

**Vienna Convention
for the Protection
of the Ozone Layer**Distr.: General
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**Montreal Protocol
on Substances that
Deplete the Ozone Layer****Thirteenth meeting of the Conference of
the Parties to the Vienna Convention
for the Protection of the Ozone Layer**
Bangkok, 28 October–1 November 2024**Thirty-Sixth Meeting of the Parties to
the Montreal Protocol on Substances
that Deplete the Ozone Layer**
Bangkok, 28 October–1 November 2024**Report of the combined thirteenth meeting of the Conference of
the Parties to the Vienna Convention for the Protection of the
Ozone Layer and Thirty-Sixth Meeting of the Parties to the
Montreal Protocol on Substances that Deplete the Ozone Layer****Introduction**

1. The combined thirteenth meeting of the Conference of the Parties to the Vienna Convention for the Protection of the Ozone Layer and Thirty-Sixth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer was held at the United Nations Conference Centre, Bangkok, from 28 October to 1 November 2024.
2. The current report reflects the deliberations under the items included on the single agenda for the combined meetings; any references to the current meeting should be understood to denote the combined meetings of the two bodies.

Part one: preparatory segment (28–30 October 2024)**I. Opening of the preparatory segment**

3. The preparatory segment was opened by its co-chairs, Miruza Mohamed (Maldives) and Ralph Brieskorn (Kingdom of the Netherlands), at 10.05 a.m. on Monday, 28 October 2024.
4. Opening remarks were delivered by Dechen Tsering, Regional Director and Representative for Asia and the Pacific and Director ad interim of the Climate Change Division of the United Nations Environment Programme (UNEP), and Megumi Seki, Executive Secretary of the Ozone Secretariat.
5. In her statement, Ms. Tsering hailed the Montreal Protocol as a symbol of unity through which global efforts had been harmonized to phase out ozone-depleting substances. The recovery of the ozone layer enabled protection from harmful ultraviolet radiation and the preservation of ecosystems and biodiversity, while the reduction of ultraviolet B radiation led to a decrease in ground-level ozone production, improving air quality and benefiting human health. The phasing out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) and the phasing down of hydrofluorocarbons (HFCs) also contributed towards climate change mitigation. All the parties that had not yet done so should ratify the Kigali Amendment to the Montreal Protocol, which could potentially avert up to 0.5 degrees Celsius of global warming by the end of the century. UNEP remained committed to facilitating a smooth transition for all towards HCFC and HFC alternatives

with low global warming potential (GWP), in a process that required unwavering commitment, technological innovation and financial support.

6. Access to cooling services was essential to protecting populations and the economy from escalating temperatures and to preserving food and medicine. Moreover, cooling-related actions contributed towards mitigating climate change, enhancing lives and generating economic benefits. All the parties should reinforce their national legislation and policy frameworks related to the Montreal Protocol and promote the adoption of ozone- and climate-friendly technologies, taking into account energy efficiency, the phasing out of HCFCs and the phasing down of HFCs. She encouraged all the parties to develop national cooling action plans for integration into their nationally determined contributions. UNEP was dedicated to promoting best practices and a global culture of refrigerant stewardship across the refrigeration and air-conditioning sectors, including through initiatives such as the Global Cooling Pledge and the Ozone Secretariat workshop on life-cycle refrigerant management. The Montreal Protocol had fostered the achievement of significant milestones, including the phase-out of over 99 per cent of ozone-depleting substances, which was testament to the power of ingenuity and cooperation. Collective wisdom and determination should be harnessed to ensure the success of the current meeting.

7. Welcoming participants to Bangkok, Ms. Seki proceeded to highlight and commend the outstanding work of the subsidiary bodies of the Vienna Convention and the Montreal Protocol, notably the preparatory work for the current meeting and its outcomes, which, she said, should serve to assist parties in developing concrete actions going forward. The Montreal Protocol and its Kigali Amendment provided hope for humankind through the efforts made under those instruments, contributing significantly to combating the growing planetary climate change crisis. Phasing down HFCs and increasing the efficiency and sustainability of cooling technology would generate major additional benefits in relation to the climate. The implementation of effective life-cycle refrigerant management measures through concerted action would also enable approximately 39 gigatonnes of carbon dioxide (CO₂)-equivalent emissions of HFCs and HCFCs in the cooling sector to be avoided in the next 25 years.

8. The major upcoming anniversaries of the Vienna Convention, the Montreal Protocol and the Kigali Amendment represented significant milestones and provided opportunities to highlight the tremendous achievements made under those instruments and their potential for further success. In that regard, universal ratification of the Kigali Amendment was crucial in order to reap its full benefits; that goal should be realized by its tenth anniversary in 2026.

II. Organizational matters

A. Attendance

9. The combined thirteenth meeting of the Conference of the Parties to the Vienna Convention and Thirty-Sixth Meeting of the Parties to the Montreal Protocol were attended by representatives of the following parties: Albania, Angola, Argentina, Armenia, Australia, Austria, Bahrain, Bangladesh, Barbados, Belgium, Belize, Benin, Bhutan, Bosnia and Herzegovina, Botswana, Brazil, Brunei Darussalam, Burkina Faso, Cambodia, Cameroon, Canada, Central African Republic, Chad, Chile, China, Colombia, Comoros, Cook Islands, Costa Rica, Cuba, Cyprus, Czechia, Democratic Republic of the Congo, Denmark, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Eswatini, Ethiopia, European Union, Fiji, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Liberia, Libya, Liechtenstein, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Maldives, Marshall Islands, Mauritania, Mauritius, Mexico, Micronesia (Federated States of), Mongolia, Montenegro, Morocco, Mozambique, Myanmar, Namibia, Nepal, Netherlands (Kingdom of the), New Zealand, Niger, Nigeria, North Macedonia, Norway, Oman, Pakistan, Palau, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russian Federation, Saint Vincent and the Grenadines, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, Seychelles, Singapore, Slovakia, Somalia, South Africa, Spain, Sri Lanka, Sudan, Sweden, Switzerland, Tajikistan, Thailand, Timor-Leste, Trinidad and Tobago, Tunisia, Türkiye, Tuvalu, Uganda, Ukraine, United Arab Emirates, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, United States of America, Uruguay, Vanuatu, Venezuela (Bolivarian Republic of), Viet Nam, Yemen, Zambia and Zimbabwe.

10. Representatives of the following United Nations bodies and specialized agencies also attended: Food and Agriculture Organization of the United Nations, secretariat of the Multilateral Fund for the

Implementation of the Montreal Protocol, United Nations Development Programme, United Nations Environment Programme, United Nations Industrial Development Organization, World Bank and World Meteorological Organization. The Montreal Protocol assessment panels were also represented.

11. The following intergovernmental, non-governmental, industry, academic and other bodies were also represented: A-Gas International; A-Gas (Australia) Pty Limited; AGC Chemicals; Alliance for an Energy Efficient Economy; Alliance for Responsible Atmospheric Policy; Association des Distributeurs, Conditionneurs, Récupérateurs et Retraiteurs de Réfrigérants; ATMOSPHERE; Blue Star Limited; Carbon Containment Lab; Centre for Environment Justice and Development; Chemours Belgium BVBA; Children and Youth Major Group; Climate and Clean Air Coalition; ClimateWorks Foundation; Clinton Health Access Initiative; Collaborative Labeling and Appliance Standards Program; Council on Energy, Environment and Water; Daikin; Danfoss A/S (Denmark); Deutsche Gesellschaft für Internationale Zusammenarbeit; Environmental and Industrial Solutions Company; Environmental Investigation Agency; European Association of Refrigeration and Air Conditioning Installers; Fire Protection Industry (ODS and SGG) Board; Glencoe Strategies LLC; Global Policy Associates; Green TERRE Foundation; Guidehouse Germany GmbH; Gujarat Fluorochemicals Limited; Heating, Refrigeration and Air Conditioning Institute; ICF International; iFOREST; Industrial Technology Research Institute; Institute for Energy and Climate Strategies; Institute for Governance and Sustainable Development; International Energy Initiative; International Institute of Refrigeration; Leiden University; Japan Fluorocarbon Manufacturers Association; Korea Petrochemical Industry Association; Lawrence Berkeley National Laboratory; League of Arab States; Manitoba Ozone Protection Industry Association; MEBROM Corporation; Natural Resources Defense Council; New York University; Ökorecherche; Overseas Environmental Cooperation Centre; Peking University; Refrigerant Gas Manufacturers Association; Refrigerant Reclaim Australia; Refrigerants Australia; Refrigeration and Air Conditioning Manufacturers Association; Refrigeration and Air Conditioning Traders Association; Sequoia Climate Foundation; SilverLining; Solutions for Our Climate; SRADev; SRF Limited; Sustainability Analytics; Sustana Cooling Partners; Thai Samsung Electronics; The Carbon Trust; The Energy and Resources Institute; The Japan Refrigeration and Air Conditioning Industry Association; Tradewater; and Walton Hi Tech Industries Limited.

B. Adoption of the agenda of the preparatory segment

12. The following agenda for the preparatory segment was adopted on the basis of the provisional agenda set out in document UNEP/OzL.Conv.13/1–UNEP/OzL.Pro.36/1, section I, as amended:

1. Opening of the preparatory segment.
2. Organizational matters:
 - (a) Adoption of the agenda of the preparatory segment;
 - (b) Organization of work.
3. Financial reports and budgets of the trust funds for the Vienna Convention and the Montreal Protocol.
4. Montreal Protocol issues:
 - (a) Consideration of the membership of Montreal Protocol bodies for 2025:
 - (i) Membership of the Implementation Committee under the Non-Compliance Procedure for the Montreal Protocol;
 - (ii) Membership of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol;
 - (iii) Co-chairs of the Open-ended Working Group;
 - (b) Hydrofluorocarbon-23 (HFC-23) issues:
 - (i) Emissions of HFC-23: reports by the Scientific Assessment Panel and the Technology and Economic Assessment Panel (decision XXXV/7, paras. 1 and 2);
 - (ii) Potential changes to data reporting forms for reporting on HFC-23;
 - (c) Life-cycle refrigerant management, including the outcomes of the workshop on life-cycle refrigerant management (decision XXXV/11);
 - (d) Very short-lived substances;

- (e) Feedstock uses of controlled substances;
 - (f) Enhancing the global and regional atmospheric monitoring of substances controlled by the Montreal Protocol;
 - (g) Climate-friendly alternatives for metered-dose inhalers;
 - (h) Future availability of halons and their alternatives;
 - (i) Possible compliance deferral for Article 5, group 2 parties: technology review by the Technology and Economic Assessment Panel;
 - (j) Strengthening Montreal Protocol institutions, including combating illegal trade;
 - (k) Energy efficiency issues:
 - (i) Unwanted imports of energy-inefficient products and equipment;
 - (ii) Strengthening the enabling environment to enhance energy efficiency in the cooling sector;
 - (l) Nominations for critical-use exemptions for methyl bromide for 2025;
 - (m) Changes in the membership of the Technology and Economic Assessment Panel;
 - (n) Compliance and data reporting issues: the work and recommendations of the Implementation Committee;
 - (o) Status of ratification of the Kigali Amendment to the Montreal Protocol.
5. Vienna Convention issues:
- (a) Report of the twelfth meeting of the Ozone Research Managers of the Parties to the Vienna Convention;
 - (b) Status of the General Trust Fund for Financing Activities on Research and Systematic Observations Relevant to the Vienna Convention.
6. Other matters.

13. Following a notification by the Secretariat to the parties that the State of Palestine had requested the postponement of consideration of item 4 (o) to the Thirty-Seventh Meeting of the Parties to the Montreal Protocol, the parties agreed to the suggestion by the Co-Chairs that the item be deleted from the provisional agenda of the current meeting and included in the provisional agenda for the forty-seventh meeting of the Open-ended Working Group of the Parties to the Montreal Protocol.

14. Under agenda item 6, “Other matters”, the parties agreed to the request by the representative of Egypt for a review of paragraph 17 of decision XXVIII/2 regarding the change in cut-off date for eligible capacity to be added to the agenda. In addition, following a request by the representative of Switzerland under agenda item 6, “Other matters”, the parties agreed that time for discussion of the information set out in document UNEP/OzL.Pro.36/INF/6 on HFC-245cb and other isomers not listed in Annex F to the Montreal Protocol would be included in the agenda.

C. Organization of work

15. The parties agreed to follow their customary procedure and to establish contact groups as necessary.

III. Financial reports and budgets of the trust funds for the Vienna Convention and the Montreal Protocol

16. In considering the item, the parties had before them paragraphs 10 to 22 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2). Those paragraphs summarized the information set out in the documents relevant to the financial reports and budgets of the two trust funds, namely the notes by the Secretariat on the proposed budgets for the triennium 2025–2027 of the trust fund for the Vienna Convention for the Protection of the Ozone Layer (UNEP/OzL.Conv.13/4) and the proposed budgets for 2025 and 2026 of the trust fund for the Montreal Protocol on Substances that Deplete the Ozone Layer (UNEP/OzL.Pro.36/4). In addition, the

Secretariat had also provided notes entitled “Proposed budgets for 2025 of the trust funds for the Vienna Convention for the Protection of Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer: fact sheets” (UNEP/OzL.Conv.13/INF/1–UNEP/OzL.Pro.36/INF/1) and “Financial report for the trust funds for the Vienna Convention for the Protection of Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer for the fiscal year 2023 (UNEP/OzL.Conv.13/5–UNEP/OzL.Pro.36/5). Those documents had been posted on the meeting portal three months prior to the meeting for review by the parties. At least two weeks before the start of the meeting, the Secretariat had provided an update on the budgets for the current year in the note entitled “Financial report for the trust funds for the Vienna Convention for the Protection of the Ozone Layer and for the Montreal Protocol on Substances that Deplete the Ozone Layer – Updated indicative financial report for the fiscal year 2024 as at 30 September 2024” (UNEP/OzL.Conv.13/INF/2–UNEP/OzL.Pro.36/INF/2). Draft decisions on the matter were set out in document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decisions XIII/[AA] and XXXVI/[AA]).

17. The parties agreed to follow their standard practice and established a budget committee to review the proposed budgets and the financial reports for the Vienna Convention and Montreal Protocol trust funds and to prepare draft decisions on financial matters for the Convention and the Protocol. It was decided that the committee’s work would be facilitated by Sebastian Schnatz (Germany).

18. The Co-Chair noted that discussions under agenda item 4 (f) on enhancing the global and regional atmospheric monitoring of substances controlled by the Montreal Protocol, and agenda item 5 (b) on the status of the General Trust Fund for Financing Activities on Research and Systematic Observations Relevant to the Vienna Convention could have an impact on the budget discussion. The Secretariat and the parties should therefore endeavour to ensure that the budget committee remained informed of developments in the discussions of those items.

19. Subsequently, Mr. Schnatz reported that the budget committee had been able to complete its work and had produced draft decisions on the financial reports and budgets of the trust funds for the Vienna Convention and the Montreal Protocol for consideration by the parties. The parties agreed to forward the draft decisions for further consideration and possible adoption during the high-level segment.

IV. Montreal Protocol issues

A. Consideration of the membership of Montreal Protocol bodies for 2025

1. Membership of the Implementation Committee under the Non-Compliance Procedure for the Montreal Protocol

20. Introducing the sub-item, the Co-Chair said that the parties needed to decide on the membership of the Implementation Committee under the Non-Compliance Procedure for the Montreal Protocol for 2025. Information on the positions to be filled was presented in paragraphs 23 to 26 of document UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2, and a draft decision on the matter was set out in section IV of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI/[BB]).

21. Subsequently, the representative of the Secretariat reported that, upon receipt of the nominations from the regional groups, a draft decision on the matter had been included in the compilation of decisions for the parties’ consideration and possible adoption during the high-level segment.

2. Membership of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol

22. Introducing the sub-item, the Co-Chair said that the parties needed to decide on the membership of the Executive Committee of the Multilateral Fund for 2025. Information on the positions to be filled was presented in paragraphs 27 to 30 of document UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2 and a draft decision on the matter was set out in section IV of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI/[CC]).

23. Subsequently, the representative of the Secretariat reported that, upon receipt of the names of the parties selected from the groups of parties operating under paragraph 1 of Article 5 of the Montreal Protocol (Article 5 parties) and parties not so operating (non-Article 5 parties), a draft decision on the matter had been included in the compilation of decisions for the parties’ consideration and possible adoption during the high-level segment.

3. Co-Chairs of the Open-ended Working Group

24. Introducing the sub-item, the Co-Chair said that the parties needed to decide on the Co-Chairs of the Open-ended Working Group for 2025. Information on the positions to be filled was presented in paragraphs 31 and 32 of document UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2 and a draft decision on the matter was set out in section IV of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI/[DD]).

25. Subsequently, the representative of the Secretariat reported that, upon receipt of the names of the persons selected by Article 5 parties and non-Article 5 parties, a draft decision on the matter had been included in the compilation of decisions for the parties' consideration and possible adoption during the high-level segment.

B. Hydrofluorocarbon-23 (HFC-23) issues

1. Emissions of HFC-23: reports by the Scientific Assessment Panel and the Technology and Economic Assessment Panel (decision XXXV/7, paras. 1 and 2)

26. In considering the sub-item, the parties had before them paragraphs 33 to 35 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2), the report of the Scientific Assessment Panel entitled “Response to decision XXXV/7: emissions of HFC-23”, the report of the Technology and Economic Assessment Panel entitled “Response to decision XXXV/7: emissions of HFC-23”, and paragraphs 4 to 18 of and annexes I and II to the addendum to the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2/Add.1–UNEP/OzL.Pro.36/2/Add.1).

27. Introducing the sub-item, the Co-Chair recalled that, in decision XXXV/7, the parties had requested the Scientific Assessment Panel to provide an update on HFC-23 emissions into the atmosphere and atmospheric concentrations to supplement the information in the 2022 quadrennial assessment, and had requested the Technology and Economic Assessment Panel to provide information regarding the quantity of HFC-23 being consumed, by country and by sector, as well as updated estimates on the amounts of HFC-23 generated at and emissions from HCFC-22 production facilities.

28. In the same decision, parties with available relevant scientific or technical information that might help inform the reports of the panels were invited to provide that information to the Secretariat by 1 March 2024. The Secretariat had not received any such information from parties.

29. The Scientific Assessment Panel and the Technology and Economic Assessment Panel had coordinated their work on the matter and had each produced a report. A summary of the reports was available in the addendum to the note by the Secretariat and the full reports had been made available on the meeting portal.

30. Stephen Montzka, a member of the Scientific Assessment Panel, and Helen Tope, Co-Chair of the Medical and Chemicals Technical Options Committee, speaking on behalf of the Technology and Economic Assessment Panel, delivered presentations on the response of each panel to the requests in decision XXXV/7. The presentations are set out in sections A and B, respectively, of annex I to the current report.

31. In the ensuing discussion, all the representatives who took the floor expressed appreciation for the panels' reports and presentations. Mr. Montzka first answered questions on behalf of the Scientific Assessment Panel. In response to a request for clarification on the relationship between atmospheric concentrations and emissions of HFC-23, he explained that, although the atmospheric concentrations of HFC-23 would increase as emissions of HFC-23 increased, there would not be a corresponding decrease in atmospheric concentrations as emissions decreased because HFC-23 had an atmospheric lifetime of 200 years. There was therefore a disconnect between emissions and concentrations. He agreed with the suggestion of another representative that it would be prudent to reassess the GWP of substances containing HFC-23, given the long atmospheric life of HFC-23.

32. In response to a question regarding global emissions estimated from measured atmospheric abundances, he clarified that, although it had been stated in the *Scientific Assessment of Ozone Depletion: 2022* that the Panel expected to see such emissions increases rise, the fact that the Panel had reported an increase that was 6 per cent lower than that observed between 2016 and 2020 in its latest report was due to the fact that it had used information from 2021 and 2022 that had not been

available when compiling the 2022 scientific assessment. Regarding a question on methodologies for deriving global emissions, he said that they were based on measurements in the remote atmosphere and the ways in which the concentration of a chemical changed over time, as well as the chemical's atmospheric lifetime. Furthermore, he noted that the methodologies had been explained in previous scientific assessments of ozone depletion and that the latest report contained information regarding the ways in which emissions were derived from atmospheric concentration measurements, at both the global and the regional levels. On questions relating to incomplete regional data, he said that he was aware of the intention of one HCFC-22-producing party, namely the United States of America, to provide estimates of HFC-23 emissions, although those estimates would be constrained by the atmospheric observations, within the next year and certainly in time for the next scientific assessment of ozone depletion.

33. Responding to a query regarding the impact of the production of HFC-23 on the atmosphere from reactions that oxidized fluorinated gases presented in the atmosphere, he clarified that such reactions accounted for a maximum of 3 per cent of HFC-23 production and that the actual percentage was likely to be lower. They should not therefore have affected atmospheric derived estimates or associated reporting during the relevant periods of the clean development mechanism of the Kyoto Protocol to the United Nations Framework Convention on Climate Change or of the Kigali Amendment.

34. Regarding a query relating to the appearance of the significant gap between the bottom-up and top-down estimates between 2014 and 2015, he said that although reports of destruction of HFC-23 had been received for the same time frame, no causal link between the two events had been established and so they could only be said to be coincidental. Regarding a query from the same party regarding any other potential sources of HFC-23 emissions, he said that the discrepancies in expected emissions and atmospherically derived estimates were far beyond those that could be explained by uncertainties in estimation.

35. In response to a query about the significant range in the estimation of the percentage of unexplained HFC-23 emissions that originated from China, he explained that the emissions estimates from different regions of China could not be combined. The estimate for the northern region of China accounted for 20 per cent, while that for the eastern region of China was 30 to 50 per cent of total global emissions of HFC-23 in recent years. He noted, furthermore, that many additional measurements of fluorinated chemicals had been introduced recently in China, which would allow the range of estimation to be reduced significantly in the future.

36. Ms. Tope answered questions on behalf of the Technology and Economic Assessment Panel. In response to a question regarding the generation rate of HFC-23, which appeared to be far higher than that required by parties for use as feedstock or for consumption, she said that the Panel provided a range of estimates based on the generation of HFC-23 from HCFC-22 using Intergovernmental Panel on Climate Change (IPCC) factors, which ranged between 1.5 and 3 per cent, and had also calculated a generation rate of 2.4 per cent, which had been calculated by the Technology and Economic Assessment Panel on the basis of generation data provided by parties. Regarding a request for more detail regarding the difference between the HFC-23 emissions estimates of the two panels, she clarified that the Technology and Economic Assessment Panel could only provide a total figure and was not in a position to provide disaggregated data, as data at the country level were confidential, and could not therefore provide the detailed explanation requested.

37. Responding to a request for the coefficient used for the calculation of HFC-23 emissions from HCFC-22 production, she said that the coefficient used by the Panel was 0.07 per cent, which had been calculated on the basis of 836 tons of HFC-23 emissions, as reported by parties, and 1.2 million tons of HCFC-22 production. She further clarified that the HFC-23 emissions presented in the report included not only the data reported by parties under Article 7 but also estimations prepared by the Panel on the basis of other sources. She also drew attention to a recent paper from a well-operated HCFC-22 and polymer plant in which the coefficient for that plant had been reported as being 0.19 per cent.

38. In response to a question regarding the gap in emissions estimates, she explained that the Panel used a combination of reported data and its own estimates, which were often related to relatively small sources. She further explained that the Panel often had to include a large range in its estimates owing to the lack of information available to it. In response to a query relating to the appearance of the significant gap between the bottom-up and top-down estimates between 2014 and 2015, in particular, she said that, as far as the Panel was aware, there had been no new source of production at that point that would have emitted HFC-23. Responding to another question from the same party, she said that the Panel was not aware of any significant sources of HFC-23 other than HCFC-22 production.

39. In response to a request for clarification regarding the sector-specific HFC-23 consumption, she said that total consumption was around 1,000 tons and further explained that, although just three sectors were involved, it was possible to provide information by sector only where such information was publicly available, as was the case for the electrical and semiconductor manufacturing sector. As that sector accounted for 720 tons, the remaining 280 tons were consumed by the fire suppression and very low temperature refrigeration sectors.

40. Responding to a question on the large range of the estimation of emissions from plant waste and product streams for 2022, she explained that, in addition to emissions from the main process vents, where abatement was typically employed, HFC-23 could also leave a plant in various co-products and waste streams, as had been stated by the Panel in its report for 2023 and in annex I of its latest report. As the extent to which the HFC-23 content of waste streams had been included in reporting by parties was unclear to the panel, and as the level of mitigation was also unclear, the Panel had calculated estimated emissions with the large range of 10–1,000 tons.

41. The representative of China said that, as her country was the largest global producer of HCFC-22 and other fluorinated chemicals, it was to be expected that the country would have the highest generation levels of HFC-23 and relatively higher HFC emissions. It was, however, regrettable that the report and presentation of the Scientific Assessment Panel contained assessments and subjective assumptions that were not appropriate for a scientific body, for example through the implied link between the volume and timing of HFC-23 destruction reported by China and the gap between global atmospheric monitoring data and reported data. There was also an implication that the global data discrepancy had been knowingly caused by China through the withholding of information. China was concerned that representatives of parties attending the current meeting, who were not scientists, would draw unwarranted conclusions from the information presented to them and therefore urged the Scientific Assessment Panel and the other scientific bodies under the Protocol to maintain their scientific authority by refraining from making premature statements or implications, and by investigating the gap in emissions estimates in all HFC-23-producing parties, not just in China. Furthermore, she recalled that there remained significant gaps in scientific knowledge regarding HFC-23 emissions estimation at the global level, as well as significant annual fluctuations in reported HFC-23 emissions data.

42. Mr. Montzka responded to further questions that had been addressed to the Scientific Assessment Panel. In response to questions regarding the warming forcing of HFCs and the gap in emissions estimates, he confirmed that HFC-23 accounted for approximately 15 per cent of the total warming forcing of all HFCs, and that the emissions gap in 2022 had been between 10.5 and 12.5 kilotons (kt), which was less than it had been previously but still accounted for 170 million metric tons of CO₂ equivalent. Atmospheric oxidation was less than 0.4 kt and the Panel should be able to provide a specific range for atmospheric oxidation in the near future.

43. Responding to the concerns raised by the representative of China, he stressed that the focus on the country had been purely due to the fact that it was the largest global producer of HCFC-22 and other fluorinated chemicals. He recalled that both panels had coordinated their work to compare and contrast the available reporting information and that there was a clear gap in their understanding of HFC-23 emissions. He also noted that the Scientific Assessment Panel had assessed the gap using comparable methodologies for several regions of the world, and he reiterated that the focus on China in that regard had been solely due to the size of its HCFC-22 industry. Although evidence indicated that there had been persistent gaps in emissions since 2015, that was not meant in any way to imply that reporting by China had been inaccurate for its intended use. The Panel looked forward to further discussions with China and other parties to further its understanding of the issues.

44. Ms. Tope answered further questions on behalf of the Technology and Economic Assessment Panel. Responding to a query regarding the sizeable percentage of HFC-23 emissions that were unaccounted for, she confirmed that, on the basis of the difference between the reported and estimated amounts calculated by the Technology and Economic Assessment Panel and the estimates of the Scientific Assessment Panel, HFC-23 emissions that were unaccounted for totalled between 75 and 80 per cent.

45. On a question regarding the volume of HFC-23 produced intentionally rather than as a by-product, she said that although the total amount of HFC-23 produced in 2022, as reported by parties, had been around 7,000 tons, that total might have included HFC-23 by-product that had subsequently been earmarked for production.

46. In response to a question regarding the processes that could be of significant enough volume to explain the gap in HFC-23 emissions, she drew attention to the annex to the Panel's report, recalling that the production of HCFC-22 was the major pathway for the generation of HFC-23, accounting for

95 per cent of such generation from chemical production. The remaining 5 per cent of HFC-23 generation was a result of the production of Annex C substances other than HCFC-22 (1 per cent), Annex F substances (1 per cent), and tetrafluoroethylene and hexafluoropropylene (between 3 and 4 per cent). Although there were no gaps in the understanding of the Panel in terms of the relative importance of substances as sources of HFC-23 emissions, there were gaps in its understanding on the basis of the Article 7 data reported.

47. Responding to a request for disaggregated information regarding global HCFC-22 production, she said that, although she could not provide such information as it was confidential, she could provide the total figure for Article 5 parties, which was approximately 990,000 tons, representing the largest proportion of the global HCFC-22 production of 1.2 million tons.

48. In response to a question regarding additional activities that the Technology and Economic Assessment Panel could carry out to understand the data and associated uncertainties, she drew attention to the uncertainties presented in table 4.1 of the Panel's report and the discussion in the report of uncertainties in relation to data submitted under Article 7. The Panel had estimated HFC-23 generation emissions on the basis of information from industry experts with a knowledge of specific plants but, as that information was typically confidential, the Panel could not use it to inform the estimation of emission rates and was therefore only in a position to apply generalized emissions rates. The estimates could therefore be improved if specific data were provided by parties that could be used to narrow the range of estimates and she strongly encouraged parties to submit such data, in particular in relation to the manufacture of tetrafluoroethylene and hexafluoropropylene, HCFC-22 plant waste and product stream emissions, and the manufacture of semiconductors.

49. Finally, responding to a query regarding emission factors, she confirmed that the Technology and Economic Assessment Panel did not use the IPCC default emission factor for fluorochemical production of 4 per cent, as that did not take account of abatement.

50. Several representatives expressed the view that the issue of HFC-23 emissions needed to be addressed urgently and that all parties should work together to achieve that aim, for example by using abatement technology, ensuring good monitoring coverage for all regions, considering ways of reducing the use of HFC-23 still further, and sharing relevant existing monitoring data. A number of representatives urged all parties that produced HFC-23 to provide information as to whether the HFC-23 was used, emitted or destroyed and one representative said that, in view of the large range of estimates currently applied by the scientific panels, it was incumbent upon parties to investigate any evident inconsistencies or large differences between emissions derived from reporting and those derived from atmospheric monitoring. One representative recalled the importance of parties being as impartial and scientific as possible in their approach to solving the issue of HFC-23 emissions.

51. One representative of an observer, drawing attention to the dangerously high levels of HFC-23 emissions globally in the midst of a climate crisis, expressed her disappointment that no parties had responded to the request of the Secretariat to submit additional information. She encouraged parties to make more extensive use of abatement technologies, which were available at relatively low cost and were an easy way of mitigating HFC-23 emissions. She also noted that the lack of data regarding HFC-23 emissions levels was significantly hampering the ability of the Technology and Economic Assessment Panel to make bottom-up emissions estimates, and that was an example of the critical need to improve monitoring, reporting and verification under the Protocol. Parties should therefore demand transparency from producers of fluoropolymers and HCFC-22; full information from countries with such production; the establishment of clear guidelines for measuring, controlling and reporting HFC-23 emissions; the development of an auditing framework for fluoropolymer production; and concerted and urgent efforts from all parties to eliminate the use of HFC-23 in all emissive applications.

52. Later in the meeting, the representative of the United States, speaking also on behalf of Canada, introduced a proposal for a draft decision, set out in a conference room paper, which was designed to address concerns over the substantial discrepancies between the measured atmospheric abundances of HFC-23 and reported emissions.

53. The draft decision included requests to parties to share HFC-23 monitoring data with international monitoring networks and to update their own data reporting; to remind parties manufacturing HCFCs or HFCs of their obligation to ensure that HFC-23 emissions from relevant production facilities were destroyed; to request parties with substantial differences between reported emissions and emissions estimates derived from atmospheric monitoring to undertake actions to implement their HFC-23 emissions obligations, to investigate the potential reasons for the deviations and to submit information to the Secretariat; to request parties producing HCFC-22 to submit information to the Secretariat on the methodology used to estimate their HFC-23 emissions; to request

the Scientific Assessment Panel to update its September 2024 report on atmospheric concentrations of HFC-23; to request the Technology and Economic Assessment Panel to provide estimates of emissions of HFC-23 from facilities that intentionally produced HFC-23, and an assessment of market supply and demand for HFC-23, and also to provide information on the verification guidelines used under the Clean Development Mechanism for HFC-23 destruction projects; and to request the Technology and Economic Assessment Panel and the Scientific Assessment Panel to further clarify the possible reasons for the discrepancy between atmospheric monitoring estimates and emissions of HFC-23 reported by parties.

54. He expressed the view that some of those requests for information could be met in time for the forty-seventh meeting of the Open-ended Working Group, while others would need more time, and could be met in time for the Thirty-Seventh Meeting of the Parties.

55. The representative of China introduced a proposal for a draft decision, as set out in a conference room paper. He explained that since the reasons behind the gap between observed and reported emissions remained unclear, the decision called for collaborative research between parties' research institutions to study emission mechanisms, including from known and unknown sources. The draft decision also invited parties to share their practices in collecting and reporting data on HFC-23 emissions and requested the Secretariat to establish an expert task force to research and develop technical guidelines for accounting for and reporting such emissions. It also invited parties to share their best practices and technical information, in order to assist other parties in implementing HFC-23 by-product reduction practices based on their national circumstances.

56. Another representative of China observed that both proposals for draft decisions expressed the same concerns over the uncertainty surrounding HFC-23 emissions, and both sought to clarify them. However, it should be evident to parties that the proposal of China was more objective and science-based, while also more fully respecting the differences in capacity of different parties. The proposal from Canada and the United States lacked adequate consideration of the weaknesses in scientific research and capacity, including parties' difficulties in reporting emissions accurately, that underlay much of the uncertainty behind the discrepancies. In practice it would be very challenging for either the assessment panels or parties to provide more accurate reporting of emissions unless further research had been conducted and greater technical capacity developed.

57. The draft decision from Canada and the United States also proposed, in a simplistic and reckless manner, additional requirements beyond the obligations of the Montreal Protocol. If parties were to undertake additional actions, it should be in response to an invitation from the parties, rather than a request, which implied a mandatory requirement. The proposal also showed distrust by framing what was a global issue as a problem for one country, namely China. The implication that parties generating HFC-23 emissions had not taken the measures necessary to fulfil their obligations under the Montreal Protocol was unfounded and unjust; it was contrary to the spirit of mutual trust and unity which had characterized work under the Protocol so far. In conclusion, she expressed the view that elements from each proposal could be combined into a single draft decision, but only if it avoided any description or request targeting or disrespecting specific parties and only if it took into account consideration of parties' different capacities.

58. All the representatives who spoke thanked the proponents of the two draft decisions for putting them forward and observed that they shared several common elements which they would like to discuss further. One representative said that the focus of the final draft decision should be on seeking additional information from the assessment panels on the reasons for the differences in estimates of emissions, including on uncertainties in Article 7 data reporting. She expressed concern over some of the elements in the proposal from Canada and the United States, including an assessment of the need for intentional production, and analysis of the Clean Development Mechanism guidelines, which, she said, was not relevant.

59. Responding to the comments, the representative of the United States thanked representatives for their interventions. He explained that he had not intended the word "request", which was a common term used in many decisions of the meetings of the parties, to imply any mandatory requirement. The draft decision was also not intended to refer to any obligations additional to those already existing under the Montreal Protocol, or to parties' status of compliance or non-compliance. The reference to China was simply drawn from one of the studies cited by the Scientific Assessment Panel, on estimates of regional emissions of HFC-23 derived for eastern China. He agreed that the problem was a global issue and explained that his party had approached the issue with the intent of showing mutual respect for every party. He agreed that there was common ground between the two draft decisions, and that both had a common goal in mind: to reduce emissions of HFC-23, a substance with a GWP of 140,000, from their existing levels of about 10,000 tonnes a year.

60. The parties agreed to establish a contact group, co-chaired by Paul Krajnik (Austria) and Shontelle Wellington (Barbados), to discuss both proposals for draft decisions.
61. Subsequently, the co-chair of the contact group reported that the contact group had reached agreement on a single draft decision on emissions of HFC-23, for consideration by the parties.
62. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

2. Potential changes to data reporting forms for reporting on HFC-23

63. In considering the sub-item, the parties had before them paragraphs 36 and 37 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2), a note by the Secretariat on potential changes to reporting form 3 (paragraph 3 of decision XXXV/7) (UNEP/OzL.Pro.WG.1/46/3), and paragraphs 194 to 200 of the report of the forty-sixth meeting of the Open-ended Working Group of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer (UNEP/OzL.Pro.WG.1/46/5).
64. The Co-Chair recalled that, at the forty-sixth meeting of the Open-ended Working Group, the Secretariat had presented, for consideration by the parties, options for potential changes to reporting form 3, specifically concerning the generation and destruction of HFC-23, and HFC-23 held as stocks. In discussing the matter, some parties had expressed an interest in looking into the issue of HFC-23 destruction not only in reporting form 3, but also in forms 4 and 6. At the conclusion of discussions, one representative had offered to prepare a proposal on the matter to serve as a basis for further discussion by the Thirty-Sixth Meeting of the Parties.
65. The representative of the United States introduced a proposed draft decision set out in a conference room paper. She said that the proposal related to revisions to data reporting forms with respect to Annex F, Group II, substances and included the following elements: the renaming of data form 3; revisions to form 6, which was the only data form unique to HFC-23; and revisions to the data reporting instructions and guidelines. The aim was for the production of substances controlled under the Montreal Protocol to be reported in the same way for all substances.
66. In the ensuing discussion, one representative said that, as in the Montreal Protocol itself, there should be a distinction between the production and the unintentional generation of HFC-23. The reporting of stocks that were held with a view to being destroyed should also be addressed. Another representative stated that the issue of HFC-23 was very complicated and, in revising data reporting forms, parties should strive to make them more science-based and adapted to the compliance obligations of the Protocol. The reporting burden on parties was very heavy, and revisions should bring simplifications to the forms, thereby avoiding the repetitive cross-reporting of data. Furthermore, as the parties' understanding of HFC-23 remained limited, more research and a standardized methodology for calculating emissions were required.
67. The parties agreed to establish a contact group, co-chaired by Martijn Hildebrand (Kingdom of the Netherlands) and Obed Meringo Baloyi (South Africa), to discuss further the proposal by the United States.
68. Subsequently, the co-chair of the contact group reported that the contact group had reached agreement on a draft decision on revised data reporting forms, for consideration by the parties.
69. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

C. Life-cycle refrigerant management, including the outcomes of the workshop on life-cycle refrigerant management (decision XXXV/11)

70. In considering the item, the parties had before them paragraphs 38 to 40 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2), the report of the Technology and Economic Assessment Panel entitled "Decision XXXV/11 Task Force Report on Life-cycle Refrigerant Management", the addendum to the note by the Secretariat on issues for discussion by and information for the attention of the Open-ended Working Group of the Parties to the Montreal Protocol at its forty-sixth meeting (UNEP/OzL.Pro.WG.1/46/2/Add.1, annex I), paragraphs 52 to 69 of the report of the forty-sixth meeting of the Open-ended Working Group (UNEP/OzL.Pro.WG.1/46/5) and

the note by the Secretariat entitled “Concept note and provisional programme” (UNEP/OzL.Pro/Workshop.13/1).

71. Introducing the item, the Co-Chair recalled that, at the forty-sixth meeting of the Open-ended Working Group, representatives had reviewed the report of the task force on life-cycle refrigerant management established by the Technology and Economic Assessment Panel in response to the request set out in paragraph 1 of decision XXXV/11. In accordance with the request set out in paragraph 4 of the decision, the Secretariat had convened a one-day workshop on 27 October 2024, and the summary of the outcomes of the workshop, largely based on the key takeaway messages identified by participants, was now available on the meeting portal.

72. All the representatives who took the floor thanked the Secretariat for organizing the workshop, and the facilitators, presenters and resource experts for their contributions. The event had proved immensely valuable in advancing discussions on the vital issue of life-cycle refrigerant management. Preventing the leakage of refrigerants and encouraging their recovery, reuse and recycling would reduce the demand for volumes of new substances, and this, together with the destruction of used refrigerants, would help to combat ozone depletion and climate change. Many representatives said that they would like to continue the discussions in order to clarify and further explore the issues raised, and prioritize actions, including, potentially, at a future workshop.

73. Several representatives drew attention to the need for additional support for Article 5 parties. Such support included strengthening the servicing sector through training, providing small workshop technicians with recovery and recycling equipment at subsidized rates, introducing the certification of technicians, providing incentives for best practices, supplying gas analysers at reasonable prices, providing support for compiling inventories of banks of substances and equipment, and capacity-building and technology transfer for leakage prevention and detection and refrigerant recovery and for collection, transport and disposal. One representative expressed the hope that the next replenishment of the Multilateral Fund would take those issues into account. Another representative highlighted the additional problems faced by low-volume-consuming countries, particularly those that were geographically widely dispersed.

74. One representative observed that, as the phase-out and phase-down of controlled substances progressed, the disposal of huge volumes of end-of-life equipment and substances would prove an increasingly urgent challenge, including in terms of financing needs for collection and disposal. He expressed the hope that this topic could be discussed further. Another representative suggested that Governments would probably need to introduce extended producer responsibility solutions involving both producers and end users.

75. Representatives also raised the question of the interaction of the Montreal Protocol with other multilateral environmental agreements, especially the Paris Agreement on climate change and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. That included the issue of classifying recovered substances in compliance with the provisions of the Basel Convention.

76. Introducing a proposal for a draft decision, set out in a conference room paper, the representative of the Federated States of Micronesia suggested that the opportunity existed to make the Montreal Protocol into the greatest treaty of all time if the world faced up to the challenge of arresting the substantial growth in demand for refrigerants for refrigerators and air conditioners stemming from the combination of the growing need for cooling and economic development, and the enormous volumes of waste that would follow. Building on the foundations laid by decision XXXV/11, the draft decision requested the Technology and Economic Assessment Panel to provide further information on resources, challenges, stakeholder engagement, data gathering and use, and opportunities for regional approaches; invited the Executive Committee and the secretariat of the Multilateral Fund to consider ways of enhancing life-cycle refrigerant management in project preparation and implementation; requested the Ozone Secretariat to compile an online library of resources; and encouraged parties that had begun compiling inventories and plans to consider including additional activities and to use their regional networks to explore cooperative approaches.

77. The parties agreed to establish a contact group, co-chaired by Morgan Simpson (United Kingdom) and Osvaldo Álvarez-Pérez (Chile), to discuss further the issues raised.

78. Subsequently, the co-chair of the contact group reported that the contact group had reached agreement on a draft decision on life-cycle refrigerant management, for consideration by the parties.

79. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

D. Very short-lived substances

80. In considering the item, the parties had before them paragraphs 41 to 46 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2), section 5.2 of volume 1 of the May 2024 progress report of the Technology and Economic Assessment Panel, paragraphs 5 to 18 of the addendum to the note by the Secretariat on issues for discussion by and information for the attention of the Open-ended Working Group of the Parties to the Montreal Protocol at its forty-sixth meeting (UNEP/OzL.Pro.WG.1/46/2/Add.1) and paragraphs 28 to 37 of the report of the forty-sixth meeting of the Open-ended Working Group (UNEP/OzL.Pro.WG.1/46/5). The draft decision on the matter was set out in section II of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI/[A]).

81. The Co-Chair recalled that, at the forty-sixth meeting of the Open-ended Working Group, the parties had considered the response of the Technology and Economic Assessment Panel to decision XXXV/6 on very short-lived substances as prepared by its Medical and Chemicals Technical Options Committee in cooperation with the Scientific Assessment Panel. Following initial discussions on the matter by the parties, Australia, Canada, the European Union and Switzerland had put forward a draft decision requesting the Technology and Economic Assessment Panel, in cooperation with the Scientific Assessment Panel, to provide additional information on very short-lived substances. The draft decision had been discussed in a contact group, which had revised the text but had been unable to conclude its work.

82. The parties agreed to establish a contact group, co-chaired by Juan José Galeano (Argentina) and Heidi Stockhaus (Germany), to resume discussions on the matter.

83. Subsequently, the co-chair of the contact group reported that the contact group had reached agreement on a draft decision on additional information on very short-lived substances, for consideration by the parties.

84. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

E. Feedstock uses of controlled substances

85. In considering the item, the parties had before them paragraphs 47 to 52 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2); paragraphs 19 to 37 of the addendum to the note by the Secretariat on issues for discussion by and information for the attention of the Open-ended Working Group of the Parties to the Montreal Protocol at its forty-sixth meeting (UNEP/OzL.Pro.WG.1/46/2/Add.1); volume 1 of the report of the Technology and Economic Assessment Panel of May 2024 (section 5.3); and paragraphs 38 to 51 of the report of the forty-sixth meeting of the Open-ended Working Group (UNEP/OzL.Pro.WG.1/46/5). The draft decision on the matter was set out in section II of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI/[B]).

86. The Co-Chair recalled that, at the forty-sixth meeting of the Open-ended Working Group, the representative of Australia, speaking also on behalf of Canada, Norway and Switzerland, had introduced a draft decision on feedstock uses of controlled substances, as set out in a conference room paper, which had been revised in an informal group before being forwarded to the current meeting for further consideration.

87. The parties agreed to establish a contact group, co-chaired by Michel Gauvin (Canada) and Leslie Smith (Grenada), to discuss the revised draft decision further.

88. Subsequently, the co-chair of the contact group reported that the contact group had reached agreement on a draft decision on feedstock uses of controlled substances, for consideration by the parties.

89. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

F. Enhancing the global and regional atmospheric monitoring of substances controlled by the Montreal Protocol

90. In considering the item, the parties had before them paragraphs 53 to 58 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2); the document by the Secretariat entitled “Outcomes of the Workshop on Costs of Atmospheric Monitoring of Gases Controlled under the Montreal Protocol”; paragraphs 41 to 76 of, and annexes V and VI to, the addendum to the note by the Secretariat on issues for discussion by and information for the attention of the Open-ended Working Group of the Parties to the Montreal Protocol at its forty-sixth meeting (UNEP/OzL.Pro.WG.1/46/2/Add.1); a note by the Secretariat on enhancing the global and regional atmospheric monitoring of substances controlled by the Montreal Protocol: a report on potential funding sources and administrative issues (UNEP/OzL.Pro.WG.1/46/INF/4); and paragraphs 73 to 87 of the report of the forty-sixth meeting of the Open-ended Working Group (UNEP/OzL.Pro.WG.1/46/5). The draft decision on the matter was set out in section II of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI/[C]).

91. The Co-Chair recalled that the draft decision had been prepared by the representatives of Canada and the United States at the forty-sixth meeting of the Open-ended Working Group. It had been discussed in a contact group, but that contact group had been unable to review all the paragraphs of the draft decision. The partially revised draft decision had subsequently been forwarded to the current meeting for further consideration. The Co-Chair also drew attention to the fact that the issue under discussion was linked to the discussions under agenda item 3 on financial reports and budgets of the trust funds for the Vienna Convention and the Montreal Protocol and those under item 5 (b) on the status of the General Trust Fund for Financing Activities on Research and Systematic Observations Relevant to the Vienna Convention.

92. In the ensuing discussion, several representatives highlighted the need to ensure coherence with certain of the draft decisions to be discussed in relation to matters under the Vienna Convention. One of them explained that two draft decisions on Vienna Convention issues had been prepared by members of the Bureau of the Conference of the Parties to the Vienna Convention who had attended the twelfth meeting of the Ozone Research Managers. One draft decision related to the recommendations included in the report of that twelfth meeting and the other draft decision related to the General Trust Fund for Financing Activities on Research and Systematic Observations Relevant to the Vienna Convention. Those who spoke proposed that all the related issues, once raised under their specific agenda item, be considered by the same contact group.

93. The parties agreed to establish a contact group, co-chaired by Liana Ghahramnyan (Armenia) and Alessandro Peru (Italy), to discuss the revised draft decision further.

94. Subsequently, the co-chair of the contact group reported that the contact group had reached agreement on a draft decision on enhancing the global and regional atmospheric monitoring of substances controlled by the Montreal Protocol, for consideration by the parties.

95. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

G. Climate-friendly alternatives for metered-dose inhalers

96. In considering the item, the parties had before them paragraphs 59 to 64 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2); volume 1 of the report of the Technology and Economic Assessment Panel of May 2024 (section 5.9); annex II to the addendum to the note by the Secretariat on issues for discussion by and information for the attention of the Open-ended Working Group of the Parties to the Montreal Protocol at its forty-sixth meeting (UNEP/OzL.Pro.WG.1/46/2/Add.1); and paragraphs 140 to 152 of the report of the forty-sixth meeting of the Open-ended Working Group (UNEP/OzL.Pro.WG.1/46/5). The draft decision on the matter was set out in section II of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI/[D]).

97. The Co-Chair recalled that, at the forty-sixth meeting of the Open-ended Working Group, the representative of the European Union had introduced a proposal for a draft decision on measures to facilitate the transition to metered-dose inhalers with low-global-warming-potential propellants.

Following good progress in discussions in a contact group, the parties had agreed to forward the draft decision to the current meeting for further consideration.

98. The parties agreed to establish a contact group, co-chaired by Noe Megrelishvili (Georgia) and Henry Wöhrnschimmel (Switzerland), to discuss the draft decision further.

99. Subsequently, the co-chair of the contact group reported that the contact group had reached agreement on a draft decision on climate-friendly alternatives for metered-dose inhalers, for consideration by the parties.

100. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

H. Future availability of halons and their alternatives

101. In considering the item, the parties had before them paragraphs 65 to 69 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2), chapter 3 of and annex 1 to volume 1 of the May 2024 progress report of the Technology and Economic Assessment Panel, paragraphs 116 to 118 of annex II to the addendum to the note by the Secretariat on issues for discussion by and information for the attention of the Open-ended Working Group of the Parties to the Montreal Protocol at its forty-sixth meeting (UNEP/OzL.Pro.WG.1/46/2/Add.1) and paragraphs 153 to 157 of the report of the forty-sixth meeting of the Open-ended Working Group (UNEP/OzL.Pro.WG.1/46/5). The draft decision on the matter was set out in section II of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI[E]).

102. The Co-Chair recalled that the matter had been included on the agenda of the forty-sixth meeting of the Open-ended Working Group because of the concerns expressed by a number of parties at the forty-fifth meeting of the Working Group and the Thirty-Fifth Meeting of the Parties about the long-term availability of halons and revisions to the predicted timelines for running out of halons. The situation had been described in the 2022 quadrennial assessment report and the 2022 progress report of the Fire Suppression Technical Options Committee of the Technology and Economic Assessment Panel. The 2024 progress report of the Panel had provided additional updates on those issues.

103. At the forty-sixth meeting of the Open-ended Working Group, the representative of Canada, speaking also on behalf of Australia and the United States, had introduced a proposal set out in a conference room paper for a draft decision on measures to support the sustainable management of recovered, recycled or reclaimed halons. After further discussion in a contact group, the Working Group had agreed to resume discussions at the current meeting on the basis of the draft decision, as revised by the contact group.

104. The parties agreed to establish a contact group, co-chaired by Ali Tumayhi (Saudi Arabia) and Andrew Clark (United States), to resume discussions on the matter.

105. Subsequently, the co-chair of the contact group reported that the contact group had reached agreement on a draft decision on measures to support the sustainable management of recovered, recycled or reclaimed halons, for consideration by the parties.

106. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

I. Possible compliance deferral for Article 5, group 2 parties: technology review by the Technology and Economic Assessment Panel

107. In considering the item, the parties had before them paragraphs 70 to 75 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2), volume 1 of the report of the Technology and Economic Assessment Panel of May 2024 (chapter 8), paragraphs 119 to 129 of the addendum to the note by the Secretariat on issues for discussion by and information for the attention of the Open-ended Working Group of the Parties to the Montreal Protocol at its forty-sixth meeting (UNEP/OzL.Pro.WG.1/46/2/Add.1) and paragraphs 158 to 183 of the report of the forty-sixth meeting of the Open-ended Working Group (UNEP/OzL.Pro.WG.1/46/5). The draft decision on the matter was set out in section II of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI[F]).

108. The Co-Chair recalled that the main concerns raised by parties during the discussions at the forty-sixth meeting of the Open-ended Working Group, on possible compliance deferral for Article 5, group 2 parties, had related to the limited availability of local data and the general lack of focus on the challenges faced by countries with high ambient temperatures and by Article 5, group 2 parties. Subsequently, the representative of India, speaking also on behalf of Bahrain, Kuwait, Qatar and Saudi Arabia, had presented a draft decision set out in a conference room paper. Following discussion of the draft decision in a contact group, the parties had agreed to forward the draft decision, as revised by the contact group, to the current meeting for further consideration.

109. The parties agreed to establish a contact group, co-chaired by Cornelius Rhein (European Union) and Ana Maria Kleymeyer (Federated States of Micronesia), to discuss the revised draft decision further.

110. Subsequently, the co-chair of the contact group reported that the contact group had reached agreement on a draft decision on the matter for consideration by the parties.

111. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

J. Strengthening Montreal Protocol institutions, including combating illegal trade

112. In considering the item, the parties had before them paragraphs 76 to 80 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2); a note by the Secretariat on the compilation of information provided by parties on illegal trade practices and approaches taken by national authorities to identify and address such cases (UNEP/OzL.Pro.WG.1/46/4); and paragraphs 184 to 192 of the report of the forty-sixth meeting of the Open-ended Working Group (UNEP/OzL.Pro.WG.1/46/5). The draft decision on the matter was set out in section II of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI/[G]).

113. The Co-Chair recalled that, at the forty-sixth meeting of the Open-ended Working Group, following parties' consideration of a note by the Secretariat on the compilation of information provided by parties on illegal trade practices and approaches taken by national authorities to identify and address such cases, the representative of the European Union had introduced a draft decision outlining the next steps for further strengthening Montreal Protocol institutions. Following discussion of the matter in a contact group, the parties had agreed to forward the draft decision, as revised by the contact group, to the current meeting for further consideration. At that time, the representative of European Union had indicated that the party would submit a new version of the text for consideration at the current meeting to address the concerns expressed and the feedback given during the discussions in the contact group.

114. The representative of the European Union introduced a revised version of the draft decision, as set out in a conference room paper. The revised proposal aimed to clarify the request to the Secretariat relating to information on licensing systems; requested analysis by the Secretariat of the information submitted by parties; and sought to address concerns about the previously proposed expert meeting, making it clear that the aim was for parties to reflect, on the basis of various existing documents, on the functioning of the compliance mechanism and to identify issues for review by the parties. In addition, the European Union had included two new paragraphs that had been proposed in the contact group but had not yet been discussed.

115. In the ensuing discussion, some representatives thanked the representative of the European Union for his party's efforts to address the concerns raised at the forty-sixth meeting of the Open-ended Working Group. One expressed the view that consideration of the functioning of the compliance mechanism of the Montreal Protocol by a meeting of interested parties might prove too broad a concept, and its purpose might need to be clearer. Agreeing with the need to be constrained in the approach to organizing such a meeting, another representative welcomed the specific mention of the exchange being based on existing documents, as that would help in framing the exercise. The representatives expressed the desire to engage in further discussions on the proposed draft decision.

116. The parties agreed to establish a contact group, co-chaired by Jana Mašíčková (Czechia) and Fathmath Usra (Maldives), to discuss the revised draft decision further.

117. Subsequently, the co-chair of the contact group reported that the contact group had reached agreement on a draft decision entitled “Further strengthening Montreal Protocol institutions: next steps”, for consideration by the parties.

118. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

K. Energy efficiency issues

1. Unwanted imports of energy-inefficient products and equipment

119. In considering the sub-item, the parties had before them paragraphs 81 to 84 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2) and paragraphs 213 to 219 of the report of the forty-sixth meeting of the Open-ended Working Group (UNEP/OzL.Pro.WG.1/46/5). The draft decision on the matter was set out in section II of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI/[H]).

120. Introducing the sub-item, the Co-Chair recalled that, at the forty-sixth meeting of the Open-ended Working Group, Kyrgyzstan had introduced a draft decision set out in a conference room paper on avoiding unwanted imports of energy-inefficient products and equipment. The draft decision had invited parties to voluntarily inform the Secretariat if they did not consent to the import of such products and equipment into their territories, with the Secretariat maintaining and updating annually a list of those parties.

121. A contact group had been established to discuss the proposal. While good progress had been made on reviewing the draft decision, there had been insufficient time to finalize it. The Working Group had therefore agreed to forward the draft decision, as revised by the contact group, to the current meeting for further consideration; it was set out in section II of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI/[H]).

122. The parties agreed to establish a contact group, co-chaired by Morane Godfrin (France) and Baba Dramé (Senegal), to resume discussions on the matter.

123. Subsequently, the representative of Kyrgyzstan introduced a revised version of the draft decision, as set out in a conference room paper. It had been prepared on the basis of the discussions in the contact group and included new text in the preamble that had been proposed by one party.

124. The parties agreed to discuss the revised draft decision further in the contact group.

125. Subsequently, the co-chair of the contact group reported that the contact group had reached agreement on a draft decision on avoiding imports of energy inefficient products and equipment containing or relying on controlled substances, for consideration by the parties.

126. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

2. Strengthening the enabling environment to enhance energy efficiency in the cooling sector

127. In considering the sub-item, the parties had before them paragraphs 85 to 88 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2); volume 1 of the report of the Technology and Economic Assessment Panel of May 2024 (section 6.3); and paragraphs 121 to 136 of the report of the forty-sixth meeting of the Open-ended Working Group (UNEP/OzL.Pro.WG.1/46/5). The draft decision on the matter was set out in section II of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI/[I]).

128. The Co-Chair recalled that the topic of energy efficiency had been discussed at the forty-sixth meeting of the Open-ended Working Group, where the representatives of Grenada and the Federated States of Micronesia had introduced a draft decision aimed at strengthening the enabling environment to enhance energy efficiency in the cooling sector while implementing the Kigali Amendment. Owing to time constraints, the Working Group had not discussed the proposal fully and had therefore agreed to forward the draft decision to the current meeting for further consideration.

129. The representative of the Federated States of Micronesia recalled the content of the draft decision, noting that it contained requests to the Executive Committee of the Multilateral Fund to support parties' efforts to implement decision XXVIII/2 on the decision related to the amendment phasing down hydrofluorocarbons, including by further enabling the national ozone units and implementing agencies to develop a robust pipeline of high-quality project proposals and by supporting the creation of regional centres of excellence for energy efficiency. The Executive Committee was also requested to ensure that support was provided to address the unique challenges and special circumstances of low- and very low-volume-consuming countries. The OzonAction programme was requested to support the provision of additional training, capacity-building and technical assistance in support of the preparation and implementation of energy-efficiency projects. Finally, the Technology and Economic Assessment Panel was requested to continue updating the parties on issues of relevance to energy efficiency, including to ensure that the unique challenges and special circumstances of low- and very low-volume-consuming countries were taken into consideration. The representative of the Federated States of Micronesia said that a number of other parties had expressed interest in co-sponsoring the draft decision.

130. In the ensuing discussion, several representatives acknowledged the importance of the issue of energy efficiency in the light of the projected increase in the use of cooling equipment, and thus emissions, as global temperatures rose. Several representatives spoke of the challenges faced by low- and very-low-volume-consuming countries, with one recalling that an energy-efficiency project covering a group of Pacific island countries would be submitted for the consideration of the Executive Committee at its ninety-fifth meeting.

131. Several representatives highlighted ongoing work on energy efficiency by the Executive Committee. While supporting ambitious action, they cautioned against constraining the Committee's work or interfering with the flexible mandate already provided to the Committee before that ongoing work had come to fruition. Some representatives referred to the various funding windows related to energy efficiency that had already been established by the Executive Committee, with one representative stating that only some \$5 million had been approved of the \$20 million in the funding windows for pilot projects to maintain and/or enhance energy efficiency in the context of HFC phase-down. That meant that there was still funding available, which might be accessed by low- and very-low-volume-consuming countries. Another representative said that parties should look at the reason why funding was still available and whether there were too many constraints and conditions preventing parties from accessing the funds. He also stressed the importance of co-financing or incentives for industry to encourage it to enhance the energy efficiency of its products and equipment.

132. One representative proposed a model for the approach to centres of excellence for energy efficiency, citing the Africa Centre of Excellence for Sustainable Cooling and Cold Chain in Rwanda as an example to follow. Another representative welcomed the approach of establishing centres of excellence given the additional support needed by technicians. He noted that a number of training institutions in his country had the potential to become centres of excellence.

133. The parties agreed to establish a contact group, co-chaired by Alain Wilmart (Belgium) and Sergio Merino (Mexico), to discuss the draft decision further.

134. Later in the meeting, the representative of the Federated States of Micronesia, speaking also on behalf of Grenada, introduced a proposal for a draft decision set out in a conference room paper, explaining that it contained a few changes from the version presented at the forty-sixth meeting of the Open-ended Working Group. The main change was the addition of several co-sponsors, all small island developing States, namely the Cook Islands, Fiji, the Marshall Islands, Mauritius, Palau, Tuvalu and Vanuatu. Other changes were minor editorial amendments to improve clarity and correct errors. She said that she looked forward to discussing the draft decision in the contact group.

135. Subsequently, the co-chair of the contact group reported that the contact group had been unable to reach agreement on a draft decision on strengthening the enabling environment to enhance energy efficiency in the cooling sector.

136. A number of representatives expressed deep regret at the withdrawal of the draft decision, particularly following the proposals put forward by small island developing States. One representative underscored the significant challenges faced by those States owing to limited resources and the complexity of accessing them effectively, which severely constrained their ability to address the issues faced. Several representatives nonetheless reiterated their commitment to working collaboratively on the challenges faced, including through consideration of the outcomes of the ninety-fifth meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol, which would help to determine any actions.

L. Nominations for critical-use exemptions for methyl bromide for 2025

137. In considering the item, the parties had before them paragraphs 89 to 92 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2), volume 2 of the May 2024 report of the Technology and Economic Assessment Panel entitled “Evaluation of 2024 Critical Use Nominations for Methyl Bromide and Related Issues – Interim Report”, volume 4 of the August 2024 report of the Technology and Economic Assessment Panel entitled “Evaluation of 2024 Critical Use Nominations for Methyl Bromide and Related Issues – Final Report”, paragraphs 116 to 120 of the report of the forty-sixth meeting of the Open-ended Working Group of the Parties (UNEP/OzL.Pro.WG.1/46/5) and paragraphs 19 to 27 of the addendum to the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2/Add.1–UNEP/OzL.Pro.36/2/Add.1).

138. Introducing the item, the Co-Chair recalled that, at the forty-sixth meeting of the Open-ended Working Group, the Methyl Bromide Technical Options Committee had presented its interim recommendation for the approval of the full amount nominated for a critical-use exemption for methyl bromide for 2025, submitted by one non-Article 5 party, Canada. The Committee’s final report, including its recommendation for approval of the full amount of the nomination submitted by Canada, was available on the meeting portal and was summarized in the addendum to the note by the Secretariat (UNEP/OzL.Conv.13/2/Add.1–UNEP/OzL.Pro.36/2/Add.1). On behalf of all the parties, she thanked the Committee for its work in evaluating the nomination.

139. Presenting the Committee’s recommendation, Ian Porter, the co-chair of the Methyl Bromide Technical Options Committee, speaking also on behalf of his fellow co-chair, Marta Pizano, and all the members of the Committee, expressed the hope that it would be the final presentation of any critical-use nomination for methyl bromide and noted that it therefore represented an exciting occasion.

140. Only one application had been received for 2025, for 2.85 tonnes of methyl bromide for pre-plant soil fumigation at a single strawberry nursery in Prince Edward Island, Canada. The Committee was recommending the approval of the full amount on the basis that it represented a 26 per cent reduction from the amount approved in 2023 and also that Canada had put forward a plan to phase out methyl bromide use completely by 2026. The grower was continuing to work to increase its capacity for indoor soil-less production – a simple but very effective solution – resulting in a lower need for methyl bromide for the remaining production.

141. The amount approved could be adjusted to account for existing stocks of methyl bromide, in accordance with decision XVI/6, but Canada had reported no such stocks at the end of 2023. As the Committee had observed before, there was no requirement for any party not requesting a critical-use exemption to report stocks.

142. In conclusion, he observed that 2024 appeared to be the last year in which critical-use nominations would be submitted and contrasted the single nomination for 2.85 tonnes for 2025 with the 141 nominations, for over 16,000 tonnes, that the Committee had received in 2005. The reduction of over 62,000 tonnes of methyl bromide use over the previous two decades represented a huge achievement for the Montreal Protocol, and for the agricultural industry worldwide, and a significant gain for the ozone layer. The challenge now would be to reduce the estimated total of 8,000–10,500 tonnes of methyl bromide still consumed for quarantine and pre-shipment uses globally; he was aware that many countries were making significant progress in that regard. He concluded by congratulating all the parties that had brought to an end their use of methyl bromide.

143. The representative of Canada thanked the Panel and the Committee for their work in reviewing his party’s nomination for 2025 and also their work in previous years. Since 2015, the sole critical-use exemption for Canada had been for pre-plant soil fumigation in the production of strawberry runners by a single grower in Prince Edward Island, where alternative chemical fumigants remained unavailable due to regulatory barriers. The nomination of 2.85 tonnes represented a significant reduction on the amount authorized for 2024 and was based on the adoption of a non-chemical alternative, indoor soil-less production for a significant portion of production, on the way to a complete transition away from methyl bromide in 2026. While the capital investment necessary was high, his party did not see that as a reason to delay the transition.

144. He thanked the Committee for approving the full amount of the nomination and confirmed that it would be his party’s final nomination for the application. He introduced a proposal for a draft

decision, set out in a conference room paper, which permitted Canada a level of production and consumption of 2.85 tonnes of methyl bromide for use in the production of strawberry runners for 2025 with the same conditions as agreed by previous meetings of the parties.

145. One representative congratulated Canada on its final nomination, and all the parties for their efforts in ending critical uses of methyl bromide. She stated that she would like to continue discussions on the reduction of the remaining methyl bromide consumption for quarantine and pre-shipment uses. A representative of an Article 5 party observed that, in his country, methyl bromide-demand was increasing because of market conditions.

146. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

M. Changes in the membership of the Technology and Economic Assessment Panel

147. In considering the item, the parties had before them paragraphs 93 to 100 of, and annexes I and II to, the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2), annexes 5 and 6 to volume 1 of the May 2024 report of the Technology and Economic Assessment Panel, the matrix of needed expertise, the terms of reference of the Technology and Economic Assessment Panel and its technical options committees and temporary subsidiary bodies, the primer on the operation of the Technology and Economic Assessment Panel, and paragraphs 28 to 30 of the addendum to the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2/Add.1–UNEP/OzL.Pro.36/2/Add.1).

148. The Co-Chair recalled that, at the forty-sixth meeting of the Open-ended Working Group, attention had been drawn to the list of the co-chairs and members of the Technology and Economic Assessment Panel and technical options committees whose membership was due to expire at the end of 2024, as listed in the 2024 progress report of the Panel. To date, the Secretariat had received 10 nominations, which had been posted on the meeting portal. He encouraged parties to submit additional nominations as soon as possible.

149. The parties agreed that nominating parties and any other interested parties would discuss and agree on the nominations in an informal group; the Secretariat would then prepare a draft decision setting out the agreed nominations for further discussion.

150. Subsequently, the facilitator of the informal group, Michel Gauvin (Canada), reported that the informal group had been able to complete its work and had produced a draft decision for consideration by the parties.

151. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

N. Compliance and data reporting issues: the work and recommendations of the Implementation Committee

152. In considering the item, the parties had before them paragraphs 101 and 102 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2).

153. The President of the Implementation Committee, Osvaldo Patricio Álvarez-Pérez (Chile) presented a report on the outcomes of the seventy-second and seventy-third meetings of the Committee, including an overview of the draft decisions approved by the Committee for consideration by the Thirty-Sixth Meeting of the Parties.

154. The Committee had considered a variety of issues in 2024 in relation to reporting obligations under Articles 7 and 9 of the Montreal Protocol, including HFC reporting obligations under the Kigali Amendment and cases of non-compliance, adherence by individual parties to commitments in plans of action for returning to compliance, requests for changes to baseline data for HFCs, information on the establishment of licensing systems for HFCs, and the submission of provisional data in the context of Article 7 reporting. The Committee had also received reports from the secretariat of the Multilateral

Fund on relevant decisions of the Executive Committee of the Fund and on activities carried out by the implementing agencies to facilitate compliance by parties.

155. As requested by the Thirty-Fifth Meeting of the Parties in decision XXXV/17, the Committee had reviewed the status of four parties in non-compliance with their Article 7 data reporting obligations and noted that all four parties had reported the outstanding data as requested in the decision. The Committee had also considered the adherence to commitments contained in plans of action to return to compliance for three parties: Kazakhstan and Libya continued to adhere to their commitments under their plans, but an issue remained regarding the data for 2021 for the Democratic People's Republic of Korea. The President drew attention to a conference room paper setting out the four draft decisions which the Committee was forwarding for the consideration of the Thirty-Sixth Meeting of the Parties.

156. The first draft decision related to data reporting under Article 7 of the Protocol. In the draft decision, it was noted that, as at 29 October 2024, 192 of the 198 parties to the Protocol had reported data for 2023 and that 163 of those parties had reported their data by the deadline of 30 September 2024, with 80 of those having reported by 30 June 2024, in accordance with the encouragement in decision XV/15. It was noted with concern that six parties, namely Azerbaijan, the Democratic People's Republic of Korea, Djibouti, Iceland, Mali and San Marino, had not yet reported their data for 2023, placing them in non-compliance until such time as the Secretariat received their outstanding data. It was also noted with concern that one Article 5 party, Djibouti, that had ratified the Kigali Amendment, had not submitted its baseline data for HFCs for 2020, 2021 or 2022, thereby placing the party in non-compliance until such time as the Secretariat received the outstanding baseline data for HFCs. Furthermore, it was noted with concern that two Article 5 parties, namely Côte d'Ivoire and Guinea, that had ratified the Kigali Amendment and should have submitted data for HFCs for 2023, had submitted data for other controlled substances but not for HFCs, which placed them in non-compliance with their data reporting obligations until such time as the Secretariat received their outstanding data for HFCs. In the draft decision, all those parties were urged to report their data as soon as possible and the Committee was requested to review their situation at its seventy-fourth meeting. Lastly, the draft decision encouraged parties to continue reporting their data on the consumption and production of controlled substances as soon as those figures were available, and preferably by 30 June of the reporting year. The Committee had approved the draft decision on the understanding that the Secretariat would continue to update the draft by removing the name of any party that returned to compliance by providing its outstanding data between the time of the Committee meeting and the adoption of the draft decision by the Thirty-Sixth Meeting of the Parties, in line with past practice.

157. In the second draft decision, it was noted with concern that the Democratic People's Republic of Korea had not strictly adhered to its commitments for HCFC production and consumption for 2021, as set out in its plan of action to return to compliance contained in decision XXXII/6, and was in non-compliance with the consumption control measures for that substance for 2021 under the Protocol. Serious concern was also expressed regarding the fact that the party had not yet provided an explanation for those deviations from its plan of action or submitted a revised plan of action, despite several requests by the Committee, namely at its sixty-eighth, sixty-ninth, seventieth, seventy-first and seventy-second meetings, and repeated reminders from the Secretariat. Furthermore, the party was urged to submit the progress report on the establishment of additional national policies facilitating HCFC phase-out that had been requested in decision XXXV/18.

158. It was noted that the Democratic Republic of Korea had not reported its Article 7 data for 2023, meaning that the party remained in non-compliance with its data reporting obligations until such time as the Secretariat received the outstanding data. The party was therefore urged to provide an explanation for the deviations, together with Article 7 data for 2023, and, if appropriate, to submit a revised plan of action for consideration by the Implementation Committee at its seventy-fourth meeting. The party was also urged to submit a progress report on efforts to establish additional national policies facilitating HCFC phase-out. Furthermore, the Democratic People's Republic of Korea was invited to send a representative to the seventy-fourth meeting of the Committee, unless the party had provided the information required before that meeting.

159. The Democratic Republic of Korea was cautioned, in accordance with item B of the indicative list of measures that could be taken by the Meeting of the Parties in respect of non-compliance, and the Committee was requested to continue to monitor closely the progress made by the party in implementing its plan of action and obligations under the Montreal Protocol.

160. He drew attention to the fact that the Committee had adopted recommendations regarding cases of non-compliance in relation to the Democratic Republic of Korea on five separate occasions,

including forwarding two decisions that had been adopted on the matter, one by the Thirty-Second Meeting of the Parties and one by the Thirty-Fifth Meeting of the Parties.

161. The third draft decision related to the establishment of licensing systems for HFCs under Article 4B, paragraph 2 bis, of the Protocol by parties that had ratified the Kigali Agreement. In the draft decision, it was noted with appreciation that 154 of the 160 parties that had ratified the Kigali Amendment, and five parties that had not yet ratified it, had reported the establishment and implementation of their licensing system for HFCs. In the decision, Angola, Kenya and San Marino, which had ratified the Kigali Amendment but had not yet reported on the establishment of their licensing system, were urged to provide information to the Secretariat promptly on the establishment and implementation of such a system for consideration by the Committee at its seventy-fourth meeting. All remaining parties that had ratified the Kigali Amendment were also urged to establish and implement their licensing systems, if they had not already done so, and to report that information to the Secretariat within three months of doing so. The Committee had approved the draft decision on the understanding that the Secretariat would continue to update the figures in the draft decision in line with any additional information received from parties up until the point of adoption of the draft decision by the Thirty-Sixth Meeting of the Parties.

162. The fourth draft decision related to the requests received from El Salvador and Honduras to revise baseline data. It was noted that, in decision XIII/15, parties that requested changes in reported baseline data for base years had been advised to present their requests before the Committee, and that the methodology for submitting such requests had been outlined in decision XV/19. El Salvador had presented sufficient information, in accordance with decision XV/19, to justify its requests to revise its consumption data for HFCs for 2020, 2021 and 2022, which were the HFC baseline years, and the same applied to Honduras, which had requested a revision to one of its baseline years, namely 2022. The requests of the parties to revise their consumption data for HFCs for the relevant baseline years had merit and had been forwarded for consideration by the parties.

163. He noted that the Committee had also conducted thorough reviews of requests for changes to baseline data received from 10 other parties, namely Armenia, the Cook Islands, Kiribati, Liberia, the Marshall Islands, Nauru, Nigeria, Niue, Tuvalu and Vanuatu. In all 10 cases, the Committee had concluded that the information submitted had been insufficient and had therefore asked the parties to submit to the Secretariat the outstanding information needed to meet the requirements of decision XV/19 to allow for the future consideration of their request by the Committee.

164. The Secretariat had brought the issue of submission of provisional data in the context of Article 7 reporting to the attention of the Committee at its seventy-second meeting. At that meeting, the Committee had requested the Secretariat to prepare a document containing an analysis of trends in the submission of provisional data, as well as any previous discussions and decisions of the Committee on the matter and any other relevant information. The document had been considered by the Committee at its seventy-third meeting.

165. Although the earliest recorded case traceable from the electronic records of a party submitting provisional data was from 2005, regarding data for 2004, the Secretariat informed the Committee that provisional data had also been submitted by parties before 2005. Since 2019, when the new online reporting system had been launched, 67 cases of data reported as provisional had been identified from 38 parties, which accounted for almost one-fifth of parties, with 40 of those cases pertaining to baseline years. Parties had indicated that data were provisional either by email or by using a checkbox on the online reporting system, and the practice had become more common in recent years, with some parties submitting data and only later informing the Secretariat that the data should be considered provisional. On receiving data flagged as provisional, the Secretariat contacted the relevant party to ascertain whether the data could yet be considered final and, if not, to request that the finalized data be submitted as soon as possible, and continued to contact the party until finalized data were received. It was worth noting, however, that there were instances where data had remained provisional for a period of several years.

166. The submission of provisional data was problematic for the work of the Committee as, without finalized data, it was impossible to ascertain compliance with the control measures under the Protocol. Moreover, a party that submitted provisional data for baseline years could circumvent the process for revising baseline data set out in decision XIII/15.

167. Following the discussions of the Committee, the Secretariat had deleted the checkbox from the online reporting system that allowed a party to indicate that the data submitted were provisional. The Secretariat would also ask any parties that submitted Article 7 data as provisional to explain why provisional data had been submitted and would also submit those data and any related information from the party to the Committee for its consideration.

168. Finally, he thanked the members of the Committee, in particular the Vice-President, for their constructive engagement and support, through which they had contributed to the successful operation of the compliance mechanism of the Protocol, and the Secretariat for its excellent support. The growing agenda of Committee meetings was an indication that its work was becoming ever more relevant, and he said that it had been a privilege to serve as President of the Committee.

169. In the ensuing discussion, the representative of Kenya explained that his country was currently finalizing regulations for the establishment of a licensing system for HFCs and therefore expected to be able to report to the Secretariat before the seventy-fourth meeting of the Committee that its system had been established and was in operation. The representative of the United Republic of Tanzania explained that his country had established a licensing system for ozone-depleting substances in 2022. The representative of Benin said that, in the table showing provisional data submitted in the context of Article 7 reporting, the data for her country were incorrect, as Benin had informed the Secretariat in a letter sent on 31 July 2024 that although the data for 2020, 2021 and 2023 remained provisional, the data for 2019 were final.

170. Regarding the request of her country to revise its HFC baseline data, the representative of Armenia explained that her country's original baseline data had been obtained from national institutions, including its customs service and the licensing authority of the Ministry of Environment, but that a survey of equipment conducted under the Kigali implementation plan process had shown that import data for HFCs had been significantly underestimated. Armenia had identified that the underestimation had been as a result of the free trade regime within the Eurasian Economic Union, of which Armenia was a member State, and of online trading that had circumvented regulatory control. The party had since taken measures to improve monitoring and control in those two areas. Armenia had submitted revised baseline data on the online reporting platform in January 2024 but, as it had not been aware of the option to mark the original data as provisional, had been informed that it was required to submit a request for revision and provide the information required under decision XV/19. Armenia was not able to provide the requested additional documents because they were not available and, although it appreciated the opportunity to explain its situation in person at the seventy-third meeting of the Committee and also appreciated the understanding shown in the draft recommendation of the Committee in allowing for the submission of additional information in 2025, the party remained concerned that it could be unintentionally in non-compliance for 2024.

171. Many representatives expressed their concern at the practice of submitting provisional data, which was not envisaged in the provisions of the Protocol or in any decisions of the meetings of the parties, and several representatives said that they had previously been unaware of the practice. Some representatives underscored the seriousness of the situation, including from a legal standpoint, as parties had not been treated equally, with some being able to circumvent the revision process provided for in decision XV/19. A number of representatives also noted that changes to data had implications for financing under the Executive Committee and for project implementation. It was critical that funding was not affected by the issue. One representative said that it was unclear whether the Committee would review data flagged as provisional or would only review data once they had been finalized. Several representatives expressed the view that the option to mark data as provisional should be removed.

172. A number of representatives, noting that some parties faced significant challenges with regard to institutional capacity for data reporting, in particular where large volumes of data could not be processed at speed by customs services, said that the submission of provisional data was preferable to the lack of any submission. It was therefore important for parties to work together to find suitable solutions that would support those parties not currently able to provide timely finalized data. Other representatives agreed that it was important for parties to work together towards solutions but underscored that there were already processes in place pursuant to decisions of the meetings of the parties for the revision of data. It was incumbent upon parties to follow those processes.

173. Many representatives referred in particular to the provisional data checkbox on the online system. One representative recalled that the inclusion of the checkbox had been discussed at regional networks with the Secretariat before the launch of the online system and had been welcomed in particular by developing countries that were facing challenges in timely data collection. It was disappointing that the Secretariat had not discussed with parties or even informed parties of the decision to remove the checkbox. Several representatives expressed concern that a checkbox had been included on the online system, as there was no such checkbox on the paper form. They recalled that the paper form and other associated processes had been adopted by decision of a meeting of the parties, so the inclusion of the checkbox on the online system ran counter to those decisions.

174. In response to questions from several representatives regarding the recent sudden removal of the checkbox from the online reporting system and the authority for doing so, the President of the Committee and representatives of the Secretariat clarified that the Committee had not requested that the Secretariat remove the provisional data checkbox from the online reporting system but that the Secretariat had done so in the light of discussions at the seventy-third meeting of the Committee. In response to that explanation, a number of representatives expressed concern that such actions were being taken by the Secretariat unilaterally rather than in response to a decision of a meeting of the parties and also that the action had not been communicated to parties. They requested clarification of the legality of such actions by the Secretariat and clarification of the correct procedures regarding decisions on such matters, including regarding the role of the Implementation Committee.

175. In response to a query regarding the process for requests from parties for the revision of baseline data, the President clarified that the Committee adhered strictly, and solely, to the process outlined in decision XV/19.

176. Several representatives requested that a contact group or informal group be established to discuss the issue further, focusing both on the implications of the submission of provisional data in the past and on ways of preventing the practice in the future.

177. The parties agreed to establish an informal group to consider how the submission of provisional data had become practice and, in the light of decisions on data reporting, how the issue of provisional data should be handled in the future.

178. Subsequently, the facilitator of the informal group, Martin Lacroix (Canada), reported that the Secretariat had provided clarifications to the interested parties, including on how provisional data had been treated in the past and how they would be treated in the future, and had indicated that, moving forward, data qualified as provisional would be submitted to the Implementation Committee for its consideration.

179. The representative of Armenia said that having two types of cases for the treatment of provisional data created unequal conditions, attitudes and treatment within the Implementation Committee, which had not been mandated to treat provisional data that referred to baseline years. In addition, there remained a lack of clarity on how to address the unfair and discriminatory conditions inadvertently created through the approach of the Secretariat towards countries with provisional data for baseline years and those without such data. Some parties had enjoyed the privilege of being able to update their baseline years and of circumventing the formal process, while others had been required to strictly follow the procedures stipulated under decisions XIII/15 and XV/19. Despite the understanding shown by the Implementation Committee, and due consideration of the request by Armenia regarding the provision of baseline data submitted in 2024, a final decision had yet to be taken, placing her country in a position of potential non-compliance with the freeze level for the year 2024. Armenia would continue to seek the non-punitive and supportive attitude of the Implementation Committee, in accordance with the mandate of that body.

180. The parties agreed to forward the set of draft decisions for further consideration and possible adoption during the high-level segment.

O. Status of ratification of the Kigali Amendment to the Montreal Protocol

181. In considering the item, the parties had before them paragraphs 105 and 106 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2) and the note by the Secretariat on the status of ratification, acceptance, accession or approval of the Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer (UNEP/OzL.Pro.36/INF/5). The draft decision on the matter was set out in section IV of document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decision XXXVI/[EE]).

182. Introducing the sub-item, the Co-Chair explained that the intention behind the agenda item was to record the number of parties that had ratified the Kigali Amendment, and to urge parties that had not yet ratified the Amendment to do so. She recalled that, on the International Day for the Preservation of the Ozone Layer 2024, the Secretary-General of the United Nations and the Executive Director of UNEP had recalled the potential benefits of the full implementation and ratification of the Kigali Amendment, which could help to avoid as much as 0.5°C of global heating by the end of the century. Four out of every five nations had already ratified the Amendment, but the clock was ticking. As indicated by the Executive Secretary in her opening statement, universal ratification in 2026, on the tenth anniversary of the Kigali Amendment, was an important target to achieve.

183. By 25 October 2024, a total of 160 parties had ratified the Amendment, as listed in document UNEP/OzL.Pro.36/INF/5. A placeholder draft decision had been included as draft decision XXXVI/[EE], in document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3, which would be updated at the time of the adoption of the decision.

184. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

V. Vienna Convention issues

A. Report of the twelfth meeting of the Ozone Research Managers of the Parties to the Vienna Convention

185. In considering the item, the parties had before them paragraphs 107 to 118 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2), the note by the Secretariat on recommendations of the Ozone Research Managers of the parties to the Vienna Convention at their twelfth meeting (UNEP/OzL.Conv.13/6), the note by the Secretariat on the General Trust Fund for Financing Activities on Research and Systematic Observations Relevant to the Vienna Convention (UNEP/OzL.Conv.13/7) and the report of the twelfth meeting of the Ozone Research Managers of the parties to the Vienna Convention for the protection of the ozone layer (presentation summaries and recommendations: part I and national reports available for the meeting: part II).

186. The Co-Chair recalled that the twelfth meeting of the Ozone Research Managers of the Parties to the Vienna Convention had been held in Geneva in April 2024. The Ozone Research Managers met every three years, six months before the meeting of the Conference of the Parties to the Vienna Convention, to discuss issues relating to ozone research and systematic observation and to develop recommendations for consideration by the Conference of the Parties. Those recommendations were set out in document UNEP/OzL.Conv.13/6.

187. The Co-Chairs of the twelfth meeting of the Ozone Research Managers, María del Carmen Cazorla Andrade (Ecuador) and Wolfgang Steinbrecht (Germany), gave a joint presentation on the outcomes of that meeting. Ms. Cazorla first clarified that the purpose of the reports of the Managers was to address research and monitoring needs and to make specific recommendations regarding international action for improved research coordination and networking. After giving a summary of the main items discussed at the meeting, she said that the recommendations of the Managers had been formulated within a framework comprising five themes: research needs; systematic observations; gaps in atmospheric monitoring of controlled substances and options to enhance such monitoring; data archiving and stewardship; and capacity-building.

188. On the matter of research needs, continued observation and modelling of ozone variations and trends were required. In addition, understanding should be improved in the areas of lower stratospheric ozone in connection to climate change; emissions of ozone-depleting substances and other relevant gases; ozone-climate coupling and global circulation changes; and the effects of extreme wildfires, volcanic eruptions, supersonic aviation, space activities and climate intervention. To that end, it was important to continue, enhance and expand relevant monitoring and observation activities, maintaining proven systems and accelerating the implementation of new and cost-effective instruments.

189. Mr. Steinbrecht went on to address the issue of gaps in the monitoring of controlled substances, highlighting the need to expand monitoring activities in under-sampled regions and to leverage existing monitoring stations and programmes. In that regard, the Ozone Research Managers recommended that parties discuss funding regimes to sustain measurement activities, while emphasizing the importance of quality-assessed and reviewed data with open access. Meanwhile, capacity-building should be scaled up, including by enhancing the funding available in the General Trust Fund for Financing Activities on Research and Systematic Observations Relevant to the Vienna Convention, and fostering scientific partnerships among researchers in developing and developed countries.

190. The representative of Finland introduced a draft decision, set out in a conference room paper, on the recommendations of the twelfth meeting of the Ozone Research Managers of the Parties to the Vienna Convention, submitted by Ecuador, Finland and Indonesia as members of the Bureau of the twelfth meeting of the Conference of the Parties. The draft decision took note with appreciation of the report of the twelfth meeting of the Ozone Research Managers; and encouraged parties to adopt and implement the recommendations therein, and to accord priority in particular to research and systematic

observation activities; maintaining, augmenting, restoring and, where feasible, establishing new long-term capacity and infrastructure for the atmospheric monitoring and observation of substances controlled by the Montreal Protocol; improved management and analysis of observation data; and support for capacity-building activities in developing countries. It also encouraged the national ozone focal points to improve communication with the Ozone Research Managers, and requested the Managers to continue to review the situation regarding atmospheric measurements and monitoring of substances controlled by the Montreal Protocol, and to make specific recommendations for further strengthening such atmospheric monitoring.

191. The parties agreed to discuss the matter further in the contact group on enhancing global and regional atmospheric monitoring.

192. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

B. Status of the General Trust Fund for Financing Activities on Research and Systematic Observations Relevant to the Vienna Convention

193. In considering the item, the parties had before them paragraphs 119 to 121 of the note by the Secretariat on issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol (UNEP/OzL.Conv.13/2–UNEP/OzL.Pro.36/2) and the note by the Secretariat on the General Trust Fund for Financing Activities on Research and Systematic Observations Relevant to the Vienna Convention (UNEP/OzL.Conv.13/7).

194. The Co-Chair recalled that, at its tenth meeting, the Conference of the Parties had established an advisory committee for the General Trust Fund for Financing Activities on Research and Systematic Observations Relevant to the Vienna Convention in an effort to improve its performance by ensuring that projects to be funded from the Trust Fund were of high quality. The Committee had also been requested to develop a short-term plan and a long-term strategy for the Trust Fund to enhance its effectiveness. The status of the Trust Fund and its activities, as well as information on the work of its Advisory Committee regarding the implementation of the long-term strategy and short-term plan of action of the Trust Fund, were set out in document UNEP/OzL.Conv.13/7.

195. A member of the Advisory Committee, A. R. Ravishankara, presented a report on the work of the Committee, on behalf of its Chair, Sophie Godin-Beekmann. He said that the Committee had been established in 2014 to develop a long-term strategy and a short-term action plan that included identifying gaps and needs in research on and monitoring of ozone and related climate variables, facilitating the relocation of unused instruments to new observation programmes, fostering stronger relationships with scientific institutions and related global networks and exploring opportunities to leverage and catalyse the resources of the Trust Fund. One of the key aims of the Trust Fund was to enable capacity-building, notably for the benefit of Article 5 parties and countries with economies in transition. Since the twelfth meeting of the Conference of the Parties, the results yielded had been excellent for the amount of resources spent. Such resources should be considered “seed money” that was destined to initiate, nourish and maintain programmes within countries. However, funding was limited, and the replenishment of the Trust Fund required collective cost-sharing efforts among countries. More resources would allow proposals related to the monitoring of controlled substances to be implemented, to ensure that the goals of the Montreal Protocol were met and to shift the focus away from the short term and towards the long-term strategy. He highlighted the needs and gaps identified by the Committee, which included the need to strengthen total ozone observations in the tropics and subtropics, and parts of the southern hemisphere; the need for high-quality measurements; calibration and validation of satellite sensors; a transition away from the use of legacy instruments; vertical distribution of ozone; the need for scientific activity to support the Montreal Protocol; and the need for quantification of emissions of controlled substances.

196. The representative of the Secretariat gave a presentation on the status of the Trust Fund, which had been established in 2003 pursuant to decision VI/2 of the Conference of the Parties. Among its functions, the Trust Fund provided complementary support for the continued maintenance and calibration of the existing ground-based stations, under the Global Atmosphere Watch programme of the World Meteorological Organization (WMO), that were monitoring column ozone, ozone profiles and ultraviolet radiation in developing countries and countries with economies in transition. The decision also provided that consideration could be given to supporting other activities identified by the Ozone Research Managers. A memorandum of understanding on institutional arrangements had been signed by UNEP and WMO in 2005. Projects and activities were implemented through WMO and, since 2015, had been overseen by the Advisory Committee, pursuant to decision X/3 of the

Conference of the Parties. Between 2003 and 30 September 2024, the Trust Fund had received total funds of \$943,879 from contributing parties and in-kind contributions in conjunction with activities implemented under the Trust Fund. During that same period, a total of \$635,426 had been disbursed and allocated to approved activities, which included calibration and relocation of Brewer instruments, intercomparisons and relocations of Dobson instruments, an ozone observatory and ozone sondes, ultraviolet B monitoring, and workshops. The total funds currently available for future activities totalled \$308,453. The Secretariat periodically sent requests for the submission of proposals for seed funding and, since 23 November 2023, proposals had been received in the categories of ozone monitoring and ultraviolet monitoring, among others. In October 2024, the Advisory Committee had evaluated all new proposals and the Secretariat had provided responses to the proposing parties, including with requests for follow-up actions.

197. The representative of WMO gave a presentation on the role of WMO in supporting the Advisory Committee, including in relation to ozone measurement instruments, capacity-building activities in various countries, and anticipating regional needs for intercalibration exercises. Over the previous three years, WMO had supported the implementation of several projects, some of which had been completed, in the Comoros and Kyrgyzstan; others that were on hold, in Belarus and Burkina Faso; and some that were ongoing or planned, including work in Mexico on monitoring solar ultraviolet radiation in Central America and the Caribbean. The planned activities of WMO included action to anticipate future intercalibration proposals to the Trust Fund, which was complex in terms of organization and involved costs that could not be covered by the Trust Fund alone. Data were also delivered following intercalibration exercises. The results of past activities had shown that, after the completion of projects, high-quality information was available from many sites worldwide, which could be used to provide information to countries on the status of ozone recovery. WMO was also supporting a strategic plan for ozone and on the monitoring of ozone-depleting substances worldwide, as well as ozone science through observation, analysis modelling and capacity-building, and was working to expand the observational network, which was a challenge, especially for ozone-depleting substances in areas where data were missing. Additional funding and enhanced collaboration would be needed to address that issue. Lastly, the preparation of the 2026 scientific assessment of ozone depletion by scientific experts was currently under way.

198. The representative of Finland introduced a draft decision, set out in a conference room paper, on the General Trust Fund for Financing Activities on Research and Systematic Observations Relevant to the Vienna Convention, submitted by Ecuador, Finland and Indonesia. Some elements of the draft decision related to activities undertaken by the Advisory Committee and the Trust Fund over the years and others related to new efforts with regard to controlled substances. In the decision, it was suggested that the parties recognize that the purpose of the General Trust Fund included supporting activities related to the atmospheric monitoring of substances controlled under the Montreal Protocol, a point also emphasized in the recommendations made by the Ozone Research Managers at their twelfth meeting, and parties were encouraged to make contributions to the General Trust Fund for the purpose of improving the global ozone observing system and for enhancing the global and regional monitoring of substances controlled by the Montreal Protocol. Requests were included for the Secretariat to organize the work of the Advisory Committee, modifying the terms of reference of the General Trust Fund and those of the Advisory Committee; to continue to invite parties and relevant organizations, agencies and institutions to make financial and/or in-kind contributions towards well-defined and well-budgeted project proposals developed under the Trust Fund; to facilitate the receipt of additional funds for the monitoring of controlled substances; to ensure that the management of those funds adhered to the relevant established financial procedures and reporting requirements; and to report to the Conference of the Parties at its fourteenth meeting on the operation of, contributions to and expenditures on the activities funded from the Trust Fund since its inception.

199. The parties agreed to discuss the matter further in the contact group on enhancing global and regional atmospheric monitoring, with a focus on the highlighted elements in the conference room paper.

200. In the ensuing discussion, several representatives expressed appreciation for the report. With reference to the activities that were currently on hold due to political instability, one representative asked whether the Advisory Committee could consider cancelling such activities on the understanding that they could be reconsidered at a later date. Moreover, there were a significant number of proposed activities in the report, some of which were not in line with the mandate, while others should be advanced and receive funding. Another representative emphasized that the collection of sufficient volumes of data was essential and suggested that part of the Trust Fund be dedicated to data archiving. One representative welcomed the increase in voluntary contributions since the previous meeting of the Conference of the Parties but highlighted that the level of available funds remained too low to meet the need for a global ozone monitoring network. Furthermore, cooperation with Article 5 parties was

required to improve work in terms of using new equipment and data, and integrating a new generation of scientists in the future. Finally, he drew attention to atmospheric monitoring in his country, which had acquired significant expertise through the use of monitoring station equipment over a 45-year period, and highlighted the potential offered by the mountainous terrain, which could serve as a place to observe and monitor the stratosphere.

201. In response to the observation on activities currently on hold, the representative of the Secretariat confirmed that the Advisory Committee had considered the matter and, during its meeting on 26 September 2024, had decided that the funds corresponding to such activities could be diverted to others. Nonetheless, the Committee had proposed to engage in bilateral discussions with the countries concerned at the current meeting before any such action was taken.

202. Responding to the comments made, Mr. Ravishankara reiterated the importance of involving a younger generation in the activities under discussion, including by contributing to assessment, modelling and knowledge analysis activities. He also highlighted the need for countries to ensure the availability of archived data. The representative of WMO added that the individuals involved in data management should receive training on how to connect with data centres.

203. The parties agreed to forward the draft decision for further consideration and possible adoption during the high-level segment.

VI. Other matters

A. Information on HFC-245cb and other isomers not listed in Annex F to the Montreal Protocol

204. The Co-Chair recalled that, during the adoption of the agenda, it had been agreed to discuss the information in the note by the Secretariat on HFC-245cb and other isomers not listed in Annex F to the Montreal Protocol (UNEP/OzL.Pro.36/INF/6).

205. Issues raised by representatives included that the information provided in the document was of great complexity, contained extraneous details and had only very recently been made available; therefore, preparations to engage in related discussions had not been made. Some representatives suggested that consideration of the issue should be postponed to the next meeting of the Open-ended Working Group. They also highlighted that certain issues referred to in the document had already been discussed at other meetings, including HFCs with no commercial uses, and GWP values to be used for the Kigali Amendment. The issue surrounding the substance HFC-245cb should be the focus, said one, while another requested the Secretariat to prepare a brief note on that isomer, which did not have a GWP, and whose inclusion it had proposed as an HFC controlled under the Kigali Amendment. Some representatives said that any changes to the HFCs currently listed in Annex F would require careful and in-depth consideration, which should take place in 2025.

206. In response to the comments made, a representative of the Secretariat said that mention was made in the document that very recently, in September 2024, the Secretariat had become aware of a planned importation of a mixture containing HFC-245cb, which was an isomer of two controlled substances included in Annex F to the Montreal Protocol. Moreover, the 2022 Assessment Report of the Medical and Chemicals Technical Options Committee had indicated that a number of HFCs had not been listed in Annex F and had global-warming-potential values above the threshold of 53, of which six had a known commercial use, including HFC-245cb. The Committee had concluded that the parties might wish to consider the six HFCs with commercial use. The Secretariat had subsequently prepared the information document for the consideration of the parties, given that no information had previously been available on the production, consumption or atmospheric burden of those compounds.

207. The representative of Switzerland said that all the parties should have full clarity on all commercially relevant substances controlled under the Montreal Protocol, including access to all the information related to the reporting of production and consumption under Article 7, in order to evaluate any effects on their compliance under the Montreal Protocol. Notably, clarity on the GWP of substances was indispensable, without which substances might be omitted in reporting, which would lead to emissions of controlled substances being ignored, thereby undermining the implementation of the Kigali Amendment. Understandably, parties had not had sufficient time to prepare for discussions; however, the exchange of initial ideas in an informal setting could be very beneficial, particularly in preparation for the next meeting of the Open-ended Working Group.

208. The Co-Chair confirmed that informal discussions on the issue, as suggested and welcomed by several representatives, could be held in the margins of the current meeting.

209. Subsequently, reporting back on informal discussions, the representative of Switzerland said that the parties involved in the discussions had expressed the view that the document prepared by the Secretariat (UNEP/OzL.Pro.36/INF/6) had not provided sufficient factual information on the case of planned importation of a mixture containing HFC-245cb for a conclusion to be reached on the matter at the current meeting. He therefore proposed that the issue of isomers not listed in Annex F should be considered further by parties once additional information became available from parties themselves, through the Secretariat, or from the assessment panels, for example in their quadrennial reports, as mandated in decision XXIX/12.

210. The parties concluded their consideration of the matter.

B. Change in the cut-off date for eligible capacity indicated in paragraph 17 of decision XXVIII/2

211. The Co-Chair recalled that, during the adoption of the agenda, the parties had agreed to consider a proposal to change the cut-off date for eligible capacity indicated in paragraph 17 of decision XXVIII/2.

212. The representative of Egypt introduced a proposal for a draft decision set out in a conference room paper. He recalled that paragraph 17 of decision XXVIII/2 stated that the cut-off date for eligible capacity was 1 January 2020 for those parties with baseline years from 2020 to 2022 and 1 January 2024 for those parties with baseline years from 2024 to 2026. Egypt had ratified the Kigali Amendment on 22 August 2023, with the process taking longer than intended owing to the coronavirus disease (COVID-19) pandemic. Some factories had been established after the cut-off date and before the ratification, and they had managed to get approval to produce domestic air-conditioning units based on R-410A. Egypt was therefore proposing to change the cut-off dates for eligible consumption set out in paragraph 17 of decision XXVIII/2, such that the cut-off date for eligible capacity for those parties with baseline years from 2020 to 2022 would be 31 December 2022. The cut-off date for eligible consumption for those parties with baseline years from 2024 to 2026 would remain unchanged, at 1 January 2024.

213. Subsequently, the representative of Egypt reported that his delegation had held informal discussions with some parties on the matter, notably with other members of the group of African States during a regional meeting, but not with other parties. He expressed regret that there had not been sufficient time or opportunity to discuss the proposed draft decision with other parties and requested that the item be added to the agenda for the forty-seventh meeting of the Open-ended Working Group.

214. A number of representatives underscored the importance of considering the issue further in order to support parties in remaining compliant with their obligations under the Protocol and its Kigali Amendment. In response to a query from one representative, the Co-Chair explained that, as no party had requested the floor after the draft decision had initially been introduced by the representative of Egypt, that party had been invited to engage in informal discussions with other parties on the matter.

215. The parties agreed to add an item on a change in the cut-off date for eligible capacity indicated in paragraph 17 of decision XXVIII/2 to the agenda of the forty-seventh meeting of the Open-ended Working Group.

Part two: high-level segment (31 October and 1 November 2024)

I. Opening of the high-level segment

216. The high-level segment was opened by Ndiaye Cheikh Sylla (Senegal), President of the twelfth meeting of the Conference of the Parties to the Vienna Convention, at 10.05 a.m. on Thursday, 31 October 2024.

217. A Thai cultural dance performance was presented.

218. Opening statements, summarized below in the order of delivery, were made by Elizabeth Maruma Mrema, Assistant Secretary-General of the United Nations and Deputy Executive Director of the UNEP; Akanat Promphan, Minister of Industry of Thailand; Ndiaye Cheikh Sylla, President of the twelfth meeting of the Conference of the Parties to the Vienna Convention; and Azra Rogović-Grubić, President of the Thirty-Fifth Meeting of the Parties to the Montreal Protocol.

A. Statement by a representative of the United Nations Environment Programme

219. In her opening address, Ms. Mrema highlighted the significance of the current period in terms of lawmaking by the international environmental community. The current meeting, in particular, showcased the potential of multilateral action when supported by complete commitment and appropriate resources. Moreover, the ozone treaties had proved that international cooperation was effective in yielding positive results. To date, the global implementation of the Montreal Protocol had led to the phase-out of 99 per cent of ozone-depleting substances and, given that most of them were also powerful greenhouse gases, corresponded to a reduction of approximately 12.5 billion tonnes of CO₂ equivalent. Continued compliance with the treaties would ensure the recovery of the ozone layer, including the ozone layer over the Antarctic. By the end of the century, a healthy ozone layer could also help to ensure the avoidance of an additional 0.5–1 degree Celsius of globally averaged surface warming, by protecting the terrestrial carbon sink from ultraviolet radiation damage. Thus, the work of the Montreal Protocol and its Kigali Amendment was crucial. Currently, 160 of the 198 parties to the Montreal Protocol had ratified the Kigali Amendment, including Thailand earlier in 2024. The tenth anniversary of the Amendment, in 2026, represented an exciting opportunity to achieve universal ratification. UNEP stood ready at both the political and the technical levels to support countries in achieving that goal.

220. The Montreal Protocol was estimated to be able to prevent approximately 2 million cases of skin cancer every year, and millions of cases of cataracts and eye disease. Filtering harmful ultraviolet radiation also protected crops and food chains, constituting an important step towards the achievement of the Sustainable Development Goals, particularly Goal 2. Furthermore, if the phase-down of HFCs was accompanied by energy efficiency enhancement in the cooling sector, the climate benefit could be doubled. Other multilateral environmental agreements and the international community should learn from the Montreal Protocol, whose success was the result of a clearly defined goal, recognition of the needs of developing countries and collaboration between scientists and policymakers, as well as its financial mechanism, which included the Multilateral Fund. Continuing to face the remaining and emerging challenges was key, including through the full implementation of the Kigali Amendment.

B. Statement by the representative of the Government of Thailand

221. Welcoming participants to Bangkok, Mr. Promphan said that his country recognized the significance of ozone depletion, chemicals management and climate change as part of the continuing planetary crisis that required action by the international community. Ever since its ratification of the Montreal Protocol in 1989, Thailand had remained committed to complying with all the related obligations and amendments. In that regard, his Government had recently ratified the Kigali Amendment, and had already implemented a licensing system for HFCs that served to monitor its implementation and compliance with HFC consumption reduction obligations. Other proactive approaches had been taken to accelerate the phase-out of controlled substances, including through regulations to prohibit the use of CFCs in manufacturing and the banning of certain imports. In addition to eliminating the use of controlled substances under the Montreal Protocol, Thailand had also taken a long-term, multi-year approach to funding since the early 2000s, maximized climate benefits as incentives, and promoted innovative initiatives.

222. The achievement of the Kigali Amendment objectives presented a challenge, given the short time frame for Article 5 parties to start their phase-down activities, and the need to find a safe and efficient alternative to the use of refrigerants in cooling equipment. Thailand remained committed to tackling those challenges and would continue to explore innovative and sustainable approaches to that end through collaboration, in line with its national climate strategy and socioeconomic development goals.

C. Statement by the President of the twelfth meeting of the Conference of the Parties to the Vienna Convention

223. In his remarks, Mr. Sylla highlighted the work of the Ozone Research Managers of the Parties to the Vienna Convention, whose meetings were key to ensuring proper coordination of ozone-related research and monitoring programmes and the identification of gaps to be addressed. While the Vienna Convention and the Montreal Protocol were often hailed as the most successful multilateral environmental agreements, many knowledge gaps and uncertainties remained in the areas of observation, science and capacity-building, notably in developing countries and countries with economies in transition. The eleventh and twelfth meetings of the Ozone Research Managers had involved exploration of how to improve the global monitoring of ozone and enhance the global and

regional atmospheric monitoring of substances controlled under the Montreal Protocol. Such discussions had demonstrated, in very concrete terms, the interconnection between the work under the Vienna Convention and the Montreal Protocol. Scientific evidence of the link between the behaviour of the ozone layer and climate change had magnified the value of the work of the Ozone Research Managers, and thus the need for observations and analyses to be relevant to both areas wherever possible.

224. He expressed his gratitude to the members of the Bureau of the Vienna Convention and to the Advisory Committee of the General Trust Fund for Financing Activities on Research and Systematic Observations Relevant to the Vienna Convention for its work and expertise in evaluating project proposals, with a view to ensuring optimal use of the modest resources of the Fund, in line with its long-term strategy and short-term action plan. The Fund should be enabled, through a substantial increase in funding and new collaborative efforts, to realize its full potential to strengthen systematic observations, especially in developing countries and countries with economies in transition, including for the monitoring of substances controlled under the Montreal Protocol. Meanwhile, parties to the Vienna Convention should implement the recommendations of the Ozone Research Managers, including on stronger links between ozone focal points and academia, relevant institutions from developing countries and relevant government and research bodies in developed countries, in order to foster scientific capacity-building.

D. Statement by the President of the Thirty-Fifth Meeting of the Parties to the Montreal Protocol

225. Ms. Rogović-Grubić said that, during the Thirty-Fifth Meeting of the Parties to the Montreal Protocol, the largest ever replenishment of the Multilateral Fund for the Implementation of the Montreal Protocol had been delivered, of some \$965 million for the triennium 2024–2026. That amount reflected both the recognition of the special circumstances of developing countries and the growing challenges associated with the simultaneous phase-out of HCFCs and phase-down of HFCs. The key issues for the next quadrennial assessment had also been identified, paving the way for more cutting-edge, policy-relevant information that would assist in addressing the challenges of implementing the Protocol. Actions had been requested from the Technology and Economic Assessment Panel, the Scientific Assessment Panel and the Ozone Secretariat, which had led to excellent responses at the forty-sixth meeting of the Open-ended Working Group of the Parties. That meeting had resulted in the significant advancement of discussions on several issues, auguring well for the probable adoption of important decisions by the Thirty-Sixth Meeting of the Parties, which would pave the way for future work. Such decisions should include guidance on regional atmospheric monitoring of substances controlled under the Montreal Protocol and on strengthening Montreal Protocol institutions.

226. All the achievements of the ozone treaties to date had been made possible by the hard work of the parties, the assessment panels, the Ozone Secretariat and the secretariat of the Multilateral Fund, as well as the Implementation Committee and the Executive Committee of the Multilateral Fund, together with its implementing and bilateral agencies. The trajectory of ongoing progress in the implementation of the Montreal Protocol could only be enhanced by universal ratification of the Kigali Amendment, which should be achieved by the tenth anniversary of that instrument, in 2026.

II. Organizational matters

A. Election of officers of the thirteenth meeting of the Conference of the Parties to the Vienna Convention

227. In accordance with paragraph 1 of rule 21 of the rules of procedure for meetings of the Conference of the Parties to the Vienna Convention, the following officers were elected, by acclamation, to the Bureau of the thirteenth meeting of the Conference of the Parties:

President:	Yaqoub Al-Matouq (Kuwait) (Asia-Pacific States)
Vice-Presidents:	Liana Ghahramanyan (Armenia) (Eastern European States)
	Sandrine Benard (Norway) (Western European and other States)
	Gilda María Torres (Paraguay) (Latin American and Caribbean States)
Rapporteur:	Beatrice Odwong Atim (Uganda) (African States)

B. Election of officers of the Thirty-Sixth Meeting of the Parties to the Montreal Protocol

228. In accordance with paragraph 1 of rule 21 of the rules of procedure for meetings of the parties to the Montreal Protocol, the following officers were elected, by acclamation, to the Bureau of the Thirty-Sixth Meeting of the Parties:

President:	Kerryne James (Grenada) (Latin American and Caribbean States)
Vice-Presidents:	Alain Wilmart (Belgium) (Western European and other States)
	Wan Abdul Latiff Wan Jaffar (Malaysia) (Asia-Pacific States)
	Ndiaye Cheikh Sylla (Senegal) (African States)
Rapporteur:	Claudia Dumitru (Romania) (Eastern European States)

C. Adoption of the agenda of the high-level segment

229. The following agenda for the high-level segment was adopted on the basis of the provisional agenda contained in document UNEP/OzL.Conv.13/1–UNEP/OzL.Pro.36/1, section II.

1. Opening of the high-level segment:
 - (a) Statement by the President of the twelfth meeting of the Conference of the Parties to the Vienna Convention;
 - (b) Statement by the President of the Thirty-Fifth Meeting of the Parties to the Montreal Protocol;
 - (c) Statement by a representative of the United Nations Environment Programme.
2. Organizational matters:
 - (a) Election of officers of the thirteenth meeting of the Conference of the Parties to the Vienna Convention;
 - (b) Election of officers of the Thirty-Sixth Meeting of the Parties to the Montreal Protocol;
 - (c) Adoption of the agenda of the high-level segment;
 - (d) Organization of work;
 - (e) Credentials of representatives.
3. Presentations by the assessment panels on the status of their work.
4. Report 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.
5. Statements by heads of delegation and discussion of key topics.
6. Report by the co-chairs of the preparatory segment and consideration of the decisions recommended for adoption by the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol.
7. Dates and venues for the fourteenth meeting of the Conference of the Parties to the Vienna Convention and the Thirty-Seventh Meeting of the Parties to the Montreal Protocol.
8. Other matters.
9. Adoption of decisions by the Conference of the Parties to the Vienna Convention at its thirteenth meeting.
10. Adoption of decisions by the Thirty-Sixth Meeting of the Parties to the Montreal Protocol.
11. Adoption of the report of the thirteenth meeting of the Conference of the Parties to the Vienna Convention and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol.
12. Closure of the meeting.

D. Organization of work

230. The parties agreed to follow their customary procedures.

E. Credentials of representatives

231. The bureaux of the thirteenth meeting of the Conference of the Parties to the Vienna Convention and of the Thirty-Sixth Meeting of the Parties to the Montreal Protocol approved the credentials of the representatives of 93 of the 144 parties represented at the meeting. The bureaux noted that the credentials of 76 of those 93 parties were originals, while 17 were copies that had been accepted on the understanding that originals would be submitted as soon as possible. The bureaux provisionally approved the participation of 51 parties on the understanding that they would forward their credentials to the Secretariat as soon as possible. The bureaux urged all parties attending future meetings of the parties to make their best efforts to submit credentials to the Secretariat as required under rule 18 of the rules of procedure for meetings of the Conference of the Parties to the Vienna Convention and of the rules of procedure for meetings of the parties to the Montreal Protocol. The bureaux also recalled that those rules of procedure required that credentials be issued either by a Head of State or Government or by a minister for foreign affairs or, in the case of a regional economic integration organization, by the competent authority of that organization. The bureaux further recalled that representatives of parties not presenting credentials in the correct form could be precluded from participating fully in the meetings of the parties, including with regard to the right to vote.

III. Presentations by the assessment panels on the status of their work

232. The Co-Chair of the Scientific Assessment Panel, David Fahey, gave a presentation on the work of the Panel. A summary of the presentation, prepared by the presenter, is set out in section C of annex I to the current report.

233. The Co-Chair of the Environmental Effects Assessment Panel, Janet F. Bornman, gave a presentation on the work of the Panel. A summary of the presentation, prepared by the presenter, is set out in section D of annex I to the current report.

234. The Co-Chair of the Technology and Economic Assessment Panel, Bella Maranion, gave a presentation on the work of the Panel. A summary of the presentation, prepared by the presenter, is set out in section E of annex I to the current report.

235. Responding to a question on efficient and safe alternatives to blowing agent HCFC-141b, Paulo Altoé, co-chair of the Flexible and Rigid Foams Technical Options Committee, said that water-blown agents were suitable for use in countries with high ambient temperatures, as were fourth-generation blowing agents, such as HCFC-1233zd, which, when used in small quantities and blended with water, had similar levels of stability and could therefore be used in remote areas. He noted, though, that the drum containing such a mixture, when transported to remote areas, should be suitably insulated and protected.

236. One representative said that Article 5 parties, in particular, would face growing challenges in the monitoring and control of HCFC-141b, including by customs services, as they currently lacked sufficient laboratory capacity for the necessary testing and envisaged that the demands for such testing would only increase once the ban on HCFC-141b came into force in 2025, when attempts to smuggle the substance into parties would likely increase.

237. In answer to a question on the availability of refrigerants with low global-warming potential that had proved to be efficient in countries with high ambient temperatures, Fabio Polonara, co-chair of the Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee, said that HFC-32 and R-454b were suitable for conditioners with air-to-air systems, and R-513a and R-514a, among others, were suitable for water-to-air systems. Those alternatives had been successfully tested in various high-ambient temperatures, including in Egypt, Jordan and the United Arab Emirates. Regarding safety, he noted that R-454b, which had been widely adopted globally, had very low flame velocity and was therefore considered a safe refrigerant for domestic air conditioners and for packaged units for air-to-air systems.

238. In response to a request for updated information on halon 1301 and 1211, Dan Verdonik, co-chair of the Fire Suppression Technical Options Committee, said that the Committee was focusing on identifying the reasons for the higher-than-anticipated halon emissions, having ruled out the halon bank as a source of those emissions, and on investigating the issue of halon contamination. An update on both issues would be provided in the progress report of the Technology and Economic Assessment Panel for 2026, if not earlier, and the Committee would also provide an updated predicted run-out date

for halon 1301 and 1211. He also noted that the Technical Options Committee would be working with the Scientific Assessment Panel, as a matter of urgency, on investigating further the substantial difference between the atmospheric-based emissions estimates and the model estimates from the halon bank for halon 1211. It was vital to complete such work as soon as possible, as several alternatives to halon 1211 were no longer available, since they had been found to be ozone-depleting substances or per- and polyfluorinated alkyl substances (PFAS).

239. In response to questions on methyl bromide, Ian Porter, co-chair of the Methyl Bromide Technical Options Committee, said that the sources of about 10,000 tons of methyl bromide emissions remained unknown. Regarding new information, he said that the Committee had received a detailed paper from experts in China on methyl bromide emissions in the country for the period 2011–2021, in which consistent, significant increases in emissions had been identified in densely populated areas in the country, but the nature of the source, namely whether natural or anthropogenic, had not been identified. As the paper had only been received on 16 October 2024, the Scientific Assessment Panel and the Technology and Economic Assessment Panel had not yet carried out a full analysis and would therefore report to parties on their findings at a suitable opportunity.

240. Regarding a request for clarification from one representative on the information presented on alternatives to controlled substances, including some breakdown products, that could be considered PFAS, Ms. Bornman said that she would contact the representative directly to discuss the issue. She also noted that the three panels continued to discuss ways of removing the inconsistencies that persisted with regard to PFAS and informed parties that the panels would be contributing to discussions at a meeting of the International Union of Pure and Applied Chemistry in 2025 regarding producing a harmonized definition of PFAS.

241. One representative underscored that PFAS, also known as “forever chemicals”, were of great concern, as the full extent of their effects on human health and the environment were unknown and increasing levels of concentration of the substances were being found, for example in fresh water. She noted that her country, in the same way as was done by countries in the European Union, had adopted a precautionary approach to PFAS and was considering perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) separately from other PFAS. In order to avoid inadvertently creating any new environmental problems, parties should be encouraged, when developing their national plans for HFC phase-down, to carefully assess the environmental and climate effects of any alternatives to HFCs. She also recalled that, in decision XXV/3, the panels had been requested to keep the parties abreast of any new research on the topic of PFAS, and she looked forward to receiving updated information in the coordinated report in 2026.

242. In response to a query on trifluoroacetic acid, Ms. Bornman agreed that more research needed to be carried out on the effects of chronic exposure to the substance but noted that the fact that it was not possible to carry out such research on humans presented significant challenges. She drew attention to the increasing level of research based on monitoring of the substance that was being carried out in China, including regarding trifluoroacetic acid as a byproduct of certain industries.

243. One representative, speaking on behalf of a group of parties, warmly welcomed the information that lower-global-warming-potential pressurized metered-dose inhalers might be available from 2026.

244. The parties took note of the information presented.

IV. Report 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

245. The Chair of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol, María Antonella Parodi, reported on the work of the Executive Committee, the Multilateral Fund secretariat and the implementing agencies of the Fund since the Thirty-Fifth Meeting of the Parties, summarizing the information set out in document UNEP/OzL.Pro.36/8. Her statement is set out in annex II to the present report.

246. The parties took note of the information presented.

V. Statements by heads of delegation and discussion of key topics

247. During the high-level segment, statements were made by the heads of delegation or their representatives of the following parties: Angola, Cambodia, China, Cuba, Ecuador, Eswatini, Ethiopia, European Union, Gabon, Gambia, Grenada, Guinea, Indonesia, Iran (Islamic Republic of), Kenya,

Malaysia, Maldives, Micronesia (Federated States of), Myanmar, Peru, Philippines, Russian Federation, Senegal, Somalia, South Africa, Timor-Leste, Tunisia, Türkiye, Uganda, Ukraine, United Republic of Tanzania, United States of America (speaking in part also on behalf of Australia, Canada, Japan, New Zealand, Norway, Switzerland and the United Kingdom), Venezuela (Bolivarian Republic of) and Viet Nam. Statements were also delivered by the representatives of the International Institute of Refrigeration, the Environmental Investigation Agency and the children and youth major group.

248. All the representatives of parties who spoke expressed their gratitude to the Government and people of Thailand for their warm welcome and hospitality. They also expressed their appreciation for the untiring work of the Ozone Secretariat and the bureaux, the secretariat and the Executive Committee of the Multilateral Fund, UNEP, the implementing agencies, donor partners, the assessment panels, international organizations and other stakeholders in ensuring the success of the current meeting and of the Montreal Protocol more broadly.

249. Many representatives expressed their continued commitment to the goals of the Montreal Protocol, which, they said, had proven to be an extraordinary instrument, arguably the most successful multilateral environmental agreement in existence. Hard and sustained work by its parties had delivered tangible results: the phasing out of 98 to 99 per cent of the production and consumption of ozone-depleting substances, an ozone layer now firmly on the path to recovery, significant reductions in emissions of greenhouse gases and a major stimulus to sustainable industrial production and consumption. The Protocol had fostered positive cooperation between developed and developing countries in accordance with the principle of common but differentiated responsibility. It remained a beacon of hope, a powerful example of a successful collective response to a global environmental threat.

250. As one representative observed, the following three years would mark the fortieth anniversaries of the Vienna Convention and the Montreal Protocol, and the tenth anniversary of the Kigali Amendment. It would be right to celebrate those milestones, but parties must use the occasions to assess what more needed to be done, building on past successes for the benefit of future generations.

251. Many representatives described the actions continuing to be taken in their own countries, with assistance from the Multilateral Fund and the implementing agencies, to phase out ozone-depleting substances, implement the stages of their HCFC phase-out management plans and achieve compliance with the provisions of the Protocol, including through legislative, policy, institutional and programmatic measures. Several representatives said that they were proud to announce their achievement of phase-out targets for HCFCs and methyl bromide ahead of the deadlines set by the Protocol, and their plans for the accelerated phase-down of HFCs. One representative said that the institutional strengthening support provided through the Multilateral Fund had proved indispensable.

252. A wide range of specific activities were outlined, including industrial conversion projects, support for the servicing sector, the certification and training of technicians and the provision of new equipment for them, the establishment of new centres and laboratories for refrigeration and air-conditioning technologies and practices, collaboration with key stakeholders, including industry associations and universities, and public awareness campaigns. The holistic framework of institutions, laws and regulations, and trade controls, including import bans on specific substances and equipment, was crucial. Illegal trade, in both substances and equipment, remained a challenge for many countries, but was being tackled through the training of customs officers and the provision of chemical identifiers, and by fruitful collaboration and exchanges of information between countries.

253. Several representatives commented on the positive impacts on the economy generated by those activities, including the creation of new jobs and investment and support for innovation and improvements in industrial competitiveness. Some applauded the record level of replenishment of the Multilateral Fund that had been agreed in 2023, and representatives of non-Article 5 parties expressed their continued support for it. Some representatives highlighted their work to ensure social inclusion and equity through their Montreal Protocol activities, ensuring that marginalized groups benefited and that a fairer and more resilient society resulted. Specific activities included encouraging women technicians to join training programmes and providing scholarships and training aimed at young people. The representative of the children and youth major group stressed the importance of the greater participation of young people in decision-making forums. He called for the attribution to his major group of a dedicated seat at future meetings of the Conference of the Parties to the Vienna Convention and the meetings of the parties to the Montreal Protocol, and the voluntary allocation of additional resources in support of that participation.

254. Many representatives highlighted the importance of the Montreal Protocol for combating climate change in the face of the increasingly devastating impacts, including storms, floods, wildfires, heatwaves, droughts and coastal erosion, among much else; 2024 was likely to prove one of the hottest

years in human history. For many small island developing States, climate change threatened their very existence. The need for a comprehensive response had never been more urgent. Several representatives highlighted how the strategies their countries had developed in response to the Montreal Protocol were already contributing to their national climate strategies and their nationally determined contributions under the Paris Agreement on climate change.

255. In that respect, the Kigali Amendment to the Montreal Protocol was critical, offering the opportunity of preventing a temperature rise of up to 0.5°C by the end of the century. Many representatives announced their pride in the fact that the Amendment had so far attracted 160 ratifications; several called on those parties that had not yet ratified it to do so, and others announced that their countries were in the process of ratification. One representative expressed the hope that the Amendment would achieve universal ratification by 2026, its tenth anniversary.

256. Several representatives highlighted the importance of the year 2024 as the date by which most Article 5 parties should have frozen their HFC production and consumption at baseline levels, and expressed the hope that the subsequent phase-down targets would be achieved ahead of schedule. They said that they expected technological innovation to offer unprecedented opportunities, as it had in the past, and countries would be able to rely on the institutions and capacity they had developed to deliver the phase-out of HCFCs.

257. Many representatives described the activities they were already undertaking to phase down HFCs, often in the context of Kigali HFC implementation plans approved by the Executive Committee of the Multilateral Fund. Specific activities included enhancing the capacity of key stakeholders, particularly technicians, providing training and equipment to help them install and maintain sustainable cooling solutions, introducing new product and equipment standards and labels, including for HFCs in the local carbon market, extending national import and export licensing systems to cover HFCs, preventing imports of energy-inefficient refrigeration and air-conditioning equipment, and promoting alternatives to high-GWP substances, including in particular natural refrigerants. Regional collaboration, for example in workshops and demonstration projects, had proved helpful. Some representatives, however, highlighted continuing challenges in developing or accessing satisfactory alternatives for all uses, including for reasons of their cost.

258. Many representatives highlighted the synergy between measures to promote energy efficiency and achieving the goals of the Kigali Amendment and the climate agreements, reducing the need both for refrigerants and fossil fuel consumption for energy. Several representatives described their national efforts, such as the introduction of minimum energy performance standards for cooling equipment or interministerial coordination mechanisms. Some stressed the utility of the twinning workshops for national ozone officers and national energy-efficiency policymakers, organized under the OzonAction programme. One representative also welcomed the decision of the Executive Committee of the Multilateral Fund to establish an initial \$100 million window for the refrigeration and air-conditioning manufacturing sectors in the Fund's energy efficiency operational framework.

259. Similarly, efforts to reclaim, recycle and reuse refrigerants were essential; if HFCs could be kept within the equipment using them they would not reach the atmosphere and contribute to climate change. One representative stressed the importance of recovering end-of-life ozone-depleting substances wherever possible as opposed to destroying them, despite the possibility, for example, of earning carbon credits for doing so. Another representative described the reclamation, recycling and reuse of refrigerants as an evolutionary step in the development of the Montreal Protocol, embedding the concept of the circular economy. Many representatives called for further activities such as opening reclamation centres for high-GWP refrigerants, training technicians in the safe management of the substances throughout their life cycle and recovery and disposal at end of life, and conducting inventories of banks and equipment. Several representatives drew attention to the successful workshop on life-cycle refrigerant management held by the Ozone Secretariat just before the current meeting.

260. Despite the successes of the Montreal Protocol, many representatives drew attention to continued challenges, including insufficient financial support, limited national capacities, restricted access to low-GWP technologies, an absence of the infrastructure needed for reclamation, recycling and end-of-life management, and continued problems with illegal imports. Given the growing demand for cooling, investment in, and the transfer of, energy-efficient low-GWP-refrigerant-using cooling technologies was essential, along with support for the servicing sector, training of customs officials and stronger sanctions for those engaged in illegal trade. Some key stakeholders, including consumers and industry, were still insufficiently engaged; public awareness-raising campaigns were needed. Representatives called in particular for continued international cooperation and support to enable their countries to realize the opportunities and rise to the challenges. One representative of an observer confirmed her organization's commitment to providing independent support and capacity-building in

refrigeration matters and to ensuring a link between the providers and users of scientific evidence for informed decision-making.

261. A number of representatives called for greater support for the expansion of atmospheric monitoring sites. One representative recalled how atmospheric monitoring had detected unreported emissions of CFC-11 in 2018, enabling parties to take action, and emissions had fallen. More recently, a similar problem seemed to have emerged with unreported emissions of HFC-23, which had reached a level, in 2019, of 200 million tonnes of CO₂-equivalent emissions. He expressed the hope that parties would again take action and drew attention to the proposal for a draft decision on emissions of HFC-23 that was being discussed. A representative of an observer also expressed her organization's concern about unreported, unaccounted for and unexpected emissions of ozone-depleting substances. She said that the problem could be mitigated by better monitoring, the use of alternative feedstocks and life-cycle refrigerant management. A number of representatives called for more extensive monitoring of substances not controlled by the Montreal Protocol, but which nevertheless damaged the ozone layer, such as nitrous oxide (N₂O). Since that was now the largest threat to the ozone layer, they expressed the view that it needed further consideration by the parties to the Montreal Protocol and the hope that it could be discussed by the following meeting of the parties.

262. One representative called for the development of alternatives to carbon tetrachloride used as chemical feedstock; even though it depleted the ozone layer and was a powerful greenhouse gas and was toxic, its use as feedstock was allowed under the Montreal Protocol. Other representatives emphasized emerging concerns over PFAS, or “forever chemicals”, given the risks they posed to the atmosphere and human health risk. Another representative highlighted the need to develop ozone-friendly and climate-friendly and safe alternatives for metered dose inhalers.

263. Several representatives observed that the wider economic and geopolitical outlook was very challenging. The world economy was weaker than it had been, and several countries had still not recovered from the impacts of the coronavirus disease (COVID-19) pandemic. Ongoing armed conflicts posed threats to international cooperation.

264. In that context, the representatives of the European Union and the United States, speaking also on behalf of Australia, Canada, Japan, New Zealand, Norway, Switzerland and the United Kingdom, condemned the unprovoked invasion of Ukraine by the Russian Federation, which, they said, was not only a violation of the Charter of the United Nations but an action which had led to negative and irreversible impacts on the environment. The representative of Ukraine drew attention in particular to the destruction of refrigeration and air-conditioning systems, which had contributed to an estimated 180 million tonnes of CO₂-equivalent emissions of greenhouse gases caused by military operations on his country's territory for the two years from February 2022. Although there could be no effective climate policy without peace, he said that Ukraine would continue to fulfil its commitments under the Montreal Protocol. Speaking in exercise of the right of reply to the statements made by the representatives of the European Union, Ukraine and the United States, speaking also on behalf of Australia, Canada, Japan, New Zealand, Norway, Switzerland and the United Kingdom, the representative of the Russian Federation condemned the inaccurate statements made about her country and reminded representatives that the current meeting and other multilateral platforms were not places for one-sided accusations.

265. In conclusion, representatives expressed their belief that the Montreal Protocol was one of the strongest multilateral environmental agreements, possibly the most effective one, but its parties needed to continue to work together to meet the continued challenges it faced. The Montreal Protocol was a model of global environmental cooperation; it gave hope for addressing other environmental challenges, achieving the Sustainable Development Goals and ensuring the future habitability of the planet.

VI. Report by the co-chairs of the preparatory segment and consideration of the decisions recommended for adoption by the Conference of the Parties to the Vienna Convention at its thirteenth meeting and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol

266. The Co-Chair of the preparatory segment reported that the work of the segment had concluded successfully and draft decisions had been approved for consideration and possible adoption during the high-level segment. He expressed gratitude to all concerned for their hard work and for the spirit of

cooperation and compromise that had enabled agreement to be reached on such a large number of draft decisions.

VII. Dates and venues for the fourteenth meeting of the Conference of the Parties to the Vienna Convention and the Thirty-Seventh Meeting of the Parties to the Montreal Protocol

267. The representative of Kazakhstan announced the intention of his Government to submit to the Secretariat a formal offer to host the Thirty-Seventh Meeting of the Parties, in November 2025. He recalled that his country, as a responsible member of the global community, strove to contribute to achieving shared goals enshrined in climate-related treaties by, among other things, implementing a strategy to achieve carbon neutrality at the national level by 2060, and setting goals to reduce greenhouse gas emissions in the country by 50 per cent, and by 25 per cent of the 1990 level, by 2030. Kazakhstan was also in the process of ratifying the Kigali Amendment.

268. The President of the thirteenth meeting of the Conference of the Parties to the Vienna Convention, expressing thanks to the representative of Kazakhstan, said that the Thirty-Seventh Meeting of the Parties to the Montreal Protocol would be convened from 3 to 7 November 2025 in Nairobi unless other appropriate arrangements were made by the Secretariat in consultation with the Bureau. In addition, it was proposed that the fourteenth meeting of the Conference of the Parties to the Vienna Convention for the Protection of the Ozone Layer and the Thirty-Ninth Meeting of the Parties be held back to back, in 2027. Draft decisions on the matter were set out in document UNEP/OzL.Conv.13/3–UNEP/OzL.Pro.36/3 (draft decisions XIII/[B] and XXXVI/[FF]) and would be updated accordingly.

269. He also informed the parties that the forty-seventh meeting of the Open-ended Working Group was scheduled to be held in Bangkok from 7 to 11 July 2025.

270. The parties took note of the information provided.

VIII. Other matters

271. No other matters were considered during the high-level segment.

IX. Adoption of decisions by the Conference of the Parties to the Vienna Convention at its thirteenth meeting

272. The thirteenth meeting of the Conference of the Parties to the Vienna Convention adopted the decisions approved during the preparatory segment, as set out in document UNEP/OzL.Conv.13/8/Add.1–UNEP/OzL.Pro.36/9/Add.1.

X. Adoption of decisions by the Thirty-Sixth Meeting of the Parties to the Montreal Protocol

273. The Thirty-Sixth Meeting of the Parties adopted the decisions approved during the preparatory segment, as set out in document UNEP/OzL.Conv.13/8/Add.1–UNEP/OzL.Pro.36/9/Add.1.

XI. Adoption of the report of the thirteenth meeting of the Conference of the Parties to the Vienna Convention and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol

274. The parties adopted the current report on Friday, 1 November 2024, on the basis of the draft report that had been circulated. The Presidents, with the assistance of the Ozone Secretariat, were entrusted with the finalization of the report.

XII. Closure of the meeting

275. Following the customary exchange of courtesies, the meeting was declared closed at 9.45 p.m. on Friday, 1 November 2024.

Annex I

Summaries of presentations by members of the assessment panels and technical options committees*

A. Presentation on the Scientific Assessment Panel response to decision XXXV/7: emissions of HFC-23

1. The Scientific Assessment Panel (SAP) of the Montreal Protocol made a presentation at the 36th Meeting of the Parties titled: “Report of the Scientific Assessment Panel Response to Decision XXXV/7: Emissions of HFC-23”. The presentation highlighted the Executive Summary text of a report submitted by the SAP in advance of the 36th MOP, together with figures that supported those summary conclusions. The presentation included a description of the new and newly updated scientific information on HFC-23 that had become available subsequent to the 2022 Science Assessment Panel Report, which included updated atmospheric measurements, derived emissions, and upper limits to amounts produced from atmospheric oxidation. These atmosphere-measurement-derived results were considered relative to available reporting-based emissions and expectations on global and regional scales, based on close consultation with the Technology and Economic Assessment Panel (TEAP) and information from the Ozone Secretariat and the secretariat of Multilateral Fund for the Implementation of the Montreal Protocol. The results reaffirm a substantial gap in atmosphere-derived emissions of HFC-23 relative to reporting-based estimates on both of these scales.

B. Presentation on the Technology and Economic Assessment Panel response to decision XXXV/7 on emissions of HFC-23

2. Ms. Helen Tope, co-chair of the Medical and Chemical Technical Options Committee (MCTOC), on behalf of the Technology and Economic Assessment Panel and its Medical and Chemical Technical Options Committee, presented TEAP’s response to decision XXXV/7 on emissions of HFC-23. She recalled that paragraph 2 of decision XXXV/7 requested TEAP to report to this meeting on the quantity of HFC-23 being consumed, by country and by sector, and on updated estimates on the amounts of HFC-23 generated at and emissions from HCFC-22 production facilities; and that paragraph 5 of the decision invited parties to provide information to the Panels that may help inform the reports but that no information was provided. She noted that the TEAP report updated information in the 2022 MCTOC Assessment Report and the 2023 TEAP Response to decision XXXIV/7 on strengthening institutional processes with respect to information on HFC-23 by-product emissions.

3. She explained that the Medical and Chemical Technical Options Committee led the preparation of the report on behalf of the TEAP and collaborated closely with the Scientific Assessment Panel and other TEAP experts. She further explained that for additional context, consistent with previous reports, updated information was provided on other HFC-23 emissions from consumptive and emissive uses of HFC-23. She noted that there are several chemical mechanisms that can generate HFC-23 as a by-product in chemical production processes, and that the quantity of by-product generated is greater than the amount of HFC-23 required for use as feedstock or for other consumption. She recalled that parties to the Kigali Amendment are required to destroy HFC-23 generated as a by-product of HCFC-22 production to the extent practicable using a destruction technology approved by the Montreal Protocol. She noted that the operation and maintenance of incineration facilities to destroy HFC-23 by-product is a cost to the companies responsible for its generation, particularly as HCFC-22 is a low profit margin product. In response to paragraph 2(a) of decision XXXV/7 on the quantity of HFC-23 being consumed, by country and by sector, she noted that information on consumption is not always readily available to the level of detail requested in the decision by country and by sector. She further noted that HFC-23 consumption and feedstock use data are not available for all parties due to the timing of reporting obligations associated with ratification of the Kigali Amendment although that some data are available from other sources relating to the quantities used for each of the applications. She explained that HFC-23 is consumed as a feedstock and in very small quantities in emissive uses for fire suppression, very low temperature refrigeration, and semiconductor and electronics manufacturing. She noted that several parties that manufacture Annex C, Group I and/or Annex F substances capture the HFC-23 that is generated for feedstock and/or emissive uses, divert it for destruction, or alternatively, parties could produce HFC-23 separately for feedstock or emissive uses.

* The summaries are presented as received, without formal editing.

She said that reported HFC-23 consumption was about 2,600 tonnes for non-feedstock uses for fire protection, ultra-low temperature refrigeration, and semiconductor and electronics manufacturing, and about 1,100 tonnes for feedstock uses in 2022.

4. In response to paragraph 2b of decision XXXV/7 regarding updated estimates on quantities of HFC-23 generated at, and emissions from, HCFC-22 production facilities, she explained the methodology and information used by MCTOC. She elaborated that Article 7 data was used for the quantities of HCFC-22 production and HFC-23 emissions, as reported by parties under mandatory obligations. She noted that the timing of obligations impacted completeness of HFC-23 emissions data, which was supplemented with reported UNFCCC data for the United States. She noted that data on quantities of HFC-23 generated from HCFC-22 production are reported by parties on a voluntary basis and were not published by party in this report, and further that HFC-23 generation data are not reported by all parties known to produce HCFC-22. She explained that, therefore, MCTOC applied estimated HFC-23 by-product generation rates to Article 7 reported HCFC-22 production quantities to estimate HFC-23 by-product generation quantities. She summarised that total HCFC-22 production reported under Article 7 was about 1,197,000 tonnes, estimated HFC-23 by-product generation from HCFC-22 production was in the range of about 18,000 to 36,000 tonnes, consistent with the HFC-23 generation data reported by parties on a voluntary basis, and total HFC-23 emissions from HCFC-22 production reported under Article 7 and UNFCCC for the United States was about 836 tonnes. She added that, for additional context, TEAP provided updated estimates of global HFC-23 emissions from known emissions sources, as previously presented in the September 2023 TEAP Report in response to decision XXXIV/7. She noted that some of these were broad estimates where further information to improve their accuracy is currently not available. She explained that TEAP estimates HFC-23 emissions from known emissions sources to be about 1,470–3,540 tonnes per year in recent years, which excludes the SAP estimate of less than 430 tonnes per year for the potential additional source of HFC-23 from atmospheric oxidation. She noted that, by comparison, SAP reports estimated global HFC-23 emissions of $13,900 \pm 700$ tonnes for 2022 based on atmospheric observations. She summarised the conclusions by noting the large difference between TEAP and SAP estimates of global HFC-23 emissions.

5. She noted that uncertainties in atmospheric-derived estimates could not explain the difference between SAP and TEAP estimates, and that the differences could not currently be explained with the data reported under Article 7 and other sources. She noted that TEAP had identified all the major sources likely to contribute most of the HFC-23 emissions. She recalled that, in terms of the more significant HFC-23 sources, around 95% of estimated total global HFC-23 by-product generation is from HCFC-22 production and a major portion of TEAP's estimate of total HFC-23 emissions comes from data reported under Article 7 of the Montreal Protocol and the UNFCCC for HFC-23 emissions predominantly from HCFC-22 production. She explained that uncertainties in TEAP estimates of HFC-23 emissions from relatively smaller known sources other than HCFC-22 production are unlikely to bridge the difference between TEAP and SAP estimates. She also explained that any unknown smaller sources are unlikely to bridge the large difference between TEAP and SAP estimates. She concluded that there are unknowns and uncertainties surrounding Article 7 data reporting for HFC-23 emissions, including how facilities are measuring and reporting HFC-23 emissions, and that given the large difference between TEAP and SAP estimates, the question arises whether the data is accurate and/or have been combined from all the sources required under Article 7. She suggested that consideration of approaches used by parties when measuring and reporting HFC-23 emissions might address some of the current unknowns and uncertainties and that the refinements to data form 6 might help address some of these issues. In concluding, she recommended that parties may wish to consider refinements to the reporting of HFC-23 emissions.

C. Presentation by the Scientific Assessment Panel on the 2026 World Meteorological Organization/United Nations Environment Programme scientific assessment of ozone depletion

6. The Scientific Assessment Panel (SAP) (co-chairs Lucy Carpenter, David Fahey, Ken Jucks, Bonfils Safari and Steve Montzka) of the Montreal Protocol made a presentation at the high-level segment of the 36th Meeting of the Parties titled: The 2026 WMO/UNEP Scientific Assessment of Ozone Depletion. The presentation began with perspectives on the relationship of the SAP to other international research organizations involved in ozone research and on the long history of policy support from the ozone assessment reports. The update concerning the planning for the 2026 report included Terms of Reference from the parties, proposed chapter titles, and tentative timeline for completion. Additional comments were made about the value of the interim reports on HFC-23 and very short-lived substances; the plans to update the Annex and the 20 Questions and Answers booklet;

and the Chinese translation of the 20 Questions and Answers booklet. Finally, an update was provided on the status of the 2024 Antarctic ozone hole.

D. Presentation by the Environmental Effects Assessment Panel on the environmental effects of stratospheric ozone depletion, ultraviolet radiation and interactions with climate change

7. On behalf of the Environmental Effects Assessment Panel and co-chair Paul Barnes, co-chair Janet Bornman presented the 2024 Update Assessment on the environmental effects of stratospheric ozone depletion, UV radiation, and interactions with climate change.
8. Highlights from the Update included modelling studies that continue to show the benefit of the Montreal Protocol in preserving the stratospheric ozone layer and protecting the climate, with respect to projected precipitation, drought, and high temperatures that would have occurred without the Montreal Protocol. Potential effects were also presented of stratospheric aerosol injection (SAI) one type of climate intervention that has been suggested for temporarily reducing global warming by reflecting radiation away from the Earth's surface. It was noted that modelling studies show large uncertainties with respect to effects of SAI on the biosphere and many unintended consequences are likely but difficult to assess.
9. Some of the alternatives to the ozone-depleting substances (ODS) under the purview of the Montreal Protocol are the per- and polyfluorinated alkyl substances (PFAS), including those ODS that degrade to produce PFAS. There is a clear need to better understand the effects of the many thousands of compounds that are included under the umbrella definitions of the per- and polyfluorinated alkyl substances (PFAS). Several current efforts to define which chemicals are considered as PFAS are based on chemical structure but do not consider inherent individual differences in toxicity, bioaccumulation, and persistence in the environment.
10. Further studies of the potential effects in humans of trifluoroacetic acid (TFA) in water have been carried out on laboratory animals. Data were adjusted to account for differences in body weight. Results showed that chronic exposure to TFA salts in water continues to be a de minimis risk. However, continued monitoring and experimental study are still needed.
11. Effects on the environment included the breakdown (photodegradation) of plastics by UV radiation and climate factors. UV radiation plays a significant role in degrading plastics into very small particles (micro- and nanoplastics) that are easily taken up by ecosystems, humans, and other animals. The additives incorporated into plastics was raised as another concern based on the toxicity of many of these additives, since they too are released into the environment following plastic breakdown.
12. A Canadian national study on the incidence of melanoma in humans and a warming climate found that an increase of 1.5 °C was associated with a 26% increase in the expected number of melanoma cases for a region. Factors taken into account for this study included average temperature and daily UV radiation during summer months.
13. The presentation concluded with the contributions of the Montreal Protocol to many of the Sustainable Development Goals.

E. Presentation by the Technology and Economic Assessment Panel on progress in its work

14. Ms. Bella Maranion provided an update on the progress of work and emerging issues of the Technology and Economic Assessment Panel (TEAP). Ms. Maranion highlighted the TEAP membership in 2024, noting that, currently, the TEAP consists of 21 members: three co-chairs, five senior experts, and 13 co-chairs of the five Technical Options Committees (TOCs) including the Flexible and Rigid Foams Technical Options Committee (FTOC), Fire Suppression Technical Options Committee (FSTOC), Methyl Bromide Technical Options Committee (MBTOC), Medical and Chemicals Technical Options Committee (MCTOC), and Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee (RTOC). She noted that there are over 150 experts serving on TEAP, its TOCs, and temporary subsidiary bodies (e.g., Task Forces) on a voluntary basis. She expressed appreciation for their commitment and service, for the ongoing support of parties for their experts, and also for the continued support of the Ozone Secretariat to the work of the TEAP.
15. Ms. Maranion then provided an overview of the TEAP's changing scope and workload including the overlap of the ODS phaseout and HFC phasedown regimes, Kigali Amendment issues (e.g., HFC alternatives, energy efficiency, lifecycle refrigerant management (LRM)). She noted that standing decisions already provide opportunities for regular updates and reports for the TEAP to

provide to parties, including the Annual Progress Report, Quadrennial Assessment, Quintennial HFC alternatives assessment, Replenishment Report, Periodic High Ambient Temperature (HAT) exemption review, critical use nominations (CUNs), essential use nominations (EUNs), uses of n-propyl bromide (nPB), review of destruction technologies, laboratory and analytical uses, and use of process agents. She noted that TEAP also reports on emerging issues (e.g., CFC-11, PFAS, very short-lived substances (VSLS), vaccine cold chain, HFC-23) as needed.

16. Ms. Maranion reported that in 2024, TEAP produced three major new reports, plus responses to five separate decisions requesting updates to information which TEAP had provided recently. She provided an overview of planned reports in 2025 and 2026, including the TEAP Quadrennial Assessment Report. She noted that in 2025, a progress report would be due, including a response to decision XXXV/20 “Options for the organization of TEAP and its TOCs”, in concert with other ongoing activities including replenishment planning, modelling updates, coordination with Panels, etc. In 2026, 9-11 reports will be finalised and published including the progress report, the quadrennial assessment, the study on replenishment of the Multilateral Fund, and 2027 reports will be developed, including the Synthesis and HFC alternatives reports.

17. Ms. Maranion next relayed decision XXXV/3 providing the terms of reference for the TEAP quadrennial assessment. In this decision, parties requested the TEAP to assess and evaluate 11 topics including technical progress in the production and consumption sectors in the transition to alternatives for controlled substances in all sectors, process agents and feedstock uses, an assessment of information relating to emissions of controlled substances from feedstock and production processes and other manufacturing processes, status of banks and stocks of controlled substances, challenges facing all parties to the Montreal Protocol in implementing obligations under the Protocol and maintaining the phase-outs already achieved, the impact of the phase-out of ODS and the phasedown of HFCs on sustainable development, technical advances in developing alternatives to HFCs taking into account, in particular, energy efficiency, safety, and suitability for use in high-ambient-temperature countries, information on uses where HCFCs were not previously used and HFCs have been used and are currently used, such as electronics manufacturing, assessment of whether production of HFOs results in fugitive emissions of HFCs, potential impacts of evolving policies and regulations (e.g., on PFAS) in relation to the management of controlled substances and their alternatives and breakdown products, and information on refrigerant management, with particular attention to leakage prevention and end-of-life management.

18. Ms. Maranion then described ways that TEAP continues to evolve, explaining that TEAP is aware of the need to ensure that its membership meets the evolving needs of parties whilst ensuring continuity of its work. Ms. Maranion noted that TEAP is undertaking discussions on its future directions and needed structure and membership. She explained that TEAP looks to the continuing support of parties as the panel works to maintain expertise, evolve its processes, manage its overall workload, and continue to deliver its work for the benefit of parties and to identify experts based on its matrix of needed expertise and ensure that those experts are able to fully participate in the activities and work of the TEAP and its TOCs for parties (i.e., funding travel expenses where needed).

19. Ms. Maranion then provided updates from the TOCs starting with foams, first commenting on the substantial and continued progress in the adoption of zero ODP and low GWP foam blowing agents (FBAs) for most foam types. She explained that all previously used HFCs, except HFC-152a, are no longer allowed for use in foams in almost all non-Article 5 parties and many companies have elected to transition away from fluorinated FBAs due to cost, if thermal performance can still be met. She further detailed that the supply chain recovery continues for FBAs and other raw materials including easing of olefin imbalances, in both Article 5 and non-Article 5 parties, due to capacity increases. In contrast, she said that there was higher than expected demand for pentanes which challenged availability in some cases, and the HFC-365mfc plant closure in 2023 had created issues for companies in Article 5 parties, and that there has been continued use of HFC-245fa blends in Article 5 parties due to cost of HFO/HCFO alternatives.

20. She went on to describe health and safety considerations of new FBAs explaining that flammable FBAs and FBAs with different toxicity create additional safety concerns for end-users and for foam industry workers, especially in small- and medium-sized enterprises (SMEs). Specifically, the long-term exposure and toxicity of 1,2 dichloroethylene (1,2-DCE) after installation of spray foam is under review by at least one party using indoor air quality studies related to spray foam, showing 1,2-DCE concentrations for months or years after installation. She noted that hydrocarbons are being tested as FBAs for spray foam in some A5 parties; although FTOC is unaware of any broad commercial use, it is seeking additional information about safety measures in use to address exposure and safety risks, especially by SMEs.

21. Ms. Maranion then provided an update on the progress of fire suppression sector, commenting that no new alternatives are reported in development. Civil aviation has not approved an alternative for cargo compartments and engine nacelles. Part of this is due to the uncertainty surrounding the PFAS issue, as the leading contender for cargo compartments contains a component that some define as a PFAS. All enduring uses, including civil aviation, still depend on the ever-declining bank of Halon 1301, i.e., a reclaimed agent. Recent indications are that some of the Halon 1301 recovered does not meet the required purity standard, that is it must be 99.6% pure. Although it is possible to reclaim the halon back to the required purity, some Halon is lost during reclamation. Also, higher levels of impurity mean that successively more Halon is lost. In some case the halon might not be recoverable and is destroyed. The FSTOC and industry stakeholders are assessing the potential impact. Finally, she noted that the FSTOC would like to remind parties that destruction of Halon 1301 for carbon credits will further deplete the bank.

22. She continued discussing emerging issues from FSTOC noting that emissions of Halon 1301 derived from atmospheric measurements (NOAA and AGAGE) are greater than those predicted by the FSTOC halon bank model. She explained that for at least the period 2004–2021, these increases in emissions match the timing and pattern of reported Halon 1301 production for feedstock use. She clarified that FSTOC ruled out other possible sources, only leaving feedstock production and use, and that from reported feedstock production, applying a 26% overall emission factor (for production and use) appears to explain the additional Halon 1301 emissions. She concluded that parties may wish to consider providing information on emissions from feedstock use.

23. Ms. Maranion then discussed methyl bromide (MB) updates. First, she announced the significant milestone that in 2024, over 99.9% of the 62,000 t of MB used for controlled uses (i.e., non-QPS) is reportedly phased-out. She continued, stating that the current focus of MBTOC is on alternatives for MB used for quarantine and pre-shipment (QPS) purposes (8,000 to 10,500 t per year) noting that technically and economically feasible alternatives are currently available for about 40% of such uses and some countries already are achieving major reductions in QPS use. Ms. Maranion then noted the concern that reports and websites identify that substantial MB is still being used for unreported controlled use (non-compliance) and that enforcing policies to ensure MB is only used for its intended use, including Quarantine (Q) MB use is only for quarantine pests or pre-shipment (PS) use only for 'officially endorsed' control of cosmopolitan pests, and only within 21 days before export.

24. Ms. Maranion then discussed emerging issues from the medical and chemicals sector first noting that pressurised metered dose inhalers (pMDIs), dry powder inhalers (DPIs), aqueous soft mist inhalers (SMIs), and other delivery systems, such as nebulisers, all play a role in the treatment of asthma and chronic obstructive pulmonary disease. She stated that the development of lower GWP pMDIs with lower GWP propellants HFC-152a and HFO-1234ze(E) is progressing, although potential challenges could risk the consistent supply of affordable medicines. She noted that the development is a complex process involving new ways of manufacturing, new clinical trials, and new regulatory approvals, detailing that 3 manufacturers have registered clinical studies for 3 inhalers, due to be completed in 2025, a further 10 or more companies could have active programmes to develop pMDIs, and that with subsequent regulatory submissions/approvals, the first lower GWP pMDIs may not reach the market until 2026.

25. MCTOC led TEAP's response to decision XXXV/7 which requested TEAP to prepare a report for MOP36 containing information on the quantity of HFC-23 being consumed, by country and by sector, and updated estimates on the amounts of HFC-23 generated at and emissions from HCFC-22 production. MCTOC reported HFC-23 consumption which was 3,684.3 tonnes (2022) with 2,614.3 tonnes for non-feedstock uses and 1,070 tonnes for feedstock use. She noted that the estimated HFC-23 by-product generation from HCFC-22 production is in the range of about 18,000 to 36,000 tonnes and that total HFC-23 emissions from HCFC-22 production reported under Article 7 of the Montreal Protocol and the UNFCCC (for USA) was about 836 tonnes.

26. Ms. Maranion then relayed the refrigeration, air conditioning, and heat pump (RACHP) sector update. She noted that the availability of lower GWP alternative refrigerants continues to grow for most RACHP sectors with twenty new lower-GWP refrigerant blends having received designations and classifications from ASHRAE Standard 34 and/or from ISO 817. She then noted that the domestic refrigeration industry is accelerating the conversion from HFC-134a to HC-600a and that in food retail, food service and transport refrigeration, there were <150 GWP alternative refrigerants (non-fluorinated refrigerants and HFO containing blends) commonly used in non-Article 5 parties. In both non-Article 5 and Article 5 parties, lower GWP alternative refrigerants continue to replace high-GWP R-404A and HFC-134a. She noted that the HFC/HFO blend R-452A is now used in road transport refrigeration while HFO-1234yf is used in marine container refrigeration.

27. Ms. Maranion then described new regulations in the United States and Europe, where GWP limits on small and large air-conditioning and heat pump systems are driving the growth and adoption of <700 and <150 GWP alternatives to high-GWP refrigerants. She then noted that vehicle electrification requires holistic vehicle thermal management (heating and cooling of the driver cabin along with battery cooling) and that a cooperative research program is underway, investigating lower-GWP refrigerants suitable for electric vehicles.

28. Ms. Maranion then described the RTOC lead in TEAP's response to decision XXXV/10 on energy efficiency, which requested TEAP: "... to include in its 2024 progress report updates on the information identified in paragraph 1 (a) of decision XXXIV/3, taking into account discussions at the Thirty-Fifth Meeting of the Parties to the Montreal Protocol." She then described the TEAP updates on energy efficiency while phasing down HFCs in the RACHP sectors including passive cooling, higher energy efficiency standards, and faster phase-down of climate warming refrigerants used in the cooling industry which could avert up to 60% of the predicted direct and indirect CO₂eq emissions from the cooling sector by 2050 (according to the Global Cooling Stocktake Report of 2023). She then noted that many Article 5 parties are working on approving harmonized regional Minimum Energy Performance Standards (MEPS) for air conditioners and residential refrigerators and that dumping of high-GWP and/or ODP refrigerant and low-efficiency cooling equipment is widespread, with additional evidence presented for Southeast Asia (in the report).

29. Ms. Maranion described the TEAP response to decision XXXV/11 on life-cycle refrigerant management (LRM), which requests TEAP to provide information on the "Available technologies for the leakage prevention, recovery, recycling, reclamation and destruction (RRRD) of refrigerants, and their accessibility...The obstacles and challenges associated with the effective leakage prevention and RRRD of refrigerants...The costs and climate and ozone benefits associated with the leakage prevention and RRRD of refrigerants...Policies, incentive schemes, such as producer's responsibility schemes, good practices and lessons learned related to ensuring the effective leakage prevention and RRRD of refrigerants". TEAP formed a task force to respond to the decision and presented its report to OEWG-46. The successful LRM workshop hosted by Ozone Secretariat discussed and expanded on main findings from Task Force report.

Annex II

Statement 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*

Mme/Mr President, distinguished parties,

On behalf of the Executive Committee of the Multilateral Fund, I am pleased to report to the parties on the major strides made by the Executive Committee since the Thirty-Fifth Meeting of the Parties in 2023.

Since then, the Committee held two meetings, the 93rd and 94th. During these meetings, the Committee made decisions that continue to ensure the phase-out of HCFCs, the implementation of the Kigali Amendment and support all Article 5 countries in this process.

Document UNEP/OzL.Pro.36/8 provides a comprehensive description of the deliberations and significant outcomes of the Committee’s work in the reporting period, the projects approved, the status of implementation of ongoing projects, as well as policy issues, business planning, financial and administrative matters.

After the agreement on the incremental costs for the refrigeration servicing sector, the Committee continued to discuss the outstanding issues related to the HFC cost guidelines. Important progress was made on the costs for the domestic refrigeration and the foam sectors as well as the operating costs for the commercial refrigeration sector. The Committee will continue discussing the cost funding guidelines at its upcoming meeting in December focusing on large enterprises in the stationary air-conditioning sector, small and medium-sized enterprises and the starting point for sustained aggregate reductions.

Parties have been discussing for years enhancing energy efficiency while phasing down HFCs. Energy efficiency is also in the agenda of this meeting. The Executive Committee has advanced its approach on energy efficiency with a breakthrough decision at the 94th meeting. The Fund has now an operational framework to enhance energy efficiency when phasing down HFCs in the manufacturing of equipment such as domestic refrigerators, commercial refrigeration systems, residential and commercial air conditioning for an initial period of three years, with an augmentable funding window of \$100 million for projects developed and implemented under the framework.

The experience gained from projects reviewed and implemented will help us refine this operational framework. The Fund Secretariat was also requested, to further elaborate on the operational framework, in relation to costs for maintaining and/or enhancing energy efficiency in non-manufacturing activities, costs for maintaining and/or enhancing energy efficiency for component manufacturers and heat-pump manufacturers and a revolving fund for end-user incentive projects. These elements will be discussed in December, and we will be reported to the 37th Meeting of the Parties.

The Executive Committee has also been discussing the consumption of HFCs in the local installation and assembly subsector. The discussion will continue with an update on the matter at the 95th meeting. The Committee also encouraged bilateral and implementing agencies and Article 5 countries, when developing their KIPs to include local installation and assembly and ensure a sustained phase-down of HFCs in the applications being targeted by the projects.

The issue of accessibility and affordability of alternatives in the PU foam sector has been raised by Article 5 countries and members discussed the issue based on the information provided by the Fund Secretariat. The discussion was non-conclusive, and the Committee requested for a paper updating the information on alternative technologies in the PU foam manufacturing sector for Article 5 countries. Consideration was also given to HFCs contained in imported pre-blended polyols in the PU foam sector in stage I of KIPs and the issue will be discussed at the 95th meeting on the basis of past practice with regard to HCFCs contained in imported pre-blended polyols.

The Executive Committee also agreed the modalities for the distribution of funding tranches for KIPs, allowing Article 5 countries to submit the final funding tranche for stage I of KIPs, at the earliest, two

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years prior to the last year of the plan for which a consumption target has been established, on the understanding that the first tranche of stage I of their KIP should be at a funding level not higher than 60 per cent of the total funding for the plan.

On the issue of life-cycle refrigerant management, the Committee requested the Fund Secretariat to prepare, for the 97th meeting, a report providing an overview of the report of the Technology and Economic Assessment Panel and an overview of the status of implementation and preliminary outcomes of the projects submitted under decision 91/66 with a view to enabling the Committee to consider the establishment of a funding window in line with decision XXXV/11. The discussions that parties and other stakeholders had on the workshop ahead of the 36th Meeting of the Parties, will provide important information for the work of the MLF secretariat and the discussion that the members will have on the issue next year.

As a follow up to the recommendation by the Multilateral Organisation Performance Assessment Network, the Committee approved a results framework and scorecard with indicators to measure the effectiveness of the Fund.

I would like to refer as well to the half-day session on strategic approaches to the implementation of the Kigali Amendment that took place immediately prior to the 94th meeting last May. This session allowed members to informally discuss how they can design more strategically their KIPs and how they can pursue greater benefits beyond the minimum required for compliance. The Committee decided to continue these discussions in future meetings taking also into consideration the information provided on how HCFC phase-out and HFC phase-down activities supported by the Fund might contribute to sustainable cooling. The next half day session will take place immediately after the upcoming 95th meeting.

Recognizing the increased workload of implementing agencies, the greater technical expertise required as well as the support to the low volume consuming countries, the Committee approved an increase in the core unit funding for UNDP, UNIDO and the World Bank, as well as for the UNEP Compliance Assistance Programme for the provision of technical and policy assistance to LVC countries to support KIP implementation. Agency fees for LVC countries has also been increased.

I would like next to briefly update you on the activities and main achievements during the past year of our implementing agencies, thanks to which delivery on the ground is possible. This is the time where all parties can appreciate the hard work of UNDP, UNEP, UNIDO and the World Bank.

UNDP

UNDP provides technical support to 47 countries to meet their HCFC targets under the Montreal Protocol and provides support to 33 countries to prepare their Kigali HFC Implementation Plans (KIPs). 16 KIPs have been submitted. UNDP strives to support innovation through digital tools for reducing HFC emissions in cooling systems, as well as through new technology for low carbon data centres using immersion cooling systems. UNDP assisted twelve countries to develop strategies for sustainable cooling through National Cooling Action Plans (NCAPs) and supported joint interventions for the implementation of the Kigali Amendment and energy efficiency through collaboration with other partners, such as in the Cool-Up programme and in the AGORA project. UNDP has continued to apply the Fund's Policy on Gender Mainstreaming.

UNEP

UNEP supported 102 countries with institutional strengthening projects, helped them report timely their data, and assisted them to meet their HCFC phase-out commitments through HPMPs, Regional Networks of Ozone Officers, Information Clearinghouse products, and compliance assistance services. UNEP supported 59 countries with KIP preparation and helped their refrigeration servicing sector safely adopt low-GWP, energy efficient technologies. UNEP organized 7 Energy Efficiency Twinning Workshops that helped enhance cooperation between Ozone Officers and their energy counterparts; and continued prioritizing technical and policy assistance for low volume consuming countries to address their specific needs. With UNEP's support, 27 countries are preparing their inventories of banks of used or unwanted controlled substances and associated business models.

UNIDO

UNIDO is currently implementing HPMPs in 67 countries, KIPs in 22 countries, institutional strengthening projects in 14 countries, and projects on HFC-23 by-product emission destruction in 2 countries. Three of the five HFC investment projects are already completed, and these will provide further information on the costs for HFC phase-down. UNIDO continues to support countries on their path to complete HCFC phase-out and HFC phase-down, with ongoing preparatory activities for KIPs in 35 countries and for HPMPs in nine countries. Utilizing the new funding windows, UNIDO

received approval to implement pilot projects on energy efficiency in eight countries and ODS inventories in 21 countries. UNIDO applies a systems innovation approach in its projects and leverages multiple funding windows made available by the MLF. UNIDO stands ready to continue supporting Article 5 countries in manufacturing, servicing, and assembly sectors, as well as in emerging areas of relevance to the Montreal Protocol, such as sustainable cooling.

World Bank

The World Bank assisted countries with the submission of their KIPs and their approval in 2023. These KIPs incorporate energy efficiency and refrigerant lifecycle management aspects and are consistent with institution-wide assistance on maximizing climate co-benefits while facilitating sustainable development across key economic sectors. During the preparation of the KIPs, the Bank delivered policy assistance to the countries through tools, seminars, and technical assistance to ensure a robust quota allocation system was in place before the Kigali compliance period. The World Bank also continued working with several countries to step-up stage II HCFC phaseout efforts for sustained HCFC consumption and production reductions in accordance with respective obligations while initiating the preparation of the third and final stage of HCFC phase-out in others.

Mme/Mr President, distinguished delegates,

I would like to take this opportunity to express my sincere appreciation to the members of the Executive Committee for their support in my role as the Chair, the Fund Secretariat, and the bilateral and implementing agencies, for their continued hard work and dedication to our common goals. I would like to thank my colleague, Ms. Annie Gabriel from Australia as she was the Chair in one of the Executive Committee meetings since the last Meeting of the Parties.

I would also like to thank the parties for their strong commitment to the implementation of the Montreal Protocol and the guidance you provide to the Executive Committee.

Thank you.
