph 1 of Article 5 of the Montreal Protocol (Article 5 parties) and seven members from parties not so operating (non-Article 5 parties). For 2023, the seven members from Article 5 parties are expected to be selected from the regional groups as follows: two members from African States, two members from Asia-Pacific States, two members from Latin American and Caribbean States and one member to fill the seat that rotates among the regions (decision XVI/38), which for 2023 will be from the African States.

21. Each of the two groups of parties elects its Executive Committee members and reports their names to the Secretariat for endorsement by the Meeting of the Parties. In addition, the terms of reference of the Executive Committee call for the election, from among the members of the Committee, of a Chair and a Vice-Chair, who alternate each year between Article 5 parties and non-Article 5 parties. As representatives of Bahrain and the United States have served as Chair and Vice-Chair respectively during 2022, the non-Article 5 parties will be expected to nominate the Chair for 2023 and the Article 5 parties will be expected to nominate the Vice-Chair.

22. The Thirty-Fourth Meeting of the Parties is expected to adopt a decision endorsing the selection of the new Committee members and noting the selection of the Committee's Chair and Vice-Chair for 2023. The Secretariat has included a placeholder draft decision on the matter in document UNEP/OzL.Pro.34/3 as draft decision XXXIV/[CC].

23. During the preparatory segment, the parties may wish to consult among themselves and consider the new composition of the Committee. The Secretariat will include the names of nominated parties in the draft decision for consideration and possible adoption, with any amendments that the parties may deem appropriate, during the high-level segment.

(c) Co-chairs of the Open-ended Working Group (item 3 (b) (iii) of the provisional agenda for the preparatory segment)

24. Each year, the Meeting of the Parties selects one representative from among Article 5 parties and one representative from among non-Article 5 parties to serve as Co-Chairs of the Open-ended Working Group in the subsequent year. In accordance with decision XXXIII/12, Mr. Martin Sirois (Canada) and Mr. Osvaldo Álvarez Pérez (Chile) have served as the Co-Chairs of the Open-ended Working Group in 2022. The Thirty-Fourth Meeting of the Parties is expected to adopt a decision endorsing the selection of the Co-Chairs of the Open-ended Working Group for 2023. The Secretariat has included a placeholder draft decision on the matter in document UNEP/OzL.Pro.34/3 as draft decision XXXIV/[DD].

25. The parties may wish to consult as necessary during the preparatory segment and nominate two individuals to serve as the Co-Chairs of the Open-ended Working Group in 2023. The Secretariat will include the names of the nominated individuals in the draft decision for consideration and possible adoption during the high-level segment.

D. Terms of reference for the study on the replenishment of the Multilateral Fund for the Implementation of the Montreal Protocol for the triennium 2024–2026 (item 4 of the provisional agenda for the preparatory segment)

26. At the forty-fourth meeting of the Open-ended Working Group, the parties began to discuss the terms of reference for a study to estimate the funds that would be required to enable Article 5 parties to achieve compliance with their obligations under the Protocol during the replenishment period 2024–2026. The parties had before them the terms of reference for the previous study, set out in decision XXXI/1, to use as a basis for developing the terms of reference for the forthcoming study.

27. During the discussion, captured in the report of the forty-fourth meeting of the Open-ended Working Group (UNEP/OzL.Pro.WG.1/44/4, paras. 105 and 106), several representatives mentioned topics that they wished to see addressed in the terms of reference, including the promotion of low-global-warming-potential alternatives; replacement technologies; human resource requirements; the specific needs of low-volume-consuming countries and very-low-volume-consuming countries; the fact that all the elements of decision XXVIII/2 should be considered as compliance obligations; and that the aim should be to build back better after the coronavirus disease (COVID-19) pandemic.

28. The Working Group established a contact group, co-chaired by Mr. Samuel Pare (Burkina Faso) and Ms. Cindy Newberg (United States). The contact group reviewed the text of the previous decision on the terms of reference and managed to reach agreement on certain aspects, including updates to the text and removal of paragraphs that were no longer needed, while other aspects remained in square brackets. The Working Group agreed to forward the draft decision to the Thirty-Fourth Meeting of the Parties for further consideration.

29. During the preparatory segment, the parties may wish to resume consideration of the draft decision for possible adoption during the high-level segment. The draft decision, fully bracketed, is set out in annex I to the present note.

E. Energy efficiency (item 5 of the provisional agenda for the preparatory segment)

1. Response to the report of the Technology and Economic Assessment Panel on decision XXXIII/5 on the continued provision of information on energy-efficient and low-global-warming-potential technologies (item 5 (a) of the provisional agenda for the preparatory segment)

30. By decision XXXIII/5, on the continued provision of information on energy-efficient and low-global-warming-potential technologies, the parties requested the Technology and Economic Assessment Panel to prepare a report on energy-efficient and lower-global-warming-potential technologies and on measures to enhance and maintain energy efficiency during HFC transition in equipment, for consideration by the Open-ended Working Group at its forty-fourth meeting, and, in that report, to: (a) update information in the report of the Panel on decision XXXI/7, on the same

subject, where relevant, and address additional subsectors not previously covered, such as the heat-pump, large commercial refrigeration and larger air-conditioning system subsectors; (b) assess potential cost savings associated with adoption of lower-global-warming-potential energy-efficient technologies in each sector, including for manufacturers and consumers; (c) identify sectors where action could be taken in the short term to adopt energy-efficient technologies while phasing down HFCs; (d) identify options to enhance and maintain energy efficiency in equipment through deploying best practices during installation, servicing, maintenance, refurbishment or repair; and (e) provide detailed information on the ways in which the benefits of integrating energy efficiency enhancements with the HFC phase-down measures could be assessed.

31. In response to decision XXXIII/5, the Technology and Economic Assessment Panel established a new task force to prepare the requested report, the fourth task force report on energy efficiency-related issues prepared by the Panel since the adoption of the Kigali Amendment in 2016.³ The report is set out in volume 3 of the Panel's 2022 report⁴ and is available on the portal of the current meeting.

32. At the forty-fourth meeting of the Open-ended Working Group, members of the task force presented the report. In the ensuing discussion, many representatives expressed their appreciation to the Panel and the task force for the report and the presentation, stressing that the report was comprehensive and provided invaluable technical and scientific information that would help the parties, and in particular those with limited technical and scientific capacity, to make more informed decisions at the national level. Many representatives raised specific questions on various sections of the task force report, which members of the task force answered. The question-and-answer section of the discussion was followed by a more general discussion, during which many representatives provided general comments on the report and more broadly on the topic of energy efficiency. The full discussion is summarized in the report of the forty-fourth meeting of the Open-ended Working Group (paras. 60 to 88).

33. The Working Group established a contact group, co-chaired by Ms. Annie Gabriel (Australia) and Ms. Bitul Zulhasni (Indonesia), to consider the matters raised during the discussion. Subsequently, the co-chairs reported back to the plenary on the work of the contact group and submitted a list of feedback and ideas for further work arising from the Panel's report. The Working Group agreed to forward the feedback and summary of ideas on energy efficiency and low-global-warming-potential technologies to the Thirty-Fourth Meeting of the Parties for further consideration.

34. During the preparatory segment, the parties may wish to consider the matter further and make recommendations on the way forward, as appropriate. The list of feedback and summary of ideas on energy efficiency and low-global-warming-potential technologies, as prepared by the contact group, is contained in annex II to the present note and will be posted on the online forum to facilitate an exchange of views by parties prior to the Meeting of the Parties.

2. Dumping of new and old inefficient refrigeration and air-conditioning appliances (proposal by a group of African States parties to the Montreal Protocol) (item 5 (b) of the provisional agenda for the preparatory segment)

35. At the Thirty-Third Meeting of the Parties to the Montreal Protocol, the Group of African States proposed a draft decision on stopping environmentally harmful dumping of inefficient refrigerant and air-conditioning appliances using obsolete refrigerants. In the ensuing discussion, the parties agreed to put the matter on the agenda of their next in-person meeting to allow for in-depth exploration of the challenges underlying the proposal and action that could be taken under the Montreal Protocol to address those challenges.

36. At the forty-fourth meeting of the Open-ended Working Group, the representative of Ghana introduced the proposal and requested that it be included in the draft decision on energy efficiency to be presented to the Thirty-Fourth Meeting of the Parties.

37. In the ensuing discussion, all those who took the floor acknowledged that the proposal raised important and relevant issues related to the management of controlled substances under the Montreal Protocol and to energy efficiency. There was unanimous support for further discussion of the proposal

³ After an initial scoping report prepared by an internal working group of the Panel in 2017 in response to decision XXVIII/3, three task force reports were presented to the parties, in 2018, 2019 and 2020/2021, in response to decisions XXIX/10, XXX/5 and XXXI/7 respectively.

⁴ ozone.unep.org/system/files/documents/TEAP-EETF-report-may-2022.pdf.

made by the African States. The discussion is summarized in the report of the forty-fourth meeting of the Open-ended Working Group (paras. 94 to 99).

38. The Working Group agreed that the contact group established to consider the issues arising from the report of the Technology and Economic Assessment Panel on decision XXXIII/5 (see paragraph 30 to 34 above) should also consider the proposal by the Group of African States. Subsequently, the co-chair of the contact group reported that the group had held a general discussion on the context and background to the African proposal, including many questions exploring the situation of African countries. In terms of the various elements of the draft decision, while concerns had been expressed regarding the articulation of the informal prior consent procedure, the concept of countries sharing information on unwanted equipment containing ozone-depleting substances or HFCs and finding ways to respect the regulations of importing countries was understood to be important. Parties had also indicated that they could work with elements of the draft decision related to capacity-building, building cooperation and improving the information base. The Working Group agreed to forward the draft decision by the group of African States to the Thirty-Fourth Meeting of the Parties for further consideration.

39. During the preparatory segment, the parties may wish to resume consideration of the draft decision submitted by the African Group. The draft decision is contained in annex III to the present note and will be posted on the online forum to facilitate an exchange of views by the parties prior to the Meeting of the Parties.

F. Identification of gaps in the global coverage of atmospheric monitoring of controlled substances and options for enhancing such monitoring (item 6 of the provisional agenda for the preparatory segment)

40. At the forty-fourth meeting of the Open-ended Working Group, the Secretariat presented a progress report in response to the request by the parties in decision XXXIII/4, on enhancing the global and regional atmospheric monitoring of substances controlled by the Montreal Protocol. The report included information on the implementation of a pilot project developed by the Secretariat in 2021 and funded by the European Union, entitled “Regional quantification of emissions of substances controlled under the Montreal Protocol”. The project, which was managed by the Secretariat and overseen by a steering committee currently composed of five members, was based on a white paper⁵ prepared by the Scientific Assessment Panel in cooperation with experts in atmospheric monitoring and considered by the Ozone Research Managers at their eleventh meeting. The main aim of the project was to identify one or two developing countries in areas where high regional emissions could be detected in the near future and to conduct flask sampling there. Sharing collected data with the global scientific community and developing collaboration with other institutions with existing monitoring capacities were also deemed to be important elements of the project.

41. During the ensuing discussion, summarized in the report of the forty-fourth meeting of the Open-ended Working Group (paras. 30 to 42), the representative of the European Union introduced a conference room paper containing a proposed draft decision on identifying sources of emissions originating from industrial processes. The proposal sought to improve understanding of emissive processes and thus enable better targeting of atmospheric monitoring. The draft decision included a request to the Technology and Economic Assessment Panel to prepare a report for the Thirty-Sixth Meeting of the Parties on chemical processes in which substantial emissions of controlled substances and of their most common intermediates – chloromethane, dichloromethane and trichloromethane – were likely to occur and on their regional localization; and on best practices for verifying, through measurements, emission factors in order to better reflect actual emission levels. It also invited parties to provide to the Secretariat, by a certain date, relevant data on emissions and industrial processes for use by the Panel in the preparation of its report.

42. Given the potential links between the European Union proposal and the proposal by Switzerland on ongoing emissions of carbon tetrachloride presented under the agenda item on ongoing emissions of carbon tetrachloride, the Working Group agreed to expand the mandate of the contact group established for the carbon tetrachloride discussion (see paragraph 55 below) to include consideration of the proposal by the European Union. Owing to time constraints, the contact group was not able to discuss the European Union proposal and the Working Group agreed to forward the draft decision to the Thirty-Fourth Meeting of the Parties.

⁵ UNEP/OzL/Conv.ResMgr/11/4/Rev.2.

43. During the preparatory segment, the parties may wish to resume consideration of the draft decision submitted by the European Union. The draft decision is set out in annex IV to the present note and will be posted on the online forum to facilitate an exchange of views by the parties prior to the Meeting of the Parties. Updates to the Secretariat's progress report, if any, will be provided in the addendum to the present note.

G. Institutional processes to strengthen the effective implementation and enforcement of the Montreal Protocol (item 7 of the provisional agenda for the preparatory segment)

44. An item on institutional processes to strengthen the effective implementation and enforcement of the Montreal Protocol was considered by the Open-ended Working Group at its forty-fourth meeting. The Co-Chair introduced the item, recalling that, at the Thirty-First Meeting of the Parties, the President of the Implementation Committee had reported that, at its sixty-third meeting, the Committee had considered documents prepared by the Ozone Secretariat on possible ways of dealing with the illegal production of, and trade in, controlled substances under the Montreal Protocol. At the time, the Committee had agreed that the information provided was relevant to all the parties in considering possible ways of strengthening the effective implementation of the Montreal Protocol in combating illegal activities and had recommended that the matter be included on the agenda of the forty-second meeting of the Open-ended Working Group. Owing to the COVID-19 pandemic, however, the Open-ended Working Group was only able to consider the issue at its forty-fourth meeting.

45. At its forty-fourth meeting, the Working Group discussed the matter based on document UNEP/OzL.Pro.WG.1/44/3, which reproduced the relevant annex to the report of the sixty-third meeting of the Implementation Committee, covering possible ways of dealing with the illegal production of and illegal trade in controlled substances under the Montreal Protocol, identifying potential gaps in the non-compliance procedure, challenges, tools, ideas and suggestions for improvement. The discussion is reflected in the report of the forty-fourth meeting of the Open-ended Working Group (paras. 49 to 53).

46. The Working Group agreed to establish an informal group to discuss the matter further. The group, which was facilitated by Mr. Andrew Clarke (United States) and Ms. Miruza Mohammed (Maldives), produced a non-exhaustive list of ideas for areas for improvement, which was not organized in order of priority and did not indicate agreement on which matters required further action, to serve as a basis for further discussion. The Working Group agreed to forward the list to the Thirty-Fourth Meeting of the Parties for further consideration.

47. At the preparatory segment, parties may wish to resume the discussion on the basis of the list prepared by the informal group and make recommendations as appropriate on the way forward. The list is reproduced in annex V to the present note and will be posted on the online forum to facilitate an exchange of views by the parties prior to the Meeting of the Parties.

H. Ongoing emissions of carbon tetrachloride (item 8 of the provisional agenda for the preparatory segment)

48. The issue of carbon tetrachloride emissions was discussed by the Open-ended Working Group at its forty-first meeting, in 2019, as a result of the new findings on carbon tetrachloride emissions and their sources in the 2018 quadrennial assessment report by the Scientific Assessment Panel. At that meeting, a draft decision proposed by Switzerland containing a list of possible actions was discussed in plenary and in a contact group, but no agreement was reached and the draft decision was forwarded to the Thirty-First Meeting of the Parties.

49. At the Thirty-First Meeting of the Parties, the discussion continued in an informal group, but no agreement was reached, and the parties agreed to include the item on the agenda of the subsequent meeting of the Open-ended Working Group, in 2020. Owing to the COVID-19 pandemic, however, the parties were unable to consider the issue in either 2020 or 2021.

50. At the forty-fourth meeting of the Open-ended Working Group, Switzerland submitted a revised proposal that was discussed in plenary, as summarized in the report of the forty-fourth meeting of the Open-ended Working Group (paras. 170 to 175).

51. The Working Group agreed to establish a contact group, co-chaired by Liana Ghahramanyan (Armenia) and Michel Gauvin (Canada), to further discuss the revised proposal of Switzerland. The Co-Chairs subsequently reported that the group had made some progress on the matter, including with

regard to revisions to terminology and to the specifications for the information to be requested from and provided by companies on a voluntary basis. The Working Group agreed to forward the resulting draft decision to the Thirty-Fourth Meeting of the Parties for further consideration.

52. During the preparatory segment, parties may wish to consider the draft decision for possible adoption during the high-level segment. The draft decision is set out in annex VI to the present note and will be posted on the online forum to facilitate an exchange of views by the parties prior to the Meeting of the Parties.

I. Future availability of halons and their alternatives (item 9 of the provisional agenda for the preparatory segment)

53. At the forty-fourth meeting of the Open-ended Working Group, the parties considered the Technology and Economic Assessment Panel's updated response to decision XXX/7, on the future availability of halons and their alternatives, contained in volume 1 of the Panel's May 2022 report. In decision XXX/7, the parties had requested the Panel, through its Halons Technical Options Committee, to continue engaging with the International Maritime Organization and the International Civil Aviation Organization to better assess future amounts of halons available to support civil aviation and to identify relevant alternatives already available or in development; ways to enhance the recovery of halons from the breaking of ships; and specific needs, other sources of recoverable halon and opportunities for recycling.

54. In the discussion, several representatives expressed concerns regarding the future availability of halons, given the continuing demand for them and the slow progress in identifying alternatives. Continued management of halon stocks was considered by several parties to be the main priority of the Halons Technical Options Committee, with particular focus on raising awareness of halon recycling guidance. The full discussion is summarized in the report of the forty-fourth meeting of the Open-ended Working Group (paras. 135 to 139).

55. During the discussion, it was noted that the Technology and Economic Assessment Panel was to provide updated information in its forthcoming 2022 quadrennial assessment report, but it was also suggested that the discussion continue before the publication of the report, at the Thirty-Fourth Meeting of the Parties, so that work could continue on ensuring that information on halon recycling and suggested alternatives for different types of halons was available to all parties. In the light of that, the Working Group agreed to defer further consideration of the item to its forty-fifth meeting and to request that an item on the matter be added to the agenda of the Thirty-Fourth Meeting of the Parties.

56. During the preparatory segment, the parties may wish to consider the matter further and make recommendations on the way forward, as appropriate.

J. Issues related to exemptions under Articles 2A–2I of the Montreal Protocol (item 10 of the provisional agenda for the preparatory segment)

1. Nominations for critical-use exemptions for methyl bromide for 2023 and 2024 (item 10 (a) of the provisional agenda for the preparatory segment)

57. At the forty-fourth meeting of the Open-ended Working Group, the Methyl Bromide Technical Options Committee presented its report and interim recommendations on the nominations for critical-use exemptions put forward by three parties in 2022, comprising one nomination by one Article 5 party (South Africa) for 2023 and one nomination each by two non-Article 5 parties (Australia and Canada) for 2024 and 2023, respectively. The discussion that took place and statements made during the meeting are summarized in the report of the meeting (paras. 127 to 131).

58. The Committee is expected to produce a final report on the evaluation of the nominations, taking into account any additional information provided by the nominating parties during and after the forty-fourth meeting of the Open-ended Working Group. The final report of the Committee will be posted on the meeting portal in due course. The report will also be uploaded to the online forum so that parties may post comments and questions thereon. The Committee will take into consideration any questions and comments raised in the forum in its presentation at the Thirty-Fourth Meeting of the Parties.

59. A summary of the Committee's final recommendations and any other relevant information will be provided in the addendum to the present note.

2. **Stocks and quarantine and pre-shipment uses of methyl bromide (item 10 (b) of the provisional agenda for the preparatory segment)**

60. At the Open-ended Working Group's forty-first meeting, held in 2019, the European Union introduced a draft decision, co-sponsored by Norway, inviting the parties to provide information on their stocks of methyl bromide on a voluntary basis and requesting the Technology and Economic Assessment Panel to further clarify, through specific examples, what constituted an exempted use, or quarantine and pre-shipment application, of methyl bromide and what constituted a controlled use of the chemical. After discussion in an informal group, the Working Group agreed to defer further consideration of the issue to the Thirty-First Meeting of the Parties, and, at that meeting, the proponent requested that the item be included on the agenda of the Working Group's subsequent meeting, its forty-second, scheduled for 2020. The issue had not been taken up at either the forty-second or the forty-third meeting owing to the circumstances of the COVID-19 pandemic. At the Thirty-Third Meeting of the Parties, the proponent requested that the matter of stocks of methyl bromide and quarantine and pre-shipment uses be included on the agenda of the Working Group's forty-fourth meeting.

61. At the forty-fourth meeting of the Open-ended Working Group, Ecuador, the European Union, Norway and Switzerland submitted an updated draft decision on stocks and quarantine and pre-shipment uses, reflecting discussions held with a number of parties since the Working Group's forty-first meeting, in 2019.

62. In the ensuing discussion, several representatives, while fully supportive of efforts to ensure that parties and the Technology and Economic Assessment Panel had access to technical and scientific information, said that the proposed draft decision required more in-depth discussion. They noted its wide scope and sought to clarify its ultimate objectives and to ascertain which of the suggested elements would be beneficial to the parties at present to ensure that the cost of the exercise in terms of the time required and the burden placed on parties and the Panel would be worthwhile in relation to the utility of the results obtained. A number of other representatives, however, said that they would be interested in receiving a report from the Technology and Economic Assessment Panel that included a list of current quarantine and pre-shipment uses at the country level for which economically and technically feasible alternatives were available, and the remaining obstacles and challenges to the use of such alternatives.

63. The Working Group agreed that the European Union would conduct bilateral consultations with interested parties with a view to discussing the concerns that they had raised about the proposal. The representative of the European Union subsequently introduced a revised draft decision that focused on only two issues, namely the voluntary submission of data on the volumes of all methyl bromide stocks at the national level, in order to improve the "bottom-up" provision of data, and the provision by the Technology and Economic Assessment Panel of updated information on alternatives. The full discussion held in plenary is summarized in the report of the forty-fourth meeting of the Open-ended Working Group (paras. 155 to 164).

64. The Working Group agreed to establish an informal group to discuss the revised draft decision. The facilitators of the informal group, Mr. Alain Wilmart (Belgium) and Mr. Diego Montes (Colombia), later reported that the group had not been able to reach agreement on the draft decision, which therefore remained unchanged. The Working Group agreed to forward the draft decision to the Thirty-Fourth Meeting of the Parties for its consideration, on the understanding that interested parties could continue informal consultations on the matter during the intersessional period.

65. During the preparatory segment, parties may wish to continue discussing the draft decision. The draft decision is contained in annex VII to the present note and will be posted on the online forum to facilitate an exchange of views by the parties prior to the Meeting of the Parties.

K. Strengthening the Technology and Economic Assessment Panel and its technical options committees for the phase-down of hydrofluorocarbons and other future challenges related to the Montreal Protocol and the climate (item 11 of the provisional agenda for the preparatory segment)

66. At the forty-fourth meeting of the Open-ended Working Group, the parties considered a draft decision by Morocco, originally put forward at the Thirty-Second Meeting of the Parties, in 2020, on strengthening the Technology and Economic Assessment Panel and its technical options committees for the phase-down of HFCs and other future challenges related to the Montreal Protocol and the climate. The draft decision reflected proposals to merge the Halons Technical Options Committee and the Methyl Bromide Technical Options Committee into the Medical and Chemicals Technical Options

Committee, to restructure the Flexible and Rigid Foams Technical Options Committee for expertise in the alternatives and substitutes to high-global-warming-potential HFCs and to create an energy efficiency technical options committee.

67. Morocco's proposal was considered in conjunction with relevant recommendations formulated by the Technology and Economic Assessment Panel on possible adjustments to its current structure to enable it to more efficiently support the parties' efforts to phase out ozone-depleting substances and phase down HFCs. Those recommendations were to replace the Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee with two new committees, namely a cold chain technical options committee and a building and indoor climate control technical options committee, to enable more holistic consideration of the food cold chain in one case and indoor comfort cooling in the other; eliminate the Flexible and Rigid Foams Technical Options Committee and integrate foam issues into the two proposed new committees; rename the Methyl Bromide Technical Options Committee as the Methyl Bromide, Agriculture and Sustainability Technical Options Committee (MBASTOC) and widen its scope to include sustainable production in agriculture; and change the name of the Halons Technical Options Committee to the Fire Protection Technical Options Committee to reflect its broad role in fire safety and the increasing range of fire suppressant options other than halons. The Panel's recommendations were set out in chapter 8.4 of volume I of the Panel's May 2022 progress report and were also summarized in the note by the Secretariat on issues for discussion by and information for the attention of the Working Group at its forty-fourth meeting (UNEP/OzL.Pro.WG.1/44/2/Add.2).

68. During the discussion, summarized in the report of the forty-fourth meeting of the Open-ended Working Group (paras. 146 to 150), a number of parties cautioned that both the draft decision and the Panel's recommendations required careful consideration, as they represented fundamental changes to the current structure of the Panel and its technical options committees. While all agreed that new issues such as energy efficiency and the cold chain should be integrated into the work of the Panel, several questioned the need for significant structural change, suggesting that it might be possible to address such emerging issues within the existing structure by, for example, reviewing and amending the mandates and focus areas of the current committees. One representative articulated what he considered to be the three key objectives of any structural change, namely ensuring an effective and efficient structure to respond to ongoing party requests and needs; facilitating greater collaboration between experts regarding common considerations for ozone-depleting substance and HFC replacement selection, in particular for foam blowing agents and refrigerants; and establishing synergies between technical options committees in dealing with cross-cutting and emerging issues such as the selection of common alternatives for different sectors or systems, energy efficiency and flammable alternatives. In addition to general comments on the proposed concepts, several parties made specific comments on Morocco's proposal and the Panel's recommendations.

69. The Working Group established a contact group, co-chaired by Mr. Paul Krajnik (Austria) and Ms. Azra Rogović-Grubić (Bosnia and Herzegovina), to consider the recommendations of the Technology and Economic Assessment Panel and the draft decision submitted by Morocco, also taking into consideration other ideas that parties might have in relation to restructuring. The group was also to ensure that any proposed restructuring maintained or improved the effectiveness and efficiency of and synergies among the Panel and its technical options committees.

70. Subsequently, the co-chairs of the contact group reported that, following comprehensive discussion, a list of questions had been collated to be forwarded to the Technology and Economic Assessment Panel. The parties agreed to continue work on the matter during the intersessional period and to resume discussions at the Thirty-Fourth Meeting of the Parties.

71. During the preparatory segment, the parties may wish to consider the matter further and make recommendations, as appropriate. The proposal by Morocco is set out in annex VIII to the present note. It will also be posted on the online forum, together with the proposal by the Technology and Economic Assessment Panel and a note that the Panel is expected to prepare in response to the questions forwarded to it by the contact group, to facilitate an exchange of views by the parties prior to the Thirty-Fourth Meeting of the Parties.

L. Consideration of nominations by parties of experts to the Technology and Economic Assessment Panel (item 12 of the provisional agenda for the preparatory segment)

72. In annex 1 to its 2022 progress report, the Technology and Economic Assessment Panel provided information on the status of the membership of the Technology and Economic Assessment Panel and its technical options committees as at May 2022.

73. The table below lists the members of the Technology and Economic Assessment Panel whose membership expires at the end of 2022 and whose reappointment requires a decision by the Meeting of the Parties. For information and ease of reference, the members of the technical options committees whose membership expires at the end of 2022 and whose reappointment does not require a decision by the Meeting of the Parties are listed in annex IX to the present note.

Members of the Technology and Economic Assessment Panel whose membership expires at the end of 2022 and whose reappointment requires a decision by the Meeting of the Parties

<i>Name</i>	<i>Position</i>	<i>Country</i>
Marta Pizano	TEAP Co-Chair	Colombia
Ashley Woodcock	TEAP Co-Chair	United Kingdom of Great Britain and Northern Ireland
Fabio Polonara	RTOC Co-Chair	Italy
Shiqiu Zhang	TEAP senior expert	China
Marco Gonzalez	TEAP senior expert	Costa Rica
Rajendra Shende	TEAP senior expert	India
Ray Gluckman	TEAP senior expert	United Kingdom of Great Britain and Northern Ireland

Abbreviations: TEAP – Technology and Economic Assessment Panel; RTOC – Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee.

74. By the time of the forty-fourth meeting of the Open-ended Working Group, no nominations had been received. The Co-Chair encouraged interested parties to consult informally in the margins of that meeting with a view to submitting nominations to the Thirty-Fourth Meeting of the Parties.

75. Parties may wish to submit nominations for consideration by the Thirty-Fourth Meeting of the Parties. Parties may recall that in paragraph 3 of decision XXXI/8, they are requested, “when nominating experts to the Panel, its technical options committees or its temporary subsidiary bodies, to use the Panel’s nomination form and associated guidelines so as to facilitate the submission of appropriate nominations, taking into account the matrix of needed expertise, and geographical and gender balance, in addition to the expertise needed to address new issues related to the Kigali Amendment, such as energy efficiency, safety standards and climate benefits”. In paragraph 5 of the same decision, the parties are urged “to follow the terms of reference of the Panel, consult the Panel’s Co-Chairs and refer to the matrix of needed expertise prior to making nominations for appointments to the Panel”. Owing to the Panel’s proposed adjustments to its current structure (see paras. 66 to 71 above), the matrix of needed expertise for 2022 was not included in the 2022 progress report, but the Panel is expected to provide the matrix well ahead of the Thirty-Fourth Meeting of the Parties. The Secretariat will post the matrix on its website and on the meeting portal as soon as it is received from the Panel.

76. In accordance with paragraph 4 of decision XXXI/8, the Secretariat will also make the forms submitted by parties nominating members to the Panel available on the meeting portal to make it easier for parties to review and discuss the proposed nominations.

77. Nominations to the technical options committees other than for Co-Chair positions, as well as nominations to temporary subsidiary bodies, can be made at any time. Appointments are made by the Co-Chairs of the relevant committees in consultation with the Panel.

78. The terms of reference of the Panel are posted on the meeting portal for ease of reference to the procedures for nominating and appointing Panel members. In addition, the parties may wish to use the online primer on the operation of the Technology and Economic Assessment Panel,⁶ now accessible from the Panel portal.

79. The Secretariat will provide any additional information that becomes available in the addendum to the present note.

⁶ ozone.unep.org/teap-primer.

M. Compliance and data reporting issues: the work and recommendations of the Implementation Committee under the Non-Compliance Procedure for the Montreal Protocol (item 13 of the provisional agenda for the preparatory segment)

80. The President of the Implementation Committee will report on party compliance issues considered during the Committee's sixty-eighth meeting, held on 9 July 2022, and the sixty-ninth meeting, to be convened on 29 October 2022, immediately prior to the Thirty-Fourth Meeting of the Parties.

81. Any recommendations and draft decisions emanating from the meetings of the Committee will be presented by the President for consideration and possible adoption by the Thirty-Fourth Meeting of the Parties.

N. Implementation of the Kigali Amendment (item 14 of the provisional agenda for the preparatory segment)

1. Periodic review of alternatives to hydrofluorocarbons (decision XXVIII/2, para. 4) (item 14 (a) of the provisional agenda for the preparatory segment)

82. At the Twenty-Eighth Meeting of the Parties, in 2016, the parties adopted decision XXVIII/2 relating to the amendment phasing down hydrofluorocarbons (the Kigali Amendment). In paragraph 4 of that decision, the Technology and Economic Assessment Panel was requested to conduct periodic reviews of alternatives in 2022 and every five years thereafter, using the criteria set out in paragraph 1 (a) of decision XXVI/9, on the response to the report by the Panel on information on alternatives to ozone-depleting substances, and to provide technological and economic assessments of the latest available and emerging alternatives to HFCs.

83. According to paragraph 1 (a) of decision XXVI/9, the Panel was to provide updated information on alternatives⁷ in various sectors and subsectors, differentiating between Article 5 and non-Article 5 parties, considering energy efficiency, regional differences and high-ambient-temperature conditions in particular, and assessing whether those alternatives were (a) commercially available; (b) technically proven; (c) environmentally sound; (d) economically viable and cost effective; (e) safe to use in areas with high urban densities, considering flammability and toxicity issues, including, where possible, risk characterization; and (f) easy to service and maintain. Furthermore, the updated report was to describe the potential limitations of use of identified alternatives and the implications of such limitations for the different sectors, in terms of, but not limited to, servicing and maintenance requirements, and international design and safety standards.

84. In its 2022 progress report, the Panel indicated that a similar request had been made to the Panel in paragraph 6 of decision XXXI/2, which set out the terms of reference for the Panel's 2022 quadrennial assessment report.

85. The Panel's view is that while the exact timing of the requested review in 2022 is not specified in decision XXVIII/2, the quadrennial reports of the Panel's technical options committees are, according to decision XXXI/2, to be submitted to the Secretariat by the end of 2022. Given that the requests to the Panel to review alternatives to HFCs in 2022 overlap in the two decisions, in order to facilitate early consideration of this matter by the parties, the Panel has set up a working group, composed of experts from all of its technical options committees, to prepare a report in response to paragraph 4 of decision XXVIII/2 in time for consideration by the Thirty-Fourth Meeting of the Parties, drawing information from the 2022 quadrennial assessment reports of the technical options committees. The summary of that report will be included in the addendum to the present note for consideration by the parties. The report of the Panel will also be posted on the online forum to enable parties to comment and ask questions relating to it prior to the Meeting of the Parties.

86. Notwithstanding its decision to convene the above-mentioned working group on this occasion, in its 2022 progress report the Panel noted that the parties' request for periodic reviews of HFC alternatives every five years after 2022 did not coincide with the timing of submissions of the Panel's quadrennial assessments. It therefore suggested that, to enable the Panel to manage its workload and minimize duplicative efforts, the parties might wish to consider aligning future periodic reviews, such

⁷ Paragraph 1 (a) of decision XXVI/9 referred to alternatives to ozone-depleting substances. In the context of decision XXVIII/2, such a reference applies to alternatives to HFCs.

as those requested in decision XXVIII/2, with the reviews to be undertaken in connection with its already-planned quadrennial assessment reports.

87. During the preparatory segment, the Panel's working group will present its report. Parties may wish to consider the report, along with the Panel's suggestion regarding the submission of future reports on alternatives to HFCs, and make recommendations on the way forward, as appropriate.

2. Status of ratification (item 14 (b) of the provisional agenda for the preparatory segment)

88. The Kigali Amendment to the Montreal Protocol was adopted in 2016 by decision XXVIII/1 and entered into force on 1 January 2019. At the time of preparing the present note, 137 parties had ratified the amendment. Document UNEP/OzL.Pro.34/INF/4, to be issued closer to the start of the Thirty-Fourth Meeting of the Parties, will set out the status of ratification of the Kigali Amendment by the parties, and a further update will be provided during the meeting.

89. During the preparatory segment, parties may wish to consider a draft decision recording the status of ratification at the time of the Thirty-Fourth Meeting of the Parties and urging further ratification of the Kigali Amendment, for possible adoption during the high-level segment. A placeholder draft decision on the matter is set out in document UNEP/OzL.Pro.34/3 as draft decision XXXIV/[EE].

3. Impact of the coronavirus disease (COVID-19) pandemic on hydrofluorocarbon baselines for parties operating under paragraph 1 of Article 5 (proposal by Cuba) (item 14 (c) of the provisional agenda for the preparatory segment)

90. At the closing session of the forty-fourth meeting of the Open-ended Working Group, the representative of Cuba spoke about the impact of the COVID-19 pandemic on HFC baselines for Article 5 parties and proposed that the issue be placed on the agenda of the Thirty-Fourth Meeting of the Parties. He said that if the situation continued, a significant number of parties would find it impossible to meet the objectives of the Montreal Protocol. As a result of many factors adversely affecting countries, including the ongoing COVID-19 pandemic and its consequences for the global economy, the HFC baselines to be established for Article 5 parties needed to be analysed in relation to the agreed phase-down provisions of the Kigali Amendment to ensure that commitments under the Montreal Protocol were met. He suggested that the HFC baselines could be determined in a flexible way, based on conditions in each Article 5 party, with the adjustment focused on actual consumption of refrigerant gases and other uses in the years before the pandemic.

91. The representative of Cuba further observed that basing the calculation of the baseline on consumption for the years 2020 to 2022, as proposed, was unrealistic and would make it impossible for a significant number of low-consumption Article 5 parties to meet their commitments under the Kigali Amendment. He proposed the use of a flexible baseline, with three alternatives, depending on a party's situation:

(a) Parties whose consumption levels were not affected by the pandemic could maintain the 2020 to 2022 baseline years;

(b) The group of parties with consumption levels that had been greatly affected by the pandemic could use an average of the consumption for the years 2015 to 2018 or 2019, plus 20 per cent;

(c) Parties could choose the three best years from 2015 to 2019, in all cases in CO₂-equivalent.

92. During the preparatory segment, parties may wish to consider the issue raised by Cuba and make recommendations on the way forward, as appropriate.

O. Safety standards (decision XXIX/11) (item 15 of the provisional agenda for the preparatory segment)

93. In decision XXIX/11, on safety standards, adopted by the Twenty-Ninth Meeting of the Parties in 2017, the Secretariat was requested to hold regular consultations with international and regional standards bodies with a view to providing, with regard to standards for flammable low-global-warming-potential refrigerants, a tabular overview of relevant safety standards. The tabular overview was to also include any relevant information submitted on a voluntary basis to the Secretariat by parties or by national and regional standards bodies. The Secretariat was requested to make such information accessible on its website and to ensure an update of the tabular overview prior to each

meeting of the parties at least up until the Thirty-Fourth Meeting of the Parties, when parties should consider whether to renew that request to the Secretariat.

94. In response, the Secretariat produced a first version of the requested tabular overview in November 2018, followed by an updated version in July 2019. To facilitate access to updated information on safety standards, the Secretariat also developed an online interactive system safety standards tool and made it available on its website.⁸ The tool presents the information in a format similar to the tabular overview and offers filtering and search functions to enable the extraction of specific information and functions for exporting and downloading data fields. The Secretariat has been updating the online tool regularly and will include more information on the latest updates on safety standards in the addendum to the present note.

95. During the preparatory segment, the parties may wish to consider the matter and make recommendations on the way forward, as appropriate.

P. Recognition of the achievements of Paul Jozef Crutzen, Mario José Molina and Frank Sherwood Rowland, winners of the Nobel Prize in Chemistry in 1995 (item 16 of the provisional agenda for the preparatory segment)

96. At the forty-fourth meeting of the Open-ended Working Group, the Co-Chair recalled that, during the combined twelfth meeting of the Conference of the Parties to the Vienna Convention and the Thirty-Second Meeting of the Parties to the Montreal Protocol, held in 2020, the representative of Mexico had submitted a proposal for a “Mario Molina declaration to support and strengthen the Montreal Protocol” for consideration and possible adoption by the parties. Due to the reduced and streamlined agenda of the combined meetings, the parties had agreed to defer consideration of the proposed declaration to 2021. Given the continuing challenges associated with the COVID-19 pandemic, however, the parties had been unable to discuss the proposal in that year, and an item on the proposal had therefore been added to the agenda for the forty-fourth meeting of the Open-ended Working Group.

97. Following bilateral consultations with interested parties, Mexico had revised its proposal for consideration and possible adoption by the Thirty-Fourth Meeting of the Parties. At the forty-fourth meeting of the Open-ended Working Group, further consultations took place and the representative of Mexico introduced the proposal, which no longer took the form of a declaration, but was instead a draft decision. He explained that the draft decision aimed to recognize the work of the three scientists who had been awarded the 1995 Nobel Prize in Chemistry, Mr. Paul Jozef Crutzen (Netherlands), Mr. Mario José Molina (Mexico) and Mr. Frank Sherwood Rowland (United States). Thanks to their work, 35 years after the adoption of the Montreal Protocol, the objectives of the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol thereto, to protect the ozone layer, the environment and human health, were being achieved. Behind those objectives was the work of the three great scientists who had studied the composition of the ozone layer and the substances used by ordinary people in everyday life.

98. The representatives of the co-sponsors of the proposal, the European Union and the United States, also made statements, thanking Mexico for taking the initiative on the proposal, echoing the comments of its representative and indicating their full support for the text of the draft decision. Many other representatives also expressed their strong support for the draft decision and paid tribute to the three Nobel-prize-winning scientists for their world-changing contribution, as well as to all scientists who, through their work, enabled the parties to make progress in achieving the objectives of the Montreal Protocol.

99. The parties agreed to forward the draft decision to the Thirty-Fourth Meeting of the Parties for further consideration.

100. During the preparatory segment, the parties may wish to consider the draft decision for possible adoption during the high-level segment. The draft decision is set out in document UNEP/OzL.Pro.34/3 as draft decision XXXIV/[A].

⁸ The system safety standards tool is available at <https://ozone.unep.org/system-safety-standards>.

Q. Other matters (item 17 of the provisional agenda for the preparatory segment)

101. Any additional issues that the parties agree to include on the agenda under item 2 (a), “Adoption of the agenda of the preparatory segment”, will be taken up under agenda item 17, “Other matters”.

III. Overview of items on the provisional agenda for the high-level segment (3 and 4 November 2019)

A. Opening of the high-level segment (item 1 of the provisional agenda for the high-level segment)

102. The high-level segment is scheduled to be opened at 10 a.m. on Thursday, 3 November 2022.

103. Opening statements will be made by the President of the Thirty-Third Meeting of the Parties to the Montreal Protocol, a representative of the United Nations Environment Programme and the Government of Canada (items 1 (a), (b) and (c) of the provisional agenda for the high-level segment).

B. Organizational matters (item 2 of the provisional agenda for the high-level segment)

1. Election of officers for the Thirty-Fourth Meeting of the Parties to the Montreal Protocol (item 2 (a) of the provisional agenda for the high-level segment)

104. In accordance with rule 21 of the rules of procedure for meetings of the parties to the Montreal Protocol, the Thirty-Fourth Meeting of the Parties must elect a president, three vice-presidents and a rapporteur. A representative of a party from the group of African States (Burkina Faso) presided over the Thirty-Third Meeting of the Parties, while a representative of a party from the group of Western European and other States (New Zealand) served as rapporteur. On the basis of regional rotation agreed by the parties, the parties may wish to elect a party from the group of Asia-Pacific States to preside over the Thirty-Fourth Meeting of the Parties and a party from the group of African States to serve as rapporteur. The parties may also wish to elect three vice-presidents, one each from the groups of Eastern European States, Latin American and Caribbean States and Western European and other States.

2. Adoption of the agenda of the high-level segment (item 2 (b) of the provisional agenda for the high-level segment)

105. The provisional agenda for the high-level segment is set out in section II of document UNEP/OzL.Pro.34/1 and will be before the parties for adoption. The parties may wish to adopt the agenda, including any items that they may agree to include under item 8, “Other matters”.

3. Organization of work (item 2 (c) of the provisional agenda for the high-level segment)

106. The President of the Thirty-Fourth Meeting of the Parties is expected to outline a plan of work for discussing the items on the agenda.

4. Credentials of representatives (item 2 (d) of the provisional agenda for the high-level segment)

107. In accordance with rule 18 of the rules of procedure, the credentials of representatives and the names of alternate representatives and advisers are to be submitted to the Executive Secretary of the meeting, if possible not later than 24 hours after the opening of the meeting. Representatives are urged to come to the meeting with credentials duly signed by the appropriate authority for submission and to submit them to the Secretariat as soon as possible after the start of the meeting. In accordance with rule 19 of the rules of procedure, the elected officers of the meeting will examine the credentials and submit their report thereon to the parties.

C. Presentations by the assessment panels on progress in their work and key issues emanating from their 2022 quadrennial assessments (item 3 of the provisional agenda for the high-level segment)

108. Under this agenda item, the co-chairs of the three assessment panels will present the progress in their work and any key issues from their quadrennial assessments to be completed by the end of 2022. The parties may wish to take note of their presentations and take action either at the current meeting or later, as they deem appropriate.

D. Presentation by the Chair of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol on the work of the Executive Committee, the Multilateral Fund secretariat and the Fund's implementing agencies (item 4 of the provisional agenda for the high-level segment)

109. Under this agenda item, the Chair of the Executive Committee of the Multilateral Fund will introduce a report by the Executive Committee to the parties, highlighting the key decisions made by the Committee and the work undertaken by the Multilateral Fund secretariat and the Fund's implementing agencies since the Thirty-Third Meeting of the Parties. The report of the Executive Committee to the Thirty-Fourth Meeting of the Parties can be found in document UNEP/OzL.Pro.34/7.

E. Statements by heads of delegation and discussion on key topics (item 5 of the provisional agenda for the high-level segment)

110. Under this agenda item, heads of delegation will be invited to make statements. The Secretariat will start to accept requests to speak from the first day of the preparatory segment of the meeting and will compile a list of speakers based on those requests. In the interest of fairness to all delegations and to ensure that all who wish to speak have an opportunity to do so, it will be important for heads of delegation to limit their statements to four or five minutes. Statements by heads of delegations of parties will be delivered in the order in which their requests to speak are received, subject to the understanding that ministers will be accorded priority.

111. Under this agenda item, a high-level round-table discussion is being organized by the Secretariat on the topic "Challenges ahead under the Montreal Protocol".

F. Report by the Co-Chairs of the preparatory segment and consideration of the decisions recommended for adoption by the Thirty-Fourth Meeting of the Parties (item 6 of the provisional agenda for the high-level segment)

112. Under agenda item 6, the Co-Chairs of the preparatory segment will be invited to report to the parties on the progress made in reaching consensus on the substantive issues on the agenda, including on the draft decisions to be considered for adoption during the high-level segment.

G. Dates and venue for the Thirty-Fifth Meeting of the Parties to the Montreal Protocol (item 7 of the provisional agenda for the high-level segment)

113. It is expected that the Thirty-Fourth Meeting of the Parties will adopt a decision on the dates and venue of the Thirty-Fifth Meeting of the Parties. The relevant placeholder draft decision is set out in document UNEP/OzL.Pro.34/3 as draft decision XXXIV/[FF].

H. Other matters (item 8 of the provisional agenda for the high-level segment)

114. Any additional substantive issues agreed for inclusion on the agenda under item 2 (b), "Adoption of the agenda of the high-level segment", will be taken up under agenda item 8, "Other matters".

I. Adoption of decisions by the Thirty-Fourth Meeting of the Parties to the Montreal Protocol (item 9 of the provisional agenda for the high-level segment)

115. Under this agenda item, the Thirty-Fourth Meeting of the Parties will adopt decisions on the matters on the agenda.

J. Adoption of the report of the meeting (item 10 of the provisional agenda for the high-level segment)

116. Under this agenda item, the Thirty-Fourth Meeting of the Parties will adopt the report of the meeting.

K. Closure of the meeting (item 11 of the provisional agenda for the high-level segment)

117. The Thirty-Fourth Meeting of the Parties to the Montreal Protocol is expected to close by 6 p.m. Montreal time (UTC – 4) on Friday, 4 November 2022.

Annex I

[Draft decision: Terms of reference for the study on the 2024–2026 replenishment of the Multilateral Fund for the Implementation of the Montreal Protocol*]

The Thirty-Fourth Meeting of the Parties decides,

Recalling the parties' decisions on previous terms of reference for studies on the replenishment of the Multilateral Fund for the Implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer,

Recalling also the parties' [relevant] decisions on previous replenishments of the Multilateral Fund,

1. To request the Technology and Economic Assessment Panel to prepare a report for submission to the Thirty-Fifth Meeting of the Parties to the Montreal Protocol, and to submit it through the Open-ended Working Group of the Parties to the Montreal Protocol at its forty-fifth meeting, to enable the Thirty-Fifth Meeting of the Parties to adopt a decision on the appropriate level of the 2024–2026 replenishment of the Multilateral Fund;

2. That, in preparing the report referred to in paragraph 1 of the present decision, the Panel should take into account, among other things:

(a) All control measures and relevant decisions agreed upon by the parties to the Montreal Protocol and the Executive Committee of the Multilateral Fund, including decision XXVIII/2, and the decisions of the Thirty-Fourth Meeting of the Parties and the Executive Committee at its meetings, up to and including its ninety-second meeting, insofar as those decisions will necessitate expenditure by the Multilateral Fund during the period 2024–2026;

(b) [The need to consider] the special needs of low-volume-consuming and very-low-volume-consuming countries;

(c) The need to allocate resources to enable all parties operating under paragraph 1 of Article 5 of the Montreal Protocol (Article 5 parties) to achieve and/or maintain compliance with Articles 2A–2J of the Protocol, taking into account decision XIX/6 [and decision XXVIII/2] of the Meeting of the Parties [activities supporting compliance with the Kigali Amendment], and the reductions and extended commitments made by Article 5 parties under approved hydrochlorofluorocarbon (HCFC) phase-out management plans [and Kigali HFC implementation plans [including risk-assessment studies, market acceptance and safety issues]], [and [all elements of] [decision XXVIII/2]], and noting that the Panel in its supplementary report shall provide any information or clarification as requested by any party relating to the allocation of resources;

(d) Decisions, rules and guidelines agreed by the Executive Committee at all its meetings, up to and including its [ninety-second] meeting, in determining eligibility for the funding of investment projects and non-investment projects;

(e) [The need to allocate resources for Article 5 parties to comply with the Kigali Amendment to the Montreal Protocol, including the preparation and, if needed, the implementation of phase-down plans for hydrofluorocarbons (HFCs) that could include early activities in the servicing and end-users sector in order to comply with the Kigali Amendment by addressing the high growth rate in HFC consumption;]

(f) [The need to allocate resources to the low-volume-consuming countries [and very-low-volume consuming countries] for the introduction [and promotion] of zero-global-warming-potential or low-global-warming-potential alternatives to HFCs and to maintain energy efficiency in the servicing and end-users sector, in line with any relevant decisions of the Executive Committee;]

(f) Alt 1 [The need to allocate resources for a funding window for activities including pilot demonstration projects to maintain and/or enhance energy efficiency while phasing-down HFCs;]

(f) Alt 2 [The need to allocate resources for demonstration activities to maintain and/or enhance energy efficiency while replacing HFCs with non-HFC alternatives;]

* The present draft decision has not been formally edited.

(g) [The cost of supporting activities related to gender mainstreaming as part of the gender policy of the Multilateral Fund;]

(h) [The need to allocate resources to support end-of-life management and destruction of controlled substances [in accordance with any relevant decisions by the Executive Committee]]

3. [That the Panel should provide indicative figures of the resources within the estimated funding required for phasing out HCFCs that could be associated with enabling Article 5 parties to directly transition from HCFCs to the use of low-global-warming-potential or zero-global-warming-potential alternatives, taking into account global warming potential, energy use, safety and other relevant factors. The indicative figures should be provided for a range of typical scenarios, including a low-volume-consuming country, a small manufacturing country and a medium-sized manufacturing country;]

4. That in estimating the funding requirement associated with the HCFC and HFC targets, the Panel will use a clearly explained compliance-based methodology, [[independent of the business plan of the Multilateral Fund,] and avoid policy prescriptions that are not based on decisions of the parties or the Executive Committee];[That the Panel should provide indicative figures of the resources required if HPMPs and KIPs are implemented following an integrated approach in relevant sectors in comparison to a parallel implementation;]

5. That, in preparing the report, the Panel should consult widely, including all relevant persons and institutions and other relevant sources of information deemed useful;

6. That the Panel should strive to complete the report in good time to enable it to be distributed to all parties two months before the forty-fifth meeting of the Open-ended Working Group;

7. That the Panel should provide indicative figures for the periods 2027–2029 and 2030–2032 to support a stable and sufficient level of funding, on the understanding that those figures will be updated in subsequent replenishment studies.

8. [The need to allocate resources to meet unforeseen issues [including additional assistance that the A5 countries may need, arising from the pre-and-post COVID-19 pandemic situation related to the HFC baseline and growth of HFC consumption]]]

Annex II*

Feedback and ideas in response to the May 2022 report of the Technology and Economic Assessment Panel, volume 3: Decision XXXIII/5 – Continued provision of information on energy efficiency and low global warming potential technologies

- How to integrate regular Energy Efficiency updates in the TEAP report
- Further development of modelling with a focus on operationalization of Energy Efficiency during implementation of phase-down of HFCs / pathways / Benefits of HFC phase-down and energy efficiency
- Supplementary information from TEAP
 - Cost Benefit Analysis
 - Consumer Acceptability
 - Insulating foams / enhancing efficiency
 - Enabling Environment / interlinkages
 - Energy Efficiency of R-290/R-32 in High-Ambient Temperature (HAT) areas
 - Safety standards and charge limits
 - Heat pumps
 - Non-halogenated refrigerants
 - Growth and modelling of Energy Efficiency refrigerant friendly ozone and climate in the Mobile Air Conditioning (MAC) sector
 - Availability of renewable energy options
- Capacity building needed for servicing sector
 - Regional training, including equipment installation and maintenance for Energy Efficiency, including gender parity
 - Certification / Assessment of capability
 - Risk analysis of training centers
 - Design and planning sector
- Validation of Energy Efficiency claims / Minimum Energy Performance Standards (MEPS) / labelling schemes / Regional testing facilities
- Cost of new technologies is prohibitive (barriers)
- National Ozone Units / Energy Efficiency / climate change departments linkages: capacity building / coordination with Energy Efficiency authorities
- Need to develop cooling plans and integration into Nationally determined contributions (NDCs)
- Review of cold chain management
- Priority actions / sectors for energy efficiency
- Coupling - Energy efficiency and HFC phasedown / Integration at national levels / to increase climate benefits / inclusion of Energy Efficiency in Kigali HFC Implementation Plans (KIPs)
- Pilot projects – improvement in compressors
- Assistance for phase-out low Energy Efficiency equipment / Waste management
- Take into consideration special situation of Very low volume consuming countries (VLVCs)

* The present annex has not been formally edited.

- Electrical compatibility of equipment in recipient countries (barriers)
- Req ExCom support for cooling plans, cold chain management and OzonAction
- Promotion of Low Global Warming Potential (LGWP) technologies in the refrigeration and air-conditioning (RAC) sector

Annex III

Proposal by Ghana on behalf of the African States parties to the Montreal Protocol

*Stop the Harmful Dumping of New and Used, Inefficient Refrigeration and Air Conditioning Appliances Using Obsolete ODS and HFC Refrigerants**

The Thirty-Fourth Meeting of the Parties decides:

Noting with concern the increasing numbers of new and used appliances that are not acceptable for sale in countries of origin and that are exported to African and other developing countries that may have less stringent laws or enforcement systems that are being overwhelmed with such dumping;

Aware that dumping of inefficient appliances causes importing countries harm by, *inter alia*, creating or prolonging dependence on obsolete refrigerants that are increasingly expensive and unavailable; flooding markets with poor quality equipment; stressing over-burdened energy grids and perpetuating elevated energy demand; aggravating air pollution and climate change from avoidable electricity consumption; increasing non-recyclable refuse; and damaging the quality of life of low-income consumers with unaffordable electricity costs;

Recognizing that Ghana and other Article 5 Parties in Africa and elsewhere have worked hard to prevent this environmentally harmful dumping and to increase energy efficiency within their borders, but that countries working alone are never as effective as they are when working with the combined strength of the Montreal Protocol;

Recalling the [Report of the Technology and Economic Assessment Panel, September 2020, Decision XXXI/7– Continued Provision of Information on Energy-Efficient and Low-GWP Technologies](#) (Volume 2), which *inter alia* recognizes studies documenting widespread dumping of new and used refrigeration and air conditioning equipment that is inefficient in energy use and utilizing obsolete ODS and HFC refrigerants scheduled for phase out and phase down, respectively, under the Montreal Protocol;

Further recalling [Decision X/9](#), which establishes a list of countries that do not manufacture for domestic use and do not wish to import products and equipment whose continuing functioning relies on Annex A and Annex B substances, and which noted *inter alia* that “in order for... export measures to be effective, both importing and exporting parties need to take appropriate steps;”

Further recalling [Decision XIX/12](#), which stressed the need for action to prevent and minimize illegal trade in controlled ozone-depleting substances, and recognizing, *inter alia*, the importance of measures that promote information sharing among Parties, such as Project Sky Hole Patching’s, informal prior informed consent (iPIC) procedure, or similar systems, implemented with certain regional parties and the Regional Intelligence Liaison Office of the World Customs Organization;

Further recalling [Decision XXVII/8](#), which invited those parties that do not permit the importation of products and equipment containing or relying on hydrochlorofluorocarbons from any source to inform the Secretariat that they do not consent to the importation of such products and equipment, and requesting the Secretariat to maintain a list of such parties, to be distributed to all parties by the Secretariat and updated on an annual basis;

Also recognizing that multiple decisions of the Montreal Protocol, including Decision XIX/6, and XXIII/2, have highlighted the importance of promoting the use of alternatives that minimize environmental impacts, including on the climate, taking into account global warming potential (GWP).

Recognizing the common practice of trade controls and other measures to support compliance and stop illegal trade in ODSs under the Montreal Protocol;

Acknowledging that Parties to the Montreal Protocol have strengthened the partnership of Multilateral Environmental Agreements involved in the [Green Customs initiative](#) aimed at enhancing the capacity of customs and other relevant border control officers to monitor and facilitate the legal trade and to detect and prevent illegal trade in environmentally sensitive commodities, including those within scope of the Montreal Protocol.

* The present proposed draft decision has not been formally edited.

Taking note of the [2019 African Ministerial Conference on the Environment, Decision 17/1](#), wherein the African ministers of the environment “urge Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer to adopt an action plan preventing market penetration of obsolete equipment in Africa while facilitating access to secure and energy-efficient technologies on the continent.”

The Meeting of the Parties:

Recommends all Parties wanting to avoid imports of inefficient appliances containing obsolete ODSs and HFCs register their country with the United Nations Environment Programme OzonAction Informal Prior Informed Consent (iPIC) [platform](#);

Requests all Parties implement domestic legislation enforcing iPIC registration by importing countries;

Invites the Secretariat to update the iPIC platform to include the option for countries to designate upper GWP bounds and minimum energy efficiency, in line with the Kigali Amendment, that are acceptable for specific equipment categories;

Requests UNEP’s OzonAction and its regional offices, in consultation with National Ozone Units, to intensify training and coordination efforts, consistent with [decision XVI/34](#) on cooperation between the Secretariat of the Montreal Protocol and other conventions and international organizations, to stop unwanted dumping;

Further requests that the Technology and Economic Assessment Panel put forward a methodology and associated bibliography for estimating the integrated damage of the obsolete products traded today compared to the environmental performance required by law for products sold in countries of manufacture.

Further request that Parties consider the advantage of additional funding for national action plans to prevent dumping of obsolete equipment in A5 parties while facilitating access to affordable energy-efficient technologies to support early compliance with the HFC phase down.

Annex IV

Identifying sources of emissions originating from industrial processes

Submission by the European Union

The Thirty-Fourth Meeting of the Parties decides,

Considering that emissions of controlled substances and other ozone-depleting substances originating from industrial processes pose an ongoing threat to the ozone layer and may contribute to climate change,

Noting decision IV/12, in which the parties were urged to take steps to minimize emissions originating from industrial processes,

Recognizing the contribution of atmospheric monitoring to an effective response to unexpected concentrations of trichlorofluoromethane (CFC-11) in the atmosphere,

Understanding that targeted monitoring requires the identification of potential sources of emissions of controlled substances and of their intermediates chloromethane, dichloromethane and trichloromethane that are produced in large quantities and may have a significant effect on the ozone layer, and the regional localization of such emissions, and that such identification requires a better understanding of the industrial processes that might lead to emissions,

1. To request the Technology and Economic Assessment Panel to prepare a report for the Thirty-Sixth Meeting of the Parties on:

(a) Chemical processes in which substantial emissions of controlled substances and of their intermediates chloromethane, dichloromethane and trichloromethane are likely to occur, as well as their regional localization;

(b) Best practices for verifying, through measurements, emission factors in order to better reflect actual emission levels;

2. To invite parties to provide to the Ozone Secretariat, by [30 September 2023], relevant data on the emissions and industrial processes referred to in paragraph 1 of the present decision for use by the Technology and Economic Assessment Panel in the preparation of the report requested in paragraph 1.

Annex V*

Ideas generated by the informal group on Montreal Protocol processes during the forty-fourth meeting of the Open-ended Working Group

Overarching thoughts and challenges

- Montreal Protocol institutions, including the Implementation Committee already work well
- This item provides an opportunity to improve sharing of information and best practices
- Opportunities to improve reporting
- New actions should apply to all Parties
- New measures should be proportionate to expected benefit
- The cost and burden of any new measures should be considered
- Parties should consider the differences between legal obligations as a Montreal Protocol Party and compliance with domestic law

Issues of interest, including examples of specific subitems

- **Illegal trade and production**
 - Currently no definition
 - Effective implementation of Advanced Cargo Information (ACI)
 - Mislabelling
 - HS codes for HFCs
 - Improving Quota system
 - Management of feedstock uses, exemption uses and stockpiling
 - Sustaining compliance after phase-out period
- **Licensing systems**
 - Trade and transfer of licences
- **Interpretation issues**
 - HFC23 emissions: interpretation of obligations
- **Products**
 - Pre-blended polyols
- **Capacity building / information sharing on best practices and experiences**
 - Training for enforcement and customs officers
 - How can cooperation be better facilitated?
 - Do we need to work more on strengthening processes?
- **Trade through free trade zones**
- **Implementation Committee**
 - Role and processes
 - How to identify issues to be considered by the Implementation Committee?
 - Periodic examination of systemic issues of non-compliance

* The present annex has not been formally edited.

Annex VI

Ongoing emissions of carbon tetrachloride

Submission by Switzerland

The Thirty-Fourth Meeting of the Parties decides:

Recalling decisions XVI/14, XVIII/10, XXI/8, XXIII/8 and XXVII/7, in which the Meeting of the Parties, among other things, requested the assessment panels to assess global emissions and specific emission sources of carbon tetrachloride and to suggest solutions for reducing carbon tetrachloride emissions, and encouraged the parties to review their relevant national data,

Acknowledging that the information provided by the assessment panels, the parties and the scientific community has enabled advances in closing knowledge gaps, in particular regarding the discrepancy between estimates of carbon tetrachloride emissions based on reported information and those based on observed atmospheric concentrations, as well as advances in the understanding of specific emission sources,

Recognizing that there are ongoing efforts to establish additional monitoring systems at industrial sites,

Noting, however, that resolving the remaining discrepancy will require further efforts to identify all relevant emission sources and to review the assumption that the quantities of controlled substances originating from inadvertent or coincidental production during a manufacturing process, from unreacted feedstock or from their use as process agents, are actually insignificant,

Recalling that in decision IV/12 the Meeting of the Parties also urged all parties to take steps to minimize emissions of such substances,

Aware that a better understanding of all relevant carbon tetrachloride emission sources will enable the application of mitigation measures for those sources in order to reduce emissions to levels that are in line with the ultimate objective of the Montreal Protocol on Substances that Deplete the Ozone Layer to eliminate those substances, and on the basis of developments in scientific knowledge,

Mindful that carbon tetrachloride has an impact on both the ozone layer and the global climate, that its use as a feedstock has increased in recent years, and that eliminating all emissions would accelerate the recovery of the ozone layer by several years,

1. To invite parties with production of carbon tetrachloride, inadvertent and coincidental releases of carbon tetrachloride in chloromethane or perchloroethylene plants, and/or use of carbon tetrachloride as a feedstock for other substances or as a process agent, to provide to the Ozone Secretariat by 1 March 2023, on a voluntary basis, any information on their domestic industrial processes that may help to assist parties in better understanding potential carbon tetrachloride emission sources, including:

- (a) The locations where the above-mentioned processes take place and the transportation chains between and within facilities, including pipe-to-pipe transportation;
- (b) The volumes of the substances that are part of those processes;
- (c) The monitoring practices that are in place for the process streams and/or emissions of the above-mentioned substances and the technologies that are in place to minimize emissions;
- (d) Where available, process streams and/or actual or estimated emissions of the above-mentioned substances;

2. To request the Ozone Secretariat to share with the Technology and Economic Assessment Panel the information received in accordance with paragraph 1 of the present decision;

3. To request the Technology and Economic Assessment Panel to review the information received and to present the conclusions of its review in its progress report to the Open-ended Working Group at its forty-fifth meeting.

Annex VII

Stocks and quarantine and pre-shipment uses of methyl bromide

Submission by the European Union, Ecuador, Norway and Switzerland

The Thirty-Fourth Meeting of the Parties decides:

Noting that recent scientific results point to as yet unexplained discrepancies between top-down and bottom-up estimates of methyl bromide emissions, and that complementing the available information to derive bottom-up estimates could help clarify these discrepancies,

Noting also that the Technology and Economic Assessment Panel's Methyl Bromide Technical Options Committee has pointed out that it is likely that the available information it has on stocks does not accurately show the total stocks of methyl bromide held globally for controlled and exempted uses,

Noting further that some parties may not be aware that economically and technically feasible alternatives exist for some continuing uses of methyl bromide,

1. To remind parties of the requirement to report all uses (whether controlled or not) under paragraph 3 of Article 7 of the Montreal Protocol on Substances that Deplete the Ozone Layer and to submit, together with their reports on quantities of methyl bromide used for quarantine and pre-shipment applications, information on the key target pests for which the use of methyl bromide is required;

2. To invite parties to submit, on a voluntary basis, accessible data on the volumes of all methyl bromide stocks at the country level, including those in mixtures, to the Ozone Secretariat by 1 July 2023;

3. To request the Technology and Economic Assessment Panel and its Methyl Bromide Technical Options Committee, in consultation with other relevant experts and the secretariat of the International Plant Protection Convention, to provide updated information, as part of its progress report to the Open-ended Working Group at its forty-fifth meeting, on current quarantine and pre-shipment uses for which economically and technically feasible alternatives are available;

4. To invite parties to take into account the standards and guidelines under the International Plant Protection Convention in their national processes of updating legislation in order to avoid unnecessary methyl bromide use and to review the potential for uptake of practices to minimize the use of methyl bromide by recycling, recapture and reuse.

Annex VIII

Proposal by Morocco

Opportunity to strengthen the Technology and Economic Assessment Panel and the technical options committees for the phase-down of hydrofluorocarbons and other future challenges related to the Montreal Protocol and the climate

The Thirty-Second Meeting of the Parties decides,

Taking note of decision XXIV/8, in which the parties requested the Technology and Economic Assessment Panel to make recommendations on the future configuration of its technical options committees,

Taking note also of paragraph 17 of decision XXIII/10, in which the parties requested the Technology and Economic Assessment Panel to revise its draft guidelines on recusal, taking into account similar guidelines in other multilateral forums, and provide them to the Open-ended Working Group at its thirty-second meeting for consideration by the parties,

Taking note further of the terms of reference of the Panel as set out in annex V to the report of the Eighth Meeting of the Parties, as amended by decision XVIII/19 and decision XXIV/8,

Taking note of paragraph 20 of decision XXIII/10, in which the parties requested the Technology and Economic Assessment Panel to update its terms of reference,

Recalling decision VII/34 on the assessment panels and specifically on efforts to increase the participation of experts from parties operating under paragraph 1 of Article 5 of the Protocol in order to improve geographical expertise and balance,

Noting that the Technology and Economic Assessment Panel and its technical options committees have not yet achieved the overall goal of approximately 50 per cent of representation by parties operating under paragraph 1 of Article 5 of the Protocol on the Panel or on its technical options committees, nor has an appropriate representation of expertise in the different alternatives been achieved, taking into account gender and geographical balance,

Noting also that the phase-out of ozone-depleting substances, including essential-use exemptions and critical-use exemptions, is nearly complete and that the focus has shifted to hydrofluorocarbon phase-down and energy efficiency,

Noting further that the Executive Committee has not developed cost guidance relevant to energy efficiency as requested in decision XXVIII/2 in 2015, owing to a lack of information,

1. *To consider* merging the Halons Technical Options Committee and the Methyl Bromide Technical Options Committee into the Medical and Chemicals Technical Options Committee and restructuring the Flexible and Rigid Foams Technical Options Committee for expertise in the alternatives and substitutes to high-global-warming-potential hydrofluorocarbons;
2. *To also consider* the creation of an energy efficiency technical options committee;
3. *To request* the Technology and Economic Assessment Panel to make recommendations on the future configuration of its technical options committees to the Open-ended Working Group at its forty-third meeting.

Annex IX*

**Members of the Technology and Economic Assessment Panel
technical options committees^a whose membership expires at the end
of 2022 and whose reappointment does not require a decision by the
Meeting of the Parties**

<i>Name</i>	<i>Position</i>	<i>Country</i>
Members of technical options committees		
Jamal Alfuzai	HTOC member	Kuwait
Michelle M. Collins	HTOC member	United States of America
Carlos Grandi	HTOC member	Brazil
Emma Palumbo	HTOC member	Italy
Donald Thomson	HTOC member	Canada
Jonathan Banks	MBTOC member	Australia
Aocheng Cao	MBTOC member	China
Ayze Ozdem	MBTOC member	Türkiye
Ken Glassey	MBTOC member	New Zealand
Eduardo Gonzalez	MBTOC member	Philippines
Takashi Misumi	MBTOC member	Japan
Christoph Reichmuth	MBTOC member	Germany
Jordi Riudavets	MBTOC member	Spain
Akio Tateya	MBTOC member	Japan
Alejandro Valeiro	MBTOC member	Argentina
Nick Vink	MBTOC member	South Africa
Emmanuel Addo-Yobo	MCTOC member	Ghana
Fatima Al-Shatti	MCTOC member	Kuwait
Paul Atkins	MCTOC member	United States of America
Olga Blinova	MCTOC member	Russian Federation
Nick Campbell	MCTOC member	France
Nee Sun (Robert) Choong Kwet Yive	MCTOC member	Mauritius
Jianxin Hu	MCTOC member	China
Javaid Khan	MCTOC member	Pakistan
Gerald McDonnell	MCTOC member	Ireland
Robert Meyer	MCTOC member	United States of America
Timothy J. Noakes	MCTOC member	United Kingdom of Great Britain and Northern Ireland
John Pritchard	MCTOC member	United Kingdom of Great Britain and Northern Ireland
Rabbur Reza	MCTOC member	Bangladesh
Kristine Whorlow	MCTOC member	Australia
Lifei Zhang	MCTOC member	China
Bacellar, Maria C. Britto	RTOC member	Brazil
Bhambure, Jitendra	RTOC member	India

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<i>Name</i>	<i>Position</i>	<i>Country</i>
Calm, James M.	RTOC member	United States of America
Cermák, Radim	RTOC member	Czechia
Chen, Guangming	RTOC member	China
Colbourne, Daniel	RTOC member	United Kingdom of Great Britain and Northern Ireland
De Vos, Richard	RTOC member	United States of America
Devotta, Sukumar	RTOC member	India
Dieryckx, Martin	RTOC member	Belgium
Dorman, Dennis	RTOC member	United States of America
Elassaad, Bassam	RTOC member	Lebanon
Gluckman Ray	RTOC member	United Kingdom of Great Britain and Northern Ireland
Godwin, Dave	RTOC member	United States of America
Grozdek, Marino	RTOC member	Croatia
Hamed, Samir	RTOC member	Jordan
Herlianika Herlin	RTOC member	Indonesia
Janssen, Martien	RTOC member	Netherlands
König, Holger	RTOC member	Germany
Kauffeld, Michael	RTOC member	Germany
Koban, Mary E.	RTOC member	United States of America
Köhler, Jürgen	RTOC member	Germany
Kuijpers, Lambert	RTOC member	Netherlands
Lawton, Richard	RTOC member	United Kingdom of Great Britain and Northern Ireland
Li, Tingxun	RTOC member	China
Malvicino, Carloandrea	RTOC member	Italy
Mohan Lal D.	RTOC member	India
Mousa, Maher	RTOC member	Saudi Arabia
Neksa, Petter	RTOC member	Norway
Nelson, Horace	RTOC member	Jamaica
Okada, Tetsuji	RTOC member	Japan
Olama, Alaa M.	RTOC member	Egypt
Pachai, Alexander C.	RTOC member	Denmark
Pedersen, Per Henrik	RTOC member	Denmark
Rajendran, Rajan	RTOC member	United States of America
Rochat, Helene	RTOC member	Switzerland
Rusignuolo, Giorgio	RTOC member	United States of America
Vonsild, Asbjørn	RTOC member	Denmark
Yana Motta, Samuel	RTOC member	Peru
Yamaguchi, Hiroichi	RTOC member	Japan

^a The five technical options committees are: Flexible and Rigid Foams Technical Options Committee (FTOC), Halons Technical Options Committee (HTOC), Methyl Bromide Technical Options Committee (MBTOC), Medical and Chemicals Technical Options Committee (MCTOC), and Refrigeration, Air-Conditioning and Heat Pumps Technical Options Committee (RTOC).