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**Open-ended Working Group of the Parties to
the Montreal Protocol on Substances that
Deplete the Ozone Layer**
Twenty-ninth meeting
Geneva, 15–18 July 2009

**Report of the twenty-ninth meeting of the Open-ended Working
Group of the Parties to the Montreal Protocol on Substances that
Deplete the Ozone Layer**

I. Opening of the meeting

1. The twenty-ninth meeting of the Open-ended Working Group of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer was held at the Geneva International Conference Centre, Switzerland, from 15 to 18 July 2009. The meeting was co-chaired by Mr. Muhammad Maqsood Akhtar (Pakistan) and Mr. Martin Sirois (Canada).
2. The meeting was opened at 10.10 a.m. on 15 July by Mr. Sirois.
3. In his opening statement, Mr. Marco González, Executive Secretary of the Ozone Secretariat, reviewed the history of the treatment of climate issues by the Parties to the Montreal Protocol. Although the issue tackled by the Parties to the Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol was ozone depletion, the issue of climate change had increasingly come to the fore, culminating in decision XIX/6, under which it had been agreed that hydrochlorofluorocarbons (HCFCs) would be phased out, with the specific goal of achieving both ozone-layer and climate benefits. Following that ground-breaking effort, decisions XX/7 and XX/8 had called for the organization of the two workshops that had been held on the two days preceding the current meeting, which had again focused on climate benefits. Furthermore, the Ozone Secretariat welcomed Parties' efforts to encourage harmonization with other multilateral environmental agreements and believed that the direct lines of communication that had been established with other secretariats in preparing for the workshops would pay dividends in the months and years ahead.
4. With the recent ratification of the Vienna Convention and the Montreal Protocol by Andorra and San Marino and the imminent consideration of ratification by the Parliament of Timor-Leste, it appeared likely that it would be possible to celebrate universal ratification of the ozone treaties by the International Day for the Preservation of the Ozone Layer, to be held on 16 September 2009.
5. On 1 January 2010, non-exempted uses of chlorofluorocarbons (CFCs), halons and carbon tetrachloride would cease in developing countries. The 99 per cent compliance rate of those countries to date demonstrated their willingness and ability to meet their global commitments, which was cause for further celebration. He cautioned, however, that such celebration should not suggest that the task of combating ozone depletion had been completed, since much remained to be done. He therefore called for suggestions as to appropriate means of celebrating the achievement of that important milestone.

6. Before concluding he noted that, unless the Parties suggested otherwise, the Ozone Secretariat would continue its practice of publishing data reported by the Parties in an aggregated manner. It would also share the disaggregated data that Parties had submitted without confidentiality requirements with the Secretariat of the Multilateral Fund for the Implementation of the Montreal Protocol for its unrestricted use as needed.

II. Organizational matters

A. Attendance

7. The following Parties to the Montreal Protocol were present: Algeria, Antigua and Barbuda, Argentina, Armenia, Australia, Austria, Bahamas, Bahrain, Bangladesh, Belgium, Belize, Benin, Bolivia (Plurinational State of), Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, Burkina Faso, Cambodia, Cameroon, Canada, Chad, Chile, China, Colombia, Comoros, Congo, Cook Islands, Costa Rica, Côte d'Ivoire, Croatia, Cuba, Czech Republic, Democratic Republic of the Congo, Denmark, Djibouti, Dominica, Dominican Republic, Egypt, Estonia, Ethiopia, European Community, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Greece, Grenada, Guatemala, Guinea, Guinea-Bissau, Holy See, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Lebanon, Lesotho, Liberia, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mauritius, Mexico, Micronesia (Federated States of), Mongolia, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, Philippines, Poland, Portugal, Republic of Korea, Republic of Moldova, Romania, Russian Federation, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Senegal, Serbia, Seychelles, Sierra Leone, Slovenia, Somalia, South Africa, Spain, Sri Lanka, Sudan, Swaziland, Sweden, Switzerland, Tajikistan, Thailand, the former Yugoslav Republic of Macedonia, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Uganda, Ukraine, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, United States of America, Uruguay, Uzbekistan, Venezuela (Bolivarian Republic of), Viet Nam, Yemen, Zambia, Zimbabwe.

8. Timor-Leste participated as an observer.

9. Observers from the following United Nations entities, organizations and specialized agencies were also present: Global Environment Facility, Secretariat of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Secretariat of the Convention on Biological Diversity, Secretariat of the Multilateral Fund for the Implementation of the Montreal Protocol, Secretariat of the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Secretariat of the Strategic Approach to International Chemicals Management, Secretariat of the United Nations Framework Convention on Climate Change, United Nations Development Programme, United Nations Environment Programme, United Nations Industrial Development Organization, World Bank, World Meteorological Organization.

10. Observers from the following intergovernmental and non-governmental organizations and other bodies were also present: 3M Europe, Alliance for Responsible Atmospheric Policy, Alliance Froid Climatisation Environnement, Alliant International, Boehringer Ingelheim GmbH, Boehringer Ingelheim Pharmaceuticals, Inc., California Citrus Quality Council, California Strawberry Commission, Carrier Corporation, Chemtura Corporation, Crop Protection Coalition, Daikin Europe NV, Danfoss A/S, Danfoss GmbH, Desclean Belgium, Dolomatrix, Dow AgroSciences LLC, DuPont, Environmental Investigation Agency, EOS Climate, Inc., Florida Fruit and Vegetable Association, Florida Tomato Exchange, Fordham University, GALCO, Green Cooling Association, Greenpeace Germany, Greenpeace International, GTZ Proklima, Gujarat Fluorochemicals Limited, Honeywell International, Hunton and Williams, ICF International, ICL Industrial Products, Industrial Technology Research Institute, Institute for Governance and Sustainable Development, International Council of Environmental Law, International Institute of Refrigeration, International Network for Environmental Compliance and Enforcement, International Pharmaceutical Aerosol Consortium, Japan Fluorocarbon Manufacturers Association, Japan Refrigeration and Air Conditioning Industry Association, Kyoto University, Macquarie Bank, McQuay International, MEBROM NV, Natural Resources Defense Council, Navin Fluorine International Limited, Nordic Environment Finance Corporation, Nordiko Quarantine Systems Pty Ltd., Oko-Recherche GmbH, Refrigerants Australia, Shecco, Spray Quimica CA, SRF Limited, SRL Plasma, The Law of Nature, Trical, Touch Down Consulting, United States Business Council for Sustainable Energy, University of Strasbourg, University of Texas, Zoi Environment Network.

B. Adoption of the agenda

11. Following a discussion, the Working Group agreed to delete one item from the draft agenda and to consider a number of other proposals under the appropriate items. Accordingly, the following agenda was adopted on the basis of the provisional agenda contained in document UNEP/OzL.Pro.WG.1/29/1, as orally amended:

1. Opening of the meeting.
2. Organizational matters:
 - (a) Adoption of the agenda;
 - (b) Organization of work.
3. Matters relating to issues covered in the 2009 progress report of the Technology and Economic Assessment Panel:
 - (a) Presentation of the 2009 progress report;
 - (b) Review of nominations for essential-use exemptions for 2010 and 2011;
 - (c) Report of the Secretariat of the Multilateral Fund for the Implementation of the Montreal Protocol on the status of agreements to convert metered-dose inhaler manufacturing facilities in Parties operating under paragraph 1 of Article 5 (decision XX/4);
 - (d) Campaign production of chlorofluorocarbons for metered-dose inhalers (decision XX/4);
 - (e) Presentation on and review of nominations for critical-use exemptions for 2010 and 2011;
 - (f) Presentation of and discussion on the interim report of the Technology and Economic Assessment Panel on quarantine and pre-shipment applications of methyl bromide (decision XX/6);
 - (g) Scoping study addressing alternatives to hydrochlorofluorocarbons in the refrigeration and air-conditioning sectors in Parties operating under paragraph 1 of Article 5 with special conditions (decision XIX/8);
 - (h) Updated study on projected regional imbalances in the availability of halon 1211, halon 1301 and halon 2402 and potential mechanisms for the improved prediction and mitigation of such imbalances in the future (decision XIX/16);
 - (i) Laboratory and analytical-use exemptions (decisions XVII/10 and XIX/18);
 - (j) Review by the Technology and Economic Assessment Panel and the Executive Committee of the Multilateral Fund on the progress made in reducing emissions from process-agent uses and consideration of the Panel's recommendations on process-agent use exemptions (paragraph 100 of the report of the Twentieth Meeting of the Parties);
 - (k) Other issues arising out of the Panel's reports.
4. Environmentally sound management of banks of ozone-depleting substances (decision XX/7):
 - (a) Report of the co-chairs of the workshop;
 - (b) Consideration of possible actions.
5. Presentation of and discussion on the summary report of the discussions that took place at the dialogue on high-global warming potential alternatives for ozone-depleting substances (decision XX/8).
6. Treatment of stockpiled ozone-depleting substances relative to compliance (decision XVIII/17).
7. Proposed amendments to the Montreal Protocol.
8. Other matters.

9. Adoption of the report.
10. Closure of the meeting.

12. It was agreed that, under “Other matters”, a presentation would be given by the representative of Egypt on preparations for the Twenty-First Meeting of the Parties. In addition, there were proposals for discussions of an evaluation of the financial mechanism of the Montreal Protocol and of institutional strengthening under the Multilateral Fund.

C. Organization of work

13. The Co-Chair presented a proposal on the organization of work, which the Working Group adopted. The Working Group agreed to establish such contact groups as it deemed necessary to accomplish its work.

III. Matters relating to issues covered in the 2009 progress report of the Technology and Economic Assessment Panel

A. Presentation of the 2009 progress report

14. Ms. Helen Tope, co-chair of the Medical Technical Options Committee, introduced the Panel’s presentation of its 2009 progress report. She began by summarizing the Medical Technical Options Committee’s recommendations for 2009 essential-use nominations for CFCs for metered-dose inhalers from Parties operating under paragraph 1 of Article 5 and those not so operating. She elaborated on some nominations and, referring to nominations from China, India, Pakistan and the United States of America, explained why the Committee had been unable to recommend the nominations either in part or in full. The Committee had recommended the nomination from the Russian Federation, to ensure an adequate supply of inhalers to meet patient needs in that country, but had noted that current delays in transition from CFC metered-dose inhalers were cause for concern.

15. She commended the Parties operating under paragraph 1 of Article 5 on the high standard of nominations in their first year of submission. Nonetheless, the Committee had found it difficult to assess those nominations adequately against the essential-use criteria, mainly because of a shortage of data on the availability and affordability of alternatives to CFC metered-dose inhalers in the markets. She explained that those data had become the most important factor in determining essentiality, given that a wide range of technically satisfactory alternatives were available in most Parties operating under paragraph 1 of Article 5. She explained further that the Committee was unable to recommend significant reductions in quantities with confidence because of its concern to ensure an adequate supply of inhalers to meet patients’ needs.

16. She noted that Parties and the Committee required more detailed information to make decisions, recalling decisions XIV/5 and XII/2, paragraph 3, on data collection and reporting on CFC and CFC-free inhalers, which applied to all Parties.

17. Mr. José Pons Pons, Technology and Economic Assessment Panel and Medical Technical Options Committee co-chair, explained that, of the 2,000 tonnes of CFCs requested for exempted uses by Parties operating under paragraph 1 of Article 5, some 470 tonnes were needed to produce metered-dose inhalers for export to other such Parties. In the future, the Committee would expect reductions in the amount of CFCs needed for such exports.

18. He noted that decision XV/5 required that specific information should be provided on intended markets, but more country-specific information on export markets than had been provided was needed to assess nominations. The Committee was proposing that, to avoid unnecessary exports of CFC metered-dose inhalers to countries where alternatives were available, Parties might wish to consider obtaining the prior informed consent of the importing country before exporting such inhalers. Importing countries might also wish to take actions to cease CFC metered-dose inhaler imports, such as the imposition of import bans, and those actions should be reported to the Ozone Secretariat.

19. Ms. Tope reported that the revised handbook on essential-use nominations was to be further revised and sent to the Parties at least two months prior to the Twenty-First Meeting. The revised handbook would reflect the changes brought about by decision XX/3 and by other decisions pertaining to essential uses taken by Parties since the handbook had last been published, in 2005. She outlined other changes to the handbook suggested by the Committee for consideration by the Parties at the current meeting. Those were recommended to take effect immediately for Parties submitting their nominations in 2010 and could be reflected in a subsequent revision after the Twenty-First Meeting of the Parties to assist in assessing nominations.

20. In dealing with the essential-use nomination from Iraq for 2010 and 2011 for CFCs for foam manufacturing, domestic refrigerator manufacturing and servicing of refrigeration and air-conditioning equipment, she explained that the Panel had carefully considered the nomination, taking into account Iraq's special situation. It had concluded, however, that it could not recommend the nomination because the essential-use criteria had not been satisfied.

21. Mr. Lambert Kuijpers, Technology and Economic Assessment Panel and Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee co-chair, took up the next issue, saying that decision XIX/8 had sought guidance on replacements for HCFC-22, a refrigerant commonly used under hot ambient conditions. A subcommittee had been assembled to conduct a scoping study, including analyses for unitary air conditioning and commercial refrigeration. In air conditioning, the primary HCFC-22 replacement was R-410A, followed by R-407C; in commercial refrigeration, the primary replacement was R-404A. All those HFC blends contained HFC-125, which had a relatively low critical temperature of 66° C, resulting in a drop in efficiency and capacity at elevated ambient temperatures.

22. He said that, for unitary air conditioning, calculations with an available cycle model had been performed. The efficiency and capacity of many refrigerants had been compared to those provided by HCFC-22, including HFC-32, HFC-134a, R-404A, R-407C, R-410A, propane, isobutane, ammonia and carbon dioxide. Condensing temperatures had been varied from 35° C to 65° C, which could be experienced at ambient temperatures of around 50° C. He presented a chart showing all the efficiencies of the various refrigerants for those temperatures in comparison to the energy efficiency of HCFC-22. He said that it should be understood that the highest ambient temperatures would only occur during part of a season, which implied that a lower impact on the annual performance could be expected than had been calculated for those temperatures. The peak load at those temperatures would, however, be worse with lower performance of alternatives. Next to the refrigerant choice, additional system design issues (including night operation combined with cold storage) would have positive effects.

23. In the case of commercial refrigeration, he said that efficiency and capacity loss would occur, especially in the case of the application of R-404A. For air conditioning, no recommendations could yet be given for a change to the alternatives to R-410A and R-407C. While the performance of propane and HFC-134a was good, the equipment was not available for HFC-134a, and flammability-safety concerns had to be met in the case of propane, the cost of which could prove prohibitive. In the case of commercial refrigeration, designs using hydrocarbons were promising, in particular for indirect systems with low charge in the machinery circuit (where both hydrocarbons and HFCs could possibly be applied); two-stage systems offered further advantages in efficiency. He concluded by saying that studies for alternatives to HCFC-22 in deep mines could not be finalized owing to delays in making field visits, that a full report on the matter could be given at the Twenty-First Meeting of the Parties and that the high-temperature HCFC-22 alternatives issue would be an integral part of the 2010 assessment report.

24. Mr. Ian Rae, co-chair, Chemicals Technical Options Committee, presented the progress report of that Committee. Three new process-agent applications were being recommended for addition to table A of decision X/14, as amended under decision XIX/15. The Committee had been unable to update table B, on make-up and emissions, because too few data had been submitted to the Ozone Secretariat. He referred to the table on the use of possible alternatives to ozone-depleting substances in laboratory and analytical applications in the Committee's section of the Panel's progress report. Four case studies on national strategies for the management of laboratory and analytical uses had been included in the report. Such information should be disseminated, for example, via workshops.

25. The report of the delegation that had visited the Russian Federation to discuss the use of CFC-113 in that country's space programme had been included in the progress report. The Committee was recommending the essential-use exemption of 120 tonnes of CFC-113 for use in that programme in 2010.

26. No new information was available about n-propyl bromide, nor about emissions of carbon tetrachloride. The Committee had noted that a study conducted for the Executive Committee of the Multilateral Fund had, as with earlier studies, found that bottom-up estimates of emissions from the use of carbon tetrachloride fell far short of the observed atmospheric concentrations.

27. Mr. Miguel Quintero, co-chair, Flexible and Rigid Foams Technical Options Committee, reported that HFC use for polyurethane foam in developed countries continued to decline as hydrocarbon technologies continued to mature, the gap in thermal performance between those technologies having largely been closed. HCFCs were used for extruded polystyrene foams in both developed and developing countries and transitions to high-global-warming-potential HFCs were occurring in Parties not operating under paragraph 1 of Article 5. The adjustment to the HCFC phase-out schedules under decision XIX/6 had accelerated the development of HCFC alternatives in developing countries. With support from the Multilateral Fund pilot projects were being conducted on methyl formate, methylal and pre-blended hydrocarbons, to expand industrial experience with those materials. He said that the need for the assessment and management of banks of ozone-depleting substances was becoming more urgent in developed countries and the potential role of carbon finance was being actively considered. He also mentioned that interest in bank management opportunities was growing in developing countries and that pilot projects had been approved around major conurbations.

28. Mr. Dan Verdonik, co-chair, Halons Technical Options Committee, provided the 2009 progress report of that Committee. The Committee had learned that halon 2402 was being marketed in a new flame-retardant paint. There were 10 plants in China manufacturing the pesticide fipronil using halon 1301, produced in China as a feedstock. Owing to a change in personnel at the International Civil Aviation Organization (ICAO), the process of changing the annexes to relevant ICAO documents to require the use of halon alternatives was taking longer than anticipated, with the result that the introduction of the mandatory use of alternatives to halons would be postponed by several years.

29. He mentioned that post-2004 data, which updated a previously published and peer-reviewed methodology on estimating emissions from North-West Europe, had been provided to the Committee. For both halons 1211 and 1301 those data indicated that emissions had remained relatively constant or potentially increased during the period when non-critical halon systems had had to be decommissioned. The installed base of both halons 1301 and 1211 might be larger than the critical-use quantities reported to the European Commission. Recently published emission estimates from Mexico and the United States for 2004–2006 possibly pointed to a growing trend showing that halon emissions fell where prices of halon were the highest. That tallied with information previously reported by the Committee, such as that relating to Japan.

30. Mr. Mohamed Besri, co-chair, Methyl Bromide Technical Options Committee, provided a progress report on alternatives to methyl bromide for soil disinfestation. He explained the trends from 1991 to 2007 in methyl bromide consumption in Parties operating under paragraph 1 of Article 5 and those not so operating. He reported that the global consumption had been estimated at 64,420 tonnes in 1991 and at 12,183 tonnes in 2007. He summarized the national consumption as a percentage of national baselines in Parties that had been granted critical-use exemptions (Australia, Canada, Israel, Japan and the United States). Those Parties had made significant reductions in their critical-use nominations. The extent of the reduction in consumption, however, varied by country, from 100 per cent (European Community, New Zealand and Switzerland) to 80 per cent (Canada). The current consumption of Israel and the United States represented 17 per cent of their 1991 baselines. In the past three years, substantial progress had been achieved in those Parties operating under paragraph 1 of Article 5 that consumed the greatest quantities of methyl bromide. The top 15 consuming Parties operating under paragraph 1 of Article 5 had reduced consumption by 43 per cent, from 9,399 tonnes in 2004 to 5,284 tonnes in 2007. In the Parties operating under paragraph 1 of Article 5, consumption in relation to national baselines varied from 0 per cent (Brazil and Turkey) to more than 70 per cent (Argentina, Guatemala and Mexico). The consumption of China and Morocco represented, respectively, 33 per cent and 38 per cent of their national baselines. Argentina, Guatemala and Mexico remained the countries with the highest levels of consumption.

31. Ms. Michelle Marcotte, co-chair, Methyl Bromide Technical Options Committee, continued the presentation of the progress report on alternatives to methyl bromide for quarantine, structures and commodities. She summarized news reports of interest to the Parties, including a short report on the interrelation of the use of recapture equipment in the context of the forthcoming ban on the use of methyl bromide for quarantine and pre-shipment in the European Union, an interim research report on alternatives to methyl bromide for high-moisture dates; and a summary of 40 new research papers on alternatives. She mentioned that recent publications indicated that sulfuryl fluoride, a key alternative to methyl bromide for the treatment of many dry commodities, in flour mills and food-processing facilities

and for household termite control, had a global-warming potential higher than previously considered; it was reported to be about 4,800, a value similar to that of CFC-11. That was because sulfuryl fluoride was a relatively stable material with a stratospheric half-life estimated at 630 years.

32. Following the presentation by the Panel, in response to a question on the apparent lack of alternatives to HCFCs for certain small and medium-sized foam enterprises in Parties operating under paragraph 1 of Article 5, Mr. Quintero said that new solutions were needed for those countries, given the high cost of retrofitting high-pressure injection machines and the difficulties posed by the need to ensure an effective safety regime. A number of alternatives could be considered, but it would take time to establish their viability. He noted, among other things, that a pilot project to investigate the use of methyl formate was expected to produce results later in 2009, and that the chemical already enjoyed the advantage of having been patented for use as a blowing agent.

33. In response to a question on her presentation, Ms. Marcotte said that, although no firm and technically effective alternative to methyl bromide had yet been identified as being of practical use in the growing regions of high-moisture dates, there was cautious optimism about the work being undertaken. Representatives could refer questions on the financial resources being supplied in support of that work to representatives of the United Nations Industrial Development Organization attending the current meeting.

34. In response to a question on methyl bromide recapture in Belgium and the Netherlands, she said that 80 per cent of the methyl bromide remaining in the chamber following fumigation had to be recaptured by the equipment, and that it was technically capable of doing so.

35. In response to a question on short-lived HFCs for use in the refrigeration and air-conditioning sector, Mr. Kuijpers said that the Panel had not reported on those substances and it was not yet possible to ascertain the future of those compounds. On the question of carbon tetrachloride emissions, he said that the Panel would work with the Scientific Assessment Panel to identify the reasons for the discrepancies between the bottom-up and top-down estimates.

B. Review of nominations for essential-use exemptions for 2010 and 2011

36. Following an introduction of the item by the Co-Chair, one representative stressed the need to ensure the cost-effective availability of medication for patients, lest domestic health systems should experience serious challenges.

37. Several representatives recognized that the Medical Technical Options Committee had encountered problems in assessing essential-use nominations and that Parties operating under paragraph 1 of Article 5 had also faced significant challenges in making their nominations. They expressed their commitment to working with the Committee to facilitate the assessment of nominations. Several representatives noted that the Committee had taken a flexible approach, opting for caution and recommending nominations to avoid posing risks to users of metered-dose inhalers, even when large quantities of CFCs had been nominated. They said, however, that it was important for the Committee to have sufficient information available to be able to judge the validity of the nominations. While ensuring that patient safety was important, in the future, unless sufficient information was provided by nominating Parties, the essential-use nomination should not be recommended. In that regard, one representative cited the possible need to justify essentiality in export markets and to provide additional information on stockpiles.

38. Another representative pointed out that nearly all countries would have sufficient CFC-free alternatives available by the end of 2009, which would mean that, in future, essential-use exemptions would only be required in limited cases, much to the credit of individual countries and the Multilateral Fund. She said that the Panel needed Parties to provide clear information as to the necessity of those imports or exports. Such information would assist in the decision-making process.

39. The representative of the United States explained his country's essential-use nomination, pointing out that a request had been made for CFCs for epinephrine for one final year to enable an orderly transition to the end of the phase-out process. He noted that, while stockpiles remained in the country, those of the firm producing epinephrine inhalers had been exhausted. In addition, the relevant authorities were vigilant as to the allocation of material forming part of the essential-use nomination and had, in fact, in the past allocated smaller amounts than had been approved.

C. Report of the Secretariat of the Multilateral Fund for the Implementation of the Montreal Protocol on the status of agreements to convert metered-dose inhaler manufacturing facilities in Parties operating under paragraph 1 of Article 5 (decision XX/4)

40. Ms. Maria Nolan, Chief Officer, Multilateral Fund, provided a report by the Executive Committee on the status of agreements to convert metered-dose inhaler manufacturing facilities in Parties operating under paragraph 1 of Article 5 and on the implementation of approved projects, drawing attention to document UNEP/OzL.Pro.WG.1/29/3. The report contained in that document had been prepared in response to paragraph 2 of decision XX/4.

41. The Executive Committee had approved funding for the conversion of manufacturing plants in 12 countries operating under paragraph 1 of Article 5. Implementation of those projects would result in the phase-out of over 1,800 ODP-tonnes of CFCs. The major challenges encountered pertained to technology transfer and know-how for the development of non-CFC formulations for the various active ingredients in metered-dose inhalers. It was expected that two manufacturing plants in two countries would be fully converted and operational by the end of 2009, and five additional enterprises in four countries would be converted and become operational in the period from late 2010 to early 2011. Once those plants were fully operational, some 500 tonnes of CFCs would be completely phased out.

42. According to the information provided, some 2,190 tonnes of CFCs would be needed in 2010 for the manufacture of metered-dose inhalers in nine Parties operating under paragraph 1 of Article 5. Six of those would not be submitting essential-use nominations. The amounts of CFCs that would be required after 2010 were not yet known. She concluded by noting that, at the Medical Technical Options Committee meeting held in Montreal in March 2009, the Fund Secretariat had provided relevant information on conversion projects and related activities that had been approved by the Executive Committee.

43. In response to a question regarding her presentation, she explained that the consumption estimates for nominations for essential uses were based on current reported consumption levels and the requirements for CFCs to manufacture metered-dose inhalers and to complete the projects funded.

D. Campaign production of chlorofluorocarbons for metered-dose inhalers (decision XX/4)

44. Introducing the item, the Co-Chair recalled that campaign production was the notion that a last batch of CFCs might be produced to meet the remaining needs of Parties that had continued to manufacture CFC-based metered-dose inhalers. Under decision XX/4 on campaign production, a final report had been requested from the Technology and Economic Assessment Panel for the Twenty-First Meeting of the Parties.

45. Mr. Pons Pons, Technology and Economic Assessment Panel and Medical Technical Options Committee co-chair, emphasized that speedy completion of the transition away from CFCs provided the best assurance of a continued supply of metered-dose inhalers. In the Panel's progress report of May 2009, on pages 33–36, it had noted that the essential-use nominations received in 2009 had indicated that up to some 2,000 tonnes of pharmaceutical-grade CFCs would be needed for metered-dose inhalers in 2010. It had also noted that, over the year, the difference in cost between CFC-based metered-dose inhalers and alternative-based metered-dose inhalers had fallen steadily and that projects to phase out CFC metered-dose inhaler production in Parties operating under paragraph 1 of Article 5 had been progressing under the Multilateral Fund. The report had also mentioned that, as a consequence of new regulations, the sole remaining European producer of pharmaceutical-grade CFCs would cease that production on 1 January 2010, which might pose difficulties in obtaining CFCs for enterprises continuing to produce CFC-based metered-dose inhalers.

46. In terms of options for future supply, the Panel had presented two possibilities in its report. The first, a single-source scenario, suggested the possibility of satisfying global demand for CFCs by obtaining them from the single remaining producer in China. The second, a multiple-source scenario, assumed that additional producers, India or the United States for example, might also supply CFCs. There were, however, complications with both options relating to legal and Multilateral Fund considerations. Given those uncertainties, he expressed doubt that the Panel would be able to complete a final report on campaign production, and therefore sought guidance from the Parties.

47. In the ensuing discussion, all the representatives who took the floor thanked the Panel for its excellent work. One representative pointed out that, in its progress report, the Panel had stated that it appeared unlikely, given the global progress with the transition to CFC-free alternatives, that CFCs for metered-dose inhalers would be needed for the same number of years for Parties operating under paragraph 1 of Article 5 as they were for Parties not so operating. He therefore emphasized that all Parties should be able to introduce alternatives by 2015.

48. With regard to assessing more accurately the needs of Parties operating under paragraph 1 of Article 5 in future years, one representative expressed the hope that the Panel would be able to fill any gaps in data by the time that it produced its final report for the Twenty-First Meeting of the Parties and urged the Parties to assist it in that endeavour. Until all information was available, he considered it unlikely that any decisions could be taken regarding campaign production. Another representative said that there were other practical matters that needed to be resolved with regard to campaign production, relating to logistics, economic concerns, technical matters, timing and quantities, including whether there would be surplus CFCs that would need to be destroyed.

49. The representative of India offered the services of his country in producing pharmaceutical-grade CFCs for essential uses and the basic domestic needs of other countries.

50. In the light of those discussions and those held under agenda item 3 (b), "Review of nominations for essential-use exemptions for 2010 and 2011", the Working Group agreed to establish a contact group, to be co-chaired by the representatives of New Zealand and Sri Lanka, to examine essential-use nominations, the revision of the handbook on essential-use nominations, and campaign production of CFCs for metered-dose inhalers.

51. Subsequently, Ms. Robyn Washbourne (New Zealand), co-chair of the contact group, speaking also on behalf of her fellow co-chair, Mr. W.L. Sumathipala (Sri Lanka), reported on the group's deliberations. She said that it had discussed data and information requirements that the Technology and Economic Assessment Panel had identified as lacking in the essential-use nominations and possible corresponding revisions to the handbook on essential-use nominations. There had been general concern that many of the suggested changes, particularly regarding export markets, would require a considerable volume of information to be gathered and submitted. It was, however, recognized that that information would be extremely important in establishing whether or not nominated uses were essential.

52. Regarding campaign production of pharmaceutical-grade CFCs, the group had felt that supply issues needed to be resolved swiftly to ascertain which plants would produce CFCs in 2010 and beyond. The group was of the opinion that certain issues required further investigation, such as Executive Committee agreements with Parties operating under paragraph 1 of Article 5, legal and technical aspects, production capacities and stockpiles.

53. Following that summary, the representative of the United States requested that the nomination submitted by his country for 67 tonnes of pharmaceutical-grade CFCs for 2011 should be included in the appropriate draft decision emanating from the group's deliberations. The Working Group agreed to accommodate that request.

54. The Working Group agreed that the full text of the co-chairs' report, including two proposed draft decisions, would be included in annex II to the present report.

E. Presentation on and review of nominations for critical-use exemptions for 2010 and 2011

55. The Co-Chair introduced the item by thanking the Methyl Bromide Technical Options Committee for its valuable and professional work. Ms. Marta Pizano, Mr. Ian Porter and Ms. Marcotte, co-chairs of the Methyl Bromide Technical Options Committee, then gave a presentation on critical-use nominations, summarizing the findings set out in the Panel's report on interim recommendations for 2009 critical-use nominations for methyl bromide, and related matters (pages 243–324 of the May 2008 progress report).

56. Introducing the issue, Ms. Pizano provided information on trends in critical-use exemptions since 2005 in Parties not operating under paragraph 1 of Article 5. She noted that the total volumes of methyl bromide consumption approved or recommended for critical uses had declined from 16,050 tonnes in 2005 to 5,255 tonnes in 2009 and that nominations for 2010 and 2011 had continued to fall, albeit at varying rates. Interim recommendations for 2009 were 294.443 tonnes for 2010 (in addition to the 3,567 tonnes approved at the Twentieth Meeting of the Parties) and 2,337.152 tonnes

for 2011. The Committee had not accounted for existing methyl bromide stocks, which had stood at 5,581.063 tonnes at the end of 2008, compared to 10,592.679 tonnes reported in 2005.

57. Mr. Porter presented the interim recommendations for nominations received for pre-plant soil use of methyl bromide in 2010 and 2011. The Committee had received 27 nominations in total: 9 for 2010 and 18 for 2011. Of the nine Parties that had submitted critical-use nominations since 2005, only five (Australia, Canada, Israel, Japan and the United States), were continuing to do so. Those nominations ranged across nine horticultural industry sectors.

58. The Committee had made interim recommendations of 289.874 tonnes for soil use in 2010 (in addition to the 3,297.8 tonnes approved at the Twentieth Meeting of the Parties) and 2,154.467 tonnes for use in 2011. It had not recommended 92.266 tonnes for 2010 and 346.347 tonnes for 2011. Recommendations had been reduced by the Committee for 23 of the 27 nominations, which were for situations in which technically and economically effective alternatives were available for part of the nomination, where transition rates to demonstrably effective alternatives were insufficient or where dosage rates could be reduced to conform to the maximum rates considered effective.

59. He noted that substantial reductions in methyl bromide use were being made in several key vegetable sectors in the United States owing to the registration and adoption of methyl iodide and a three-way fumigant system. He explained the need for long-term studies on alternatives for perennial crop uses and for nursery uses to prove equivalent plant health risk to assist future phase-out. Some Parties had been urged to consider further adoption of barrier films in key sectors to reduce the methyl bromide needed for future nominations and to satisfy more fully the requirements of decision IX/6.

60. Ms. Marcotte said that Parties had nominated 6.3 tonnes for 2010 for structural and commodity uses. Of that amount the Committee had recommended 4.569 tonnes. Parties had nominated 191.502 tonnes for 2011, of which the Committee had recommended 182.686 tonnes. Those volumes did not include a nomination from the Russian Federation of 135 tonnes for the control of structural and commodity pests; that critical-use nomination had been placed on hold pending further information from the Party.

61. She reviewed the reasons for the Committee's recommendations for each nomination. In each case, she provided an analysis of the decline in critical-use exemptions for the past two years, combined with the critical-use-nomination recommendations for 2009. If Parties accepted the recommendations, the three-year fall in methyl bromide use would range from 15 per cent, for a nomination where there was still no alternative registered, up to 97 per cent, where the sector had almost completely adopted an alternative.

62. She also presented reasons why the adoption of alternatives had stalled in some cases. The lack of registered alternatives and the failure to increase the allowed maximum levels for fluorine residues had slowed the adoption of alternatives for several nominations. Economic issues and concerns about the costs of alternatives had also slowed the adoption of technically effective alternatives.

63. Recalling that the report presented by the Technical Options Committee was an interim report, and that the final report would be presented to the Twenty-First Meeting of the Parties, the Co-Chair invited questions from the Working Group.

64. In the ensuing discussion, concern was expressed as to whether the quantities of methyl bromide approved for critical-use exemptions were indeed being applied entirely for critical uses. In that regard, the representative of an environmental non-governmental organization cited the example of use of stocks for golf courses, and asked whether some field uses of methyl bromide had been appropriately classified as quarantine and pre-shipment uses. It was suggested that some countries might be stockpiling methyl bromide. In addition, it was suggested that some of the countries seeking exemptions might already have stockpiles and that others might have stockpiles that they had not declared and that the Technical Options Committee should therefore take into account stockpiles and inventories when making recommendations to the Parties for critical-use exemptions. In response, Mr. Porter said that verification of stockpiles fell outside the purview of the Technical Options Committee, but that the Parties might wish to explore the matter.

65. In response to a question on the use of grafting and soil-less culture techniques that avoided the need for methyl bromide, he said that those were excellent alternatives for sectors such as protected cropping industries, and for several sectors applying for critical-use nominations in open fields, but that for others further development would be required. He also explained the need for Parties to conduct long-term trials in nursery industries to ensure that data were obtained to show that the alternatives to methyl bromide posed similar plant health risks and thus met certification requirements. Regarding stringent regulatory requirements that often hindered the uptake of alternatives, he pointed out that there

were technically and economically feasible non-chemical alternatives to methyl bromide in most sectors. He expressed the hope that Parties affected by regulatory obstacles to the introduction of alternatives were working to overcome them. If progress could be made in the registration of several key alternatives, particularly in the nursery sector, then substantial reductions in the remaining quantities of methyl bromide nominated for critical-use exemptions could be foreseen and would contribute significantly to bringing about complete phase-out. He also explained that the Committee would like to see further national phase-out action plans, but that was, of course, a matter for Parties. Ms. Marcotte added that, as regulatory restrictions on methyl bromide alternatives were resolved and as cost factors were improved, the Committee hoped that in the foreseeable future methyl bromide uses would decline to zero.

66. The representative of the Russian Federation clarified that his country's critical-use nomination was for methyl bromide to be used in pre-packaging before transport. He expressed the hope that by 2011 the Party would no longer need to request any exemptions, as all uses would fall under the category of quarantine and pre-shipment applications. Following discussions between the Committee and the Party, the Party had agreed to withdraw its critical-use nomination for 2010.

67. One representative of a Party operating under paragraph 1 of Article 5 thanked the Parties for their efforts to reduce the quantities being nominated for critical-use exemptions and urged them to continue those efforts.

F. Presentation of and discussion on the interim report of the Technology and Economic Assessment Panel on quarantine and pre-shipment applications of methyl bromide (decision XX/6)

68. Introducing the item, the Co-Chair recalled that the Panel's interim report on quarantine and pre-shipment applications of methyl bromide could be found on pages 145–179 of the Panel's progress report of May 2009. The report had been prepared in response to decision XX/6, which had requested the Panel to review several issues, including trends in quarantine and pre-shipment use, available alternatives and uses that were designated as quarantine and pre-shipment applications by a small number of Parties only.

69. The co-chairs of the Panel's Quarantine and Pre-Shipment Task Force, Ms. Pizano and Mr. Jonathan Banks, presented its interim report. Ms. Pizano mentioned that the analysis of available information had revealed that global production and consumption for quarantine and pre-shipment uses had been approximately constant at 10,500 tonnes per year during the period 2004–2007, with total consumption for all uses over those years having been about 68,400 tonnes. Some 880 tonnes more methyl bromide for quarantine and pre-shipment uses had been produced than had been consumed over the period 2002–2007. In 2007, consumption in Parties not operating under paragraph 1 of Article 5 had fallen to about 50 per cent of the reported values for 2000, while consumption in Parties so operating had increased almost threefold in the same period. Uses had been identified for 77 per cent of the quarantine and pre-shipment consumption reported for 2007, whereas 2,558 tonnes of uses remained unidentified. At least 68 per cent of total consumption (88 per cent of identified uses) resulted from five main categories of use: whole logs; soil (field) fumigation; wood and wood packaging material; grain, including rice; and fresh fruit and vegetables. All those uses included at least some instances where alternatives were not available on technical or economic grounds.

70. Mr. Banks listed categories of uses identified by the Panel that were classified as quarantine and pre-shipment uses by some Parties and not by others; those included some examples of fumigation for export of coffee, rice and cassava chips, and fumigation of soil for the production of some plant propagation materials. He then considered issues relating to methyl bromide recapture, noting the characteristics of some suppliers and installations presently available. With reference to the availability of alternatives for the main quarantine and pre-shipment uses, he noted that their development was difficult and that there were some regulations that promoted methyl bromide use even when alternatives were available. He described the information that the Task Force would appreciate receiving from Parties to complete its assessment. He also highlighted a discrepancy of about 1,600 tonnes in preliminary analyses for Parties not operating under paragraph 1 of Article 5 for 2007, between total consumption estimated by bottom-up analysis and total consumption reported under Article 7, noting that a discrepancy of similar magnitude had appeared in the annual figures for the period 2003–2007.

71. In the ensuing discussion, one representative reiterated his plea that Parties should submit the additional data needed by the Panel in time for them to be included in its final report for submission to the Twenty-First Meeting of the Parties. He recalled that those Parties that had ratified the Beijing Amendment were required to report data on quarantine and pre-shipment uses to the Ozone Secretariat.

He also urged Parties to develop a national strategy for the complete phase-out of methyl bromide for quarantine and pre-shipment, while taking into consideration recapture technologies. Another representative repeated that there was a need for Parties to declare methyl bromide stocks and inventories.

72. In response to a question about the dangers of mishandling methyl bromide, Mr. Banks said that methyl bromide was extremely toxic to humans and that most countries either had regulations setting maximum exposure levels or had prohibited the substance completely. In quarantine and pre-shipment applications, there was the danger that there would be residual methyl bromide on an imported product owing to its treatment in the exporting country. Careful venting would therefore be required. More information on the dangers of handling methyl bromide could be found in the various health assessments undertaken.

73. Responding to a remark about the lack of information in the interim report about interaction between the Ozone Secretariat and the International Plant Protection Convention secretariat, the Executive Secretary said that there had been extremely fruitful cooperation between the two bodies. The Ozone Secretariat had participated in meetings held under the International Plant Protection Convention and the two bodies had jointly published a document that defined the terms “quarantine” and “pre-shipment”. Each body had undertaken to keep the other abreast of all developments.

74. In response to a question about whether the Panel had identified alternatives to methyl bromide in quarantine and pre-shipment applications, Ms. Pizano said that readily available alternatives had been considered in the interim report, but that the final report would deal with the issue of alternatives in more depth. Parties would have the opportunity to learn more about many of the possibilities at the Twenty-First Meeting of the Parties.

75. In response to a question from one Party as to the differences in effectiveness, Mr. Banks said that treatments for quarantine usually required extremely high levels of proven effectiveness, while those for non-quarantine pre-shipment might be lower as they arose from less stringent requirements.

76. Several representatives expressed appreciation for the report, notably its detailed and instructive table identifying key information that was currently lacking. Some representatives offered their services in helping to fill the gaps in information, undertaking to cooperate with one another in doing so.

77. One representative pointed out that, when methyl bromide was used in a quarantine and pre-shipment context, its use was often imposed by one country (the country importing fruit, vegetables or flowers) on another (the exporting country). Among all the ozone-depleting substances regulated by the Montreal Protocol, methyl bromide was unique in that its use was required by official regulations negotiated between two jurisdictions. He also said that the report should reflect to some extent the economic damage being avoided by the use of methyl bromide for quarantine and pre-shipment requirements.

78. Another representative noted the vital importance that the discussion of the quarantine and pre-shipment situation be informed by knowledge of alternatives to methyl bromide. In response, it was reiterated that the Panel’s final report on the issue would provide further detail on alternatives.

79. The representative of the European Community said that, as from 18 March 2010, methyl bromide would be banned completely in its member States, including for quarantine and pre-shipment applications.

G. Scoping study addressing alternatives to hydrochlorofluorocarbons in the refrigeration and air-conditioning sectors in Parties operating under paragraph 1 of Article 5 with special conditions (decision XIX/8)

80. Introducing the item, the Co-Chair noted that the Panel’s scoping study on alternatives to HCFCs in the refrigeration and air-conditioning sectors in high-temperature or special situations could be found on pages 121–141 of its progress report of May 2009. As requested by the Parties in decision XIX/8, the report focused on HCFC-22 replacement refrigerants for commercial refrigeration and unitary air-conditioning equipment operating in high-ambient-temperature conditions, and on refrigerants for deep mines.

81. One representative said that, in his view, the report was extremely technical in nature and that he had not had time to consider fully its implications. Encouraging the Panel to continue its work so that the Parties could take sound decisions, he suggested that the matter should be taken up again at the Twenty-First Meeting of the Parties.

H. Updated study on projected regional imbalances in the availability of halon 1211, halon 1301 and halon 2402 and potential mechanisms for the improved prediction and mitigation of such imbalances in the future (decision XIX/16)

82. Introducing the item, the Co-Chair recalled that, by decision XIX/16, the Parties had requested the Panel to investigate regional halon imbalances further and to investigate and propose mechanisms for better prediction and mitigation of such imbalances. Subsequently, in its report the Panel had defined regional imbalances as a lack of parity between supply and demand on a regional basis, not as the differences in quantities available from region to region.

83. Mr. David Catchpole, co-chair, Halons Technical Options Committee, presented the Panel's response to decision XIX/16. The disproportionate distribution of halons did not necessarily equate to an imbalance in supply and demand, although that was the case for halon 1211. Recycled halon 1211 was readily available worldwide, but outside China supplies were becoming more restricted. National regulatory authorities might wish to explore ways to increase the flow of halon 1211 from China to other Parties who had reduced supplies. The market penetration of alternatives had made halon 1301 readily available for recycling and reuse. Some Parties operating under paragraph 1 of Article 5 were experiencing supply problems for recycled halon 1301 and China might wish to consider a future nomination for an essential-use production exemption. The Committee also suggested that halon 1301 should not be destroyed before existing demands had been met. The worldwide bank of halon 2402 was small and, while there was no apparent shortage on a global basis, regional problems existed in some sectors. Parties using halon 2402 should consider undertaking needs assessments, but the existing and predicted availability of unwanted halon 2402 in the European Union and the United States might alleviate the problem in the short term.

84. He said that only about 20 per cent of the country or regional halon banks in Parties operating under paragraph 1 of Article 5 were considered capable of recycling halons for reuse within the country or region. The aviation sector did not appear to be currently experiencing shortages of recycled halons to meet its needs, but was likely to experience shortages of halon 1211 in some regions in the near future. Although alternatives were available for most aviation uses, the practicalities of using them on the existing fleet of aircraft could be challenging and costly. Without more regional and sectoral information, such as detailed surveys from Parties, there did not appear to be any way to formulate a predictive model to project future regional imbalances between supply and demand.

85. Several representatives expressed appreciation for the Committee's work in producing the report, and in particular for its cooperation with the International Civil Aviation Organization in monitoring the supply situation and determining phase-out dates. It was noted, however, that the work on finalizing those dates was not advancing rapidly and representatives stressed that that process was important.

86. One representative, noting that some countries had banned the import and export of used halons, whereas the Committee favoured a free flow of used halons, urged Parties to relax such bans.

87. The representative of the European Community welcomed the report, saying that the Community had taken measures to relax restrictions on the movement across the Community's borders of halons for critical uses. While accepting that the long-term availability of halons was necessary, particularly in the civil and military aviation sectors, the European Community was encouraging transition to alternatives, in addition to the retention of halon stocks at the current time. The destruction of recyclable halons was not advisable until more was known about future needs.

88. At the suggestion of the co-chair, the representatives of Australia, the European Community and the United States undertook to consider the issue further.

I. Laboratory and analytical-use exemptions (decisions XVII/10 and XIX/18)

89. Introducing the item, the Co-Chair recalled that the Panel had been requested to update the Parties on any new alternatives to the use of methyl bromide in laboratory and analytical uses, and to present a list of alternatives for other ozone-depleting substances used for those purposes.

90. The consideration of that topic could be found on pages 51–61 of the Panel's progress report. While the Panel could not identify any new alternatives to those uses of methyl bromide, it had been able to list feasible alternatives to almost every other use of ozone-depleting substances. It had noted that the phase-out date for Parties operating under paragraph 1 of Article 5 for CFCs, halons and carbon

tetrachloride was 1 January 2010, which raised the possibility that the Parties might wish to consider clarifying the status of laboratory and analytical use exemptions for those Parties.

91. Several representatives offered their help in improving the collection and assessment of information, given the complexity of the issue. The Co-Chair welcomed those offers.

92. Subsequently, the representative of the European Community introduced a conference-room paper containing a draft decision on a global laboratory-use exemption.

93. The Working Group agreed to forward the draft decision, as set out in annex I to the present report (section A), to the Twenty-First Meeting of the Parties for its consideration, on the understanding that intersessional work on the matter would be undertaken.

J. Review by the Technology and Economic Assessment Panel and the Executive Committee of the Multilateral Fund on the progress made in reducing emissions from process-agent uses and consideration of the Panel's recommendations on process-agent use exemptions (paragraph 100 of the report of the Twentieth Meeting of the Parties)

94. Introducing the item, the Co-Chair recalled that, by decision XVII/6, the Parties had requested the Panel and the Executive Committee of the Multilateral Fund to report to the Open-ended Working Group in 2007 and every alternate year thereafter on progress made in reducing emissions of controlled substances from process-agent use.

95. The Chief Officer of the Multilateral Fund Secretariat gave a report on the significant progress being made in reducing emissions from process-agent uses through the work of the Fund (UNEP/OzL.Pro.WG.1/29/4). She said that the total carbon tetrachloride consumption included in the projects approved by the Executive Committee was over 40,800 ODP-tonnes. The projected eventual consumption upon completion of the projects would be 1,216 ODP-tonnes. On that basis, the maximum remaining emissions upon completion of all projects would be less than 3 per cent of pre-project levels.

96. The Working Group took note of the report.

97. With regard to process agents, the Co-Chair recalled that the Panel had concluded that three nominations met the technical criteria for inclusion in the list of agreed process-agent uses set out in table A of decision XIX/15. It had also noted that process-agent use of ozone-depleting substances in the production of dicofol had ceased in 2007 and that that use could therefore be deleted from the table.

98. With regard to table B of decision X/14, which listed emission limits for process-agent uses, while observing that it had not received data from all Parties using the process-agent exemption, the Panel had noted that the European Community and the United States were emitting at levels less than one third of the maximum allowable levels set out in the table, and had also noted the report from Japan to the effect that no more process-agent uses existed in that country. Consequently, the Panel had recommended the changes to table B shown on page 51 of its progress report.

99. The representative of Sweden, speaking on behalf of the European Union and its 27 member States, said that some representatives of those countries were preparing a proposal to rectify certain discrepancies and information gaps that had been detected in the available carbon tetrachloride and process agent information. Another representative suggested that the Panel and the Executive Committee might produce a joint report in the future to give a more comprehensive picture.

100. Representatives concurred that unnecessary or outdated data should be removed from the tables. One suggested that it might be helpful if the Ozone Secretariat could remind Parties of their annual reporting obligations, as called for in decision X/14, while another clarified that her country had discontinued the use of ozone-depleting substances as process agents, which was why it had ceased to report data on that specific use.

101. Another representative cautioned that the entire process-agent issue was complicated and challenging and that great care must be taken in the review of the data, to ensure that Parties were given correct guidance.

102. The Co-Chair welcomed the offers from various Parties to collaborate on a formal proposal to resolve those issues.

103. Subsequently, the representative of the European Community introduced a conference-room paper containing a draft decision on the list of uses of controlled substances as process agents.

104. The Working Group agreed to forward the draft decision, as set out in annex I to the present report (section B), to the Twenty-First Meeting of the Parties for its consideration, on the understanding that intersessional work on the matter would be undertaken.

K. Other issues arising out of the Panel's reports

105. Introducing the item, the Co-Chair noted that the Panel had reported that Mr. Radhey S. Agarwal had resigned as co-chair of the Refrigerant Technical Options Committee, and that the nomination of Mr. Roberto de Aguiar Peixoto would be submitted for the consideration of the Twenty-First Meeting of the Parties. The Panel had also noted the intention of its co-chair, Mr. Pons Pons, to resign at the end of 2010 after 19 years of service.

106. The Panel had reiterated its difficulty in ensuring the participation of experts from Parties not operating under paragraph 1 of Article 5 who worked in the private sector and did not receive funding for their travel and other expenses. It had urgently requested Governments once again to look into all possible means of funding the costs of their national experts.

107. The Working Group took note of the matters raised.

108. Subsequently, the representative of Sweden, speaking on behalf of the European Union and its 27 member States, introduced a conference-room paper containing a draft decision on sources of carbon tetrachloride emissions and opportunities for reductions.

109. The Working Group agreed to forward the draft decision, as set out in annex I to the present report (section C), to the Twenty-First Meeting of the Parties for its consideration, on the understanding that intersessional work on the matter would be undertaken.

IV. Environmentally sound management of banks of ozone-depleting substances (decision XX/7)

A. Report of the co-chairs of the workshop

110. Ms. Annie Gabriel, on behalf of herself and Mr. Mikheil Tushishvili (Georgia), co-chairs of the workshop, introduced their summary report of the workshop on the management and destruction of ozone-depleting substance banks and the implications for climate change held on Monday, 13 July 2009 (UNEP/OzL.Pro.WG.1/29/5). She said that the workshop had been divided into two general sections. The first had dealt with technical issues: bank distribution and accessibility, and the environmental benefits of mitigating reachable banks; cost factors and economic feasibility; funding issues and the risk of perverse incentives; and the role and implications of incentive mechanisms in promoting ozone-depleting substance destruction. The second section had dealt with policy and funding issues: options relating to funding through international organizations for Parties operating under paragraph 1 of Article 5; options related to carbon markets; other opportunities that might be available as options for use by all Parties individually if they were consistent with national laws and preferences; and potential opportunities discussed with the secretariats of other multilateral environmental agreements. Each section had included presentations, followed by a session of questions and clarifications and an opportunity for participants to exchange views on the issues under consideration. The summary report of the co-chairs of the workshop contained some of the principal ideas put forward by participants, together with suggestions for further work that might facilitate decision-making on related items.

111. The Working Group took note of the report.

B. Consideration of possible actions, including proposed amendment to the Montreal Protocol

112. The representative of the Federated States of Micronesia introduced the destruction component of the amendment to the Montreal Protocol that his country had proposed in conjunction with Mauritius. (UNEP/OzL.Pro.WG.1/29/8). He spoke of a window of opportunity to capture significant amounts of ozone-depleting substances and their carbon dioxide equivalent, stressing that the investment that would be required would become more costly if left to a later date. The infrastructure created to enable that destruction could also be put to use in destroying other substances of concern, such as HFCs. In that regard, he evoked the urgency of action, stressing that time was short. He suggested that Parties not operating under paragraph 1 of Article 5 should be required to recover and destroy a certain quantity of banks of ozone-depleting substances, upon which HCFC production would be contingent. Any

exemptions would also be contingent on their level of destruction. For Parties operating under paragraph 1 of Article 5, he proposed that the Multilateral Fund should administer a programme to finance bank recovery and destruction. Given that that programme would be global in nature, it would be incumbent upon the Fund to secure financing from other institutions, such as the Global Environment Facility. He stressed that, in 2007, the Parties had taken a bold step by accelerating the phase-out of HCFCs, but could go even further by endorsing the proposed amendment.

113. In the ensuing discussion, which pertained both to the report on the workshop on the management and destruction of ozone-depleting substance banks and the proposed amendment, many representatives who took the floor welcomed the information provided to them, but noted that additional information would be required.

114. Several representatives, commenting on the report of the Technology and Economic Assessment Panel to the workshop, said that the Panel's final report on the cost-benefit analysis of destruction of ozone-depleting substances banks to be presented at the Twenty-First Meeting of the Parties should provide details by subregion, preferably focusing on a number of subregions. They also suggested that it should contain details on when banks of ozone-depleting substances were likely to become available, the costs – described by one representative as “investments” – to be incurred by Parties, the associated benefits of taking action with respect to some sectors of those banks, the risks of perverse incentives and the risks associated with the management and destruction of those banks. The possibility of funding through carbon markets should be investigated, including means of ensuring the credibility of credits in the voluntary carbon market and the risk of over-supply.

115. One representative said that it might be possible to derive data on costs from national programmes, voluntary carbon markets and projects under compliance carbon markets such as the European Union allowance allocations. Several representatives called for alternative funding sources alongside the Multilateral Fund, noting that the global-warming potential of many ozone-depleting substances broadened the scope and options for funding.

116. One representative said that the scope of the problem needed to be investigated, to determine whether the destruction of the entire global ozone-depleting substance bank was sought, or simply those ozone-depleting substances that were difficult to reuse in individual countries. Once that was decided, it would be possible to agree upon the financial instrument that could most effectively help Parties operating under paragraph 1 of Article 5.

117. Another representative said that funding from the Multilateral Fund should not be made a legal obligation under the Montreal Protocol, but agreed that the Fund could begin financing the destruction of some ozone-depleting substances, provided that, before it began doing so, costs were investigated, feasible approaches were identified and transport and trans-shipments between countries were examined. A third representative pointed out that the Panel's report had provided convincing arguments that the Multilateral Fund alone could not cover all the costs of destruction.

118. One representative said that the Ozone Secretariat should continue its dialogue with the Global Environment Facility, the World Bank and the secretariats of the relevant multilateral environment agreements to explore further funding and areas for cooperation. It should also disseminate information from the discussions and actions taking place under the Protocol to other institutions and bodies to promote national and international synergies.

119. A number of representatives said that financial and technical assistance, including the training of personnel, should be provided for countries that faced difficulties in managing and destroying ozone-depleting substances, in particular Parties operating under paragraph 1 of Article 5. Other representatives pointed out that some subregions faced considerable costs in tackling ozone-depleting substances or lacked the facilities necessary to do so, and would thus require financial assistance to cover the storage, management and destruction of those substances or their transport out of the subregion. One representative suggested that, if the proposal were approved, a centralized facility could be established for Pacific island States with small banks of ozone-depleting substances, with a view to taking a holistic and cost-effective approach to destruction.

120. Various representatives stressed the importance of conducting pilot projects and collecting examples of good practices, in particular relating to low-volume consuming Parties. Implementing new projects with innovative funding relationships between climate funding institutions and Parties to the Montreal Protocol would create or identify practical and efficient methods and frameworks for replicable programmes and projects that could provide appropriate incentives for the collection of substances so that the climate benefits of their destruction could be captured.

121. Some representatives agreed that ozone-depleting substances should be destroyed on a global scale, but pointed out that their destruction did not fall within the Protocol's purview, which pertained only to their production and consumption. Rather than aim at introducing global regulation, a better way forward could be to develop incentives for countries to collect and destroy them, and to develop the necessary national infrastructure, institutional arrangements and legal frameworks. It was therefore not vital to amend the Protocol.

122. Some representatives expressed concern about the tens of thousands of tonnes of ozone-depleting substances stored in Parties operating under paragraph 1 of Article 5 and their possible shipment to other countries. Although some illicit products had been seized, their interception and identification were problematic, largely due to inadequate or confusing labelling. Packaging frequently failed to provide the information sufficient to identify correctly and handle the substances in question. Those representatives requested the Panel to include in its report recommendations for the labelling of shipments, which should preferably include a translation in English and information on their composition, on whether the substances were pure or recovered or retrieved from stocks and on the details of the producer, to enable contact to be made.

123. The representative of an environmental non-governmental organization observed that, since emissions from banks contributed on a daily basis to greenhouse gas emissions, immediate action was essential. The Parties were faced with an opportunity to achieve significant and cost-effective climate benefits and should use the Multilateral Fund to provide finance for bank destruction projects immediately while pursuing additional sources of financing for the longer term.

124. The Working Group agreed to establish a contact group, to be co-chaired by the representatives of Australia and Georgia, to delineate the points requiring further work by the Panel and the Ozone Secretariat. It would also have the mandate to discuss the component of the amendment proposed by the Federated States of Micronesia and Mauritius related to the destruction of ozone-depleting substances.

125. Subsequently, Mr. Tushishvili and Ms. Gabriel (Australia), co-chairs of the contact group, reported that the group had concluded its work, having had a fruitful discussion on potential further work to be undertaken by the Panel and the Ozone Secretariat and the actions that Parties might wish to take to address banks. The group had agreed that the step-by-step approach stipulated in decision XX/7 should be continued, as should the development of practical information on destruction through pilot projects and projects that included co-funding and that information should be disseminated on continuing programmes and on further destruction project proposals.

126. There had been agreement that further clarification was needed as to the scope of recovery and destruction efforts and the categorization of banks. The view had also been expressed that long-term servicing needs had to be taken into account in relation to disposal programmes. Parties had suggested that the Multilateral Fund should be used to identify priority areas and fund destruction demonstration projects and other projects that would be cost-effective and would deliver significant reductions. They had also stressed the importance of strengthening cooperation with the Global Environment Facility in connection with activities on destruction of banks in Parties operating under paragraph 1 of Article 5.

127. Some members of the contact group had expressed the view that it would be premature at the current meeting to consider the component of the amendment to the Protocol put forward by the Federated States of Micronesia and Mauritius that related to banks of ozone-depleting substances.

128. The Working Group agreed that the full text of the co-chairs' report, including requests to the Technology and Economic Assessment Panel and the Ozone Secretariat from the Parties for further information to be provided prior to the Twenty-First Meeting of the Parties, would be included in annex III to the present report.

V. Summary report of the dialogue on high-global warming potential alternatives for ozone-depleting substances (decision XX/8): presentation and discussion

A. Report of the co-chairs of the workshop

129. Ms. Laura Berón, on behalf of herself and Mr. Jukka Uosukainen, co-chairs of the workshop, introduced their summary report of the workshop for a dialogue on high-global-warming-potential alternatives for ozone-depleting substances, held on Tuesday, 14 July 2009 (UNEP/OzL.Pro.WG.1/29/6). She explained that the Scientific Assessment Panel had noted, in particular, that atmospheric concentrations of HCFCs were currently increasing and the use and emissions of HFCs were growing rapidly. The Technology and Economic Assessment Panel had presented a report in which it was noted that alternatives to HFCs were already available or were being developed for several sectors, but for some applications alternatives were currently not feasible. Aggregated carbon-dioxide-equivalent emissions had been falling, but after about 2015 were expected to show a slight increase, owing to the extensive use and consequent emission of HFCs.

130. Recognizing that the Montreal Protocol had already made significant contributions to protecting the climate by phasing out much of the production and consumption of ozone-depleting substances (which were also greenhouse gases), the Parties had unanimously agreed that the Protocol should continue to envisage the possibility of making a further contribution by tackling the issue of high-global-warming-potential alternatives to ozone-depleting substances, including HFCs. It was recognized, however, that HFCs were dealt with under the United Nations Framework Convention on Climate Change and its Kyoto Protocol, and that the results of the fifteenth session of the Conference of the Parties to that Convention, to be held in Copenhagen in December 2009, should be taken into account before the ozone community decided what should be done under the Montreal Protocol.

131. The Working Group took note of the summary report.

B. Consideration of possible actions, including proposed amendment to the Montreal Protocol

132. The representative of Mauritius introduced the amendment to the Montreal Protocol that his country had proposed in conjunction with the Federated States of Micronesia (UNEP/OzL.Pro.WG.1/29/8). He set out the rationale to the proposal, which was that, as explained by the Panel in its progress report, if left unchecked, HFC emissions would continue to grow rapidly and undermine international efforts to prevent climate change. The amendment would add HFCs to the controlled substances under the Montreal Protocol in a new Annex F, and a new Article 2J would set forth control measures. It included bracketed dates and control levels for Parties not operating under paragraph 1 of Article 5, so as to begin phase-down. Two options had been proposed for Parties operating under paragraph 1 of Article 5. The first was that compliance would be delayed for a certain number of years, yet to be decided, while the second was that the determination of control measures would be delayed until 2011, pending assessments and reviews under Articles 6 and 8. He explained that the Multilateral Fund's mandate would be extended to fund the incremental costs of enabling compliance with agreed HFC controls by Parties operating under paragraph 1 of Article 5. Applicable to all Parties would be control measures for HFC-23, which, unlike other HFCs, was produced solely as a by-product of other processes. HCFC-22 production resulting in HFC-23 by-product would be required to meet efficiency requirements. Lastly, he explained that the proposal called for enhanced synergies with the United Nations Framework Convention on Climate Change and would lead to much greater climate benefits.

133. In the ensuing discussion, several representatives expressed support for the proposal. They acknowledged that work initiated under the amendment would face significant challenges, but would be for the greater good, given the myriad dangers posed by climate change to countries worldwide, particularly small island developing States.

134. Other representatives who took the floor did not support the proposal as it stood. Many acknowledged the urgent need to control the level of HFC emissions, particularly given their harmful environmental properties, but questioned whether the time and forum were opportune. They also found the reduction schedule in the proposed amendment rather ambitious. One said that an amendment to the Protocol alone might not be sufficient to enable greater efforts to be made to combat climate change and called for an approach that integrated the activities of all relevant stakeholders. Another suggested that,

were the proposed amendment to be approved, an amendment would also be required to the Vienna Convention, given that the Convention was the legal instrument governing the Protocol. A third representative refuted that suggestion.

135. Other representatives argued that new measures under the Protocol would require significant time to implement and that it would be better to adhere to the existing legal framework, whereby HFCs were regulated under the United Nations Framework Convention on Climate Change and its Kyoto Protocol. It was unwise, they argued, to prejudge the outcome of the fifteenth session of the Conference of the Parties to that Convention, and the establishment of the post-2012 Kyoto Protocol regime, and to risk undermining the entire Convention and Kyoto Protocol by endeavouring to remove HFCs from their purview. In an era of synergies and cooperation and collaboration between multilateral environmental agreements, it was better to work together than to duplicate efforts under other bodies. Another representative stressed that, if HFCs were to be dealt with even in part under the Montreal Protocol, it would be important to ensure that the flexibility of Parties to the Kyoto Protocol in meeting their obligations under that instrument would not be impaired. Furthermore, any actions to reduce HFCs should not lead to an increase in the use of other greenhouse gases.

136. Other representatives pointed out that certain issues were still pending for the Montreal Protocol. For example, in 2007, the Parties had, by decision XIX/6, agreed to accelerate the phase-out of production and consumption of HCFCs. It would be premature to establish HFC control measures when much work remained to be done in that regard, particularly in connection with allocations of financial resources to meet developing countries' needs. Many countries, it was said, were doing their utmost to fall into line with the accelerated HCFC schedule and would be unable to bear the burden of additional changes at the current time.

137. In addition, representatives raised questions as to the cost and availability of alternatives to HFCs. One pointed out that some sectors, such as the foam sector and the mobile air-conditioning sector, lacked appropriate non-HFC alternatives to HCFCs. Another suggested that some alternatives were energy-inefficient and some had high global-warming potentials. Several stressed the need to avoid promoting HFC alternatives to HCFCs, suggesting that more information was required from the Technology and Economic Assessment Panel and its technical options committees on technical issues pertaining to availability and comparable performance. Further research and study would be necessary before taking decisions. Several representatives said that they required more detailed information on matters such as the availability, accessibility, cost, global-warming potential and energy-efficiency of alternatives to HFCs and related safety considerations. They also sought technical input on matters such as by-product emissions, feedstock production and other HFCs. Without more information, it would be impossible to establish accurate baselines, freezes and reduction targets. Another representative cautioned against engaging in sustained legal debate before there was a clearer picture as to options for mitigation. Given the Protocol's tradition of basing its decisions upon sound analysis, he called upon all Parties to cooperate in studying the issue further, with a view to contributing to international efforts on the matter.

138. One representative said that, in her country, the industry sector had invested a great deal of money in its efforts to migrate from CFCs and HCFCs to HFCs. Industry stakeholders would therefore need to be consulted on the matter of HFC phase-down. Another representative suggested that, if Parties were to send a clear signal to industry that they were serious about phasing down HFCs, industry would manage to adapt, as it had done previously with CFCs. She also said that if Parties were genuinely concerned about climate change they should be prepared to pay for alternatives that were more expensive than HFCs.

139. Several representatives referred to the important role that the Multilateral Fund Secretariat and the Executive Committee could play in the phase-down of HFCs. Those bodies had a great deal of expertise in working in sectors using HFCs and could give technical guidance. The Fund could also be the source of financing for the phase-down. One representative asked the Executive Committee to send a clear message to the world by offering sufficient funding to enable Parties to avoid completely the use of HFCs when phasing out HCFCs. Another representative said that Parties operating under paragraph 1 of Article 5 of the Protocol needed to be sure that there would be sufficient funding and institutional strengthening support to enable them to meet their obligations.

140. One representative suggested that the proposal should be discussed further at future meetings, given that it had come before the Parties at short notice.

141. The representative of Sweden, speaking on behalf of the European Community and the European Union and its 27 member States, introduced a conference-room paper outlining a possible way forward. The representative of the European Community explained that it consisted of four parts:

past history, current actions, options for action by the ozone community in the short term that posed no risk to existing arrangements or institutions and actions that would be more proactive, while avoiding damaging or infringing any arrangements or institutions already in place, in particular the United Nations Framework Convention on Climate Change.

142. The representative of the Federated States of Micronesia thanked the representatives for their helpful comments. He felt that there was a general understanding that, in proposing an amendment to the Montreal Protocol, the intention of the proponents had been to protect the environment rather than to remove any responsibility or authority from any institution.

143. He recalled that, during the discussion, it had been said that there had been no substitute for ozone-depleting substances when the Vienna Convention and its Montreal Protocol had been promulgated, but those international instruments had set technology-forcing standards and technology had risen to the challenge. To those representatives with concerns about the legal issues, he pointed out that the Vienna Convention accorded the Parties the authority to do what was necessary to resolve the problems of the atmosphere and therefore whatever the Parties decided became the law. The essential point was that whichever body could do the job better should do it. If the Kyoto Protocol was best able to deal with emissions, it should do so. If the Montreal Protocol was best able to deal with production and consumption issues, it should do so.

144. The representative of Mauritius said that he was gratified by the response to the proposal. He felt that the ideas presented had sparked the intellect of all of the Parties, who had offered insightful comments, robust and profound arguments and sincerely felt views. There was an evident general consensus that HFCs were undoubtedly contributing to climate change and an equally evident sense of urgency to prevent further harm. A number of difficulties concerning the proposal had been raised, but its sponsors viewed them as not insurmountable. In their view, Parties' obligations under the Vienna Convention permitted or possibly even compelled them to act to reduce emissions of HFCs.

145. With regard to the commitments of the Parties operating under paragraph 1 of Article 5, he pointed out that the availability of funding was always a condition of their compliance with the control measures. Part of the Protocol's success had been due to the fact that Parties not operating under paragraph 1 of Article 5 had begun to eliminate their ozone-depleting substances first, which had meant that alternative technologies and substances had later become available to Parties operating under paragraph 1 of Article 5. Just as the Protocol process had begun without a clear picture of how all the problems would be solved, a similar act of faith would again be required to deal with the problem of HFCs.

146. The representative of an intergovernmental organization said that two concepts had been missing from the report of the discussions held at the workshop. The first related to financing: the Multilateral Fund should avoid financing projects that replaced HCFCs with HFCs. To do so would not only be a waste of time, it would also damage the credibility of the Montreal Protocol process. The second related to the need for a significant increase in dissemination of information, notably about the alternatives to ozone-depleting substances that already existed for most applications. His institution was available to assist countries of all climate types with their refrigeration difficulties.

147. The representatives of two environmental non-governmental organizations called upon the Working Group to support the proposal for an amendment to the Protocol. Since rising HFC use was a direct consequence of the phase-out of ozone-depleting substances, the Montreal Protocol was obliged to tackle HFCs so that the ozone layer was not repaired at the expense of the global climate. The ozone and climate communities could assume important and unique collaborative roles, whereby HFCs would remain within the regulated basket of gases under the United Nations Framework Convention on Climate Change, while the Montreal Protocol would act as the facilitating body for limiting their production and consumption worldwide. The Montreal Protocol should therefore take responsibility for reducing HFC use by regulating production and consumption, and ensure that the Multilateral Fund avoided the transition to HFCs in sectors where low-global-warming-potential alternatives existed. Although the Protocol already enjoyed an extraordinary record of accomplishment, its best work might still lie ahead.

148. The Co-Chair said that the discussions had been extremely useful, revealing a clear will to move forward in investigating how the Montreal Protocol could help to offset the climate impacts of HFCs. The Working Group agreed to establish a contact group, to be co-chaired by the representatives of Argentina and Denmark. Its mandate was to examine the climate impacts of HFCs further, to determine the technical issues that would need to be resolved and to consider the proposed amendment and all relevant conference-room papers.

149. Subsequently, Ms. Berón, co-chair of the contact group, speaking on behalf of herself and her co-chair, Mr. Mikael Sorenson (Denmark), reported that the group had concluded its work after four meetings. The group had tackled a complex and potentially far-reaching set of issues in a positive and constructive way. Based on a number of proposals that had been submitted, the group had been able to produce draft texts for two decisions, one covering HCFCs and the other HFCs.

150. A wide range of views had been expressed on the proposed amendment. Rather than endeavour to conduct negotiations over its text, the group had decided to identify key areas from the proposal on which to conduct a conceptual discussion. Those included the substances to be covered, baselines, phase-down steps, links with the Framework Convention on Climate Change, finance, by-product emissions, unit of accounting and import and export licensing systems for HFCs. For each key area the group had identified issues and questions where further work would be needed or further consideration necessary. The full list of questions and issues would be included in the present report.

151. The representative of the Federated States of Micronesia, speaking on behalf of the sponsors of the amendment, announced that Comoros, Cook Islands, Kiribati, Madagascar, Palau, Papua New Guinea, Samoa and Seychelles had agreed to co-sponsor it. Several other representations had expressed an interest in doing so, but were awaiting confirmation from their Governments.

152. The representative of India said that he had repeatedly emphasized that his country opposed the proposed amendment.

153. The Working Group agreed that the two proposed draft decisions and the list of conceptual issues and questions would be included in annex II to the present report.

VI. Treatment of stockpiled ozone-depleting substances relative to compliance (decision XVIII/17)

154. Introducing the item, the Co-Chair recalled that, at the Eighteenth Meeting of the Parties, the Parties had considered cases in which Parties with an excess in their production or consumption had reported that the excess was a consequence of their stockpiling ozone-depleting substances for an exempted use in future years. Four types of cases had been considered, in which the excess amount of ozone-depleting substances was reported, respectively, as relating to: production stockpiled for domestic destruction or export for destruction in a future year; production stockpiled for domestic feedstock use or export for feedstock use in a future year; production stockpiled for export to meet domestic needs of developing countries in a future year; or imports stockpiled for domestic feedstock use in a future year.

155. In considering those cases, the Parties had noted that the Implementation Committee had concluded that the fourth scenario was in conformity with the Montreal Protocol and, by decision XVIII/7, they had requested the Ozone Secretariat to maintain a consolidated record of cases in which Parties reported that their situations were the consequence of any of the first three scenarios. They had also stipulated that the Twenty-First Meeting of the Parties would revisit the issue in the light of information gathered in accordance with paragraph 3 of the decision.

156. Pursuant to that decision, the Ozone Secretariat had prepared a consolidated record of 23 cases covering the years 1999–2007, in which 12 Parties had exceeded their allowable limits. Those 23 comprised eight cases of excess ozone-depleting substances stockpiled for destruction, five cases of excess ozone-depleting substances stockpiled for feedstock uses and nine cases of excess ozone-depleting substances stockpiled for export to meet the basic domestic needs of developing countries. In one case, the same information had been reported twice: once by the Netherlands and once by the European Community.

157. The representative of Sweden, speaking on behalf of the European Union and its 27 member States, introduced a conference-room paper, containing a draft decision, that had been prepared to tackle the issues of reporting information. The proposal contained the suggestion that a domestic system should be set up to control such situations, together with the establishment of criteria under which such cases could be placed within the remit of the Implementation Committee.

158. Several representatives expressed appreciation for the proposal and requested time to consider it. The Working Group agreed to forward the draft decision, as set out in annex I to the present report (section D), to the Twenty-First Meeting of the Parties for its consideration, on the understanding that intersessional work on the matter would be undertaken

VII. Proposed amendments to the Montreal Protocol

159. As the discussions under item 7 also pertained to items 4 (b) and 5 (b), they are reflected in sections B of chapters IV and V above.

VIII. Other matters

A. Proposal by Canada for an evaluation of the financial mechanism of the Montreal Protocol

160. The representative of Canada suggested that, in the light of the undoubted success of the Multilateral Fund to date, and the challenges that it was likely to face in the future, a further evaluation of its operations should be undertaken to determine where it had been particularly successful and where it had been less so. He suggested that the terms of reference for such an evaluation could be discussed by the Working Group and finalized by the Meeting of the Parties, and that the evaluation itself could take place in 2010.

161. Some representatives, from both Parties operating under paragraph 1 of Article 5 and those not so operating, supported the proposal, while others, all from Parties operating under paragraph 1 of Article 5, considered that such an evaluation would be premature at the present time.

162. The Working Group agreed to establish a contact group, chaired by the representative of Canada, to discuss when a possible evaluation of the financial mechanism could take place, among other matters.

163. Subsequently, Ms. Gudi Alkemade (Netherlands), co-chair of the contact group, explained that the group had not considered it appropriate for Canada to chair the group, since it had been entrusted with discussing Canada's proposal. Instead the group had been co-chaired by herself and Mr. David Omotosho (Nigeria).

164. After a brief explanation by the representative of Canada of the objective of an evaluation, discussions had initially focused on the timing of the evaluation report to be presented to the Parties and subsequently on the timing for the establishment of the terms of reference. One representative had suggested that the group should also consider the issue of periodic evaluation, but several others had been of the view that that was not part of the group's mandate. The group had considered three years (2012, 2013 and 2016) as potential deadlines for presentation of the evaluation report, but had been unable to reach a consensus. Various years had also been discussed for the establishment of the terms of reference, which would depend on the amount of time – either one year or two years – following the establishment of the terms of reference that would be needed to finalize the report.

165. One representative suggested that the evaluation report might be presented in 2015, although the choice of date in fact depended on the decision as to the scope of the evaluation. Several others were in favour of the year 2016.

166. The Working Group agreed to forward the draft decision prepared on the basis of the contact group's deliberations, as set out in annex I to the present report (section E), to the Twenty-First Meeting of the Parties for its consideration.

B. Institutional strengthening

167. Introducing a conference-room paper, the representative of Brazil, speaking on behalf of the Latin American and Caribbean group, referred to an analysis by the Secretariat of the Multilateral Fund which had demonstrated the important role played by institutional strengthening projects in helping national ozone units to carry out their work and thereby ensure the success of the Montreal Protocol (UNEP/OzL.Pro/ExCom/57/63). Given the importance of the role played by national ozone units in internalizing Montreal Protocol decisions and translating them into national policies, in addition to the current difficult financial conditions resulting from the fall in value of the United States dollar and the inevitable increased workload resulting from the crucial work on HCFCs, the intent of the paper, for submission as a draft decision to the Meeting of the Parties, was that funding for institutional strengthening should be extended and increased.

168. A number of representatives of Parties operating under paragraph 1 of Article 5 spoke on the issue. All stressed the importance of the contribution made by the national ozone units to the work of

the Montreal Protocol and therefore supported the call for an increased level of financial support to be provided to institutional strengthening projects.

169. A number of representatives of Parties not operating under paragraph 1 of Article 5 also paid tribute to the important work of national ozone units. They all, however, expressed the opinion that the Meeting of the Parties should not accede to the request in the paper submitted by Brazil, because the Executive Committee had not finished its consideration of the issue of institutional strengthening. The level of support had been agreed up to 31 December 2010, and discussions on the level after that date would continue, and presumably be concluded, at the next meeting of the Executive Committee, in November 2009.

170. Thereupon some representatives of Parties operating under paragraph 1 of Article 5 expressed their understanding that it was the Meeting of the Parties that gave guidance and direction to the Executive Committee, not the reverse.

171. A number of representatives of Parties not so operating then spoke, saying that the level of support for institutional strengthening projects was precisely the sort of complex technical issue that the Meeting of the Parties entrusted to the Executive Committee and that the Executive Committee should be given the time to complete its work. If it was the intention of the Meeting of the Parties to take control of matters that had been assigned to the Executive Committee, there appeared no point in having an Executive Committee at all.

172. The representative of a Party operating under paragraph 1 of Article 5 said that the reason that those Parties wished the issue to be raised in the wider forum of the Meeting of the Parties was that they lacked confidence that their views would be given adequate consideration by the Executive Committee. He gave examples of cases in which he felt that a decision of the Meeting of the Parties to the benefit of such Parties had not been implemented by the Executive Committee. Another cited paragraph 4 of Article 10 of the Montreal Protocol, which stated that the Executive Committee would operate under the authority of the Parties, which would decide its policies, and expressed the view that the level of support for institutional strengthening projects was a policy rather than a technical issue.

173. The Co-Chair expressed the view that consensus on the proposal was unlikely to be reached at the current meeting. Accordingly, he proposed to forward the draft decision, as set out in annex I to the present report (section F), with the entire text enclosed in square brackets, to the Twenty-First Meeting of the Parties for its consideration, and suggested that representatives should discuss the matter informally before that event.

C. Presentation on the arrangements for the Twenty-First Meeting of the Parties

174. The representative of Egypt gave a presentation on the venue of the Twenty-First Meeting of the Parties, Port Ghalib, in Marsa Alam, on the Red Sea. The presentation included information about the amenities and facilities of the conference centre, together with travel options. The meeting expressed its appreciation for the information presented.

D. Awareness package for the transition to CFC-free inhalers

175. The Co-Chair welcomed the launch of an awareness package for the transition to CFC-free inhalers that had been developed jointly by the UNEP Compliance Assistance Programme, through its regional office for Asia and the Pacific, and the Australian Government, with the support of the National Asthma Council of Australia.

176. Introducing the package, the representatives of the Compliance Assistance Programme and the Australian Government, together with the Executive Secretary, hailed the package as a valuable capacity-building tool that would help to smooth the transition from CFC-based metered-dose inhalers to CFC-free metered-dose inhalers in Parties operating under paragraph 1 of Article 5 of the Protocol. The package would enable all stakeholders, including medical practitioners and their patients, to be better informed about the options open to them following the phase-out of CFC-based metered-dose inhalers.

IX. Adoption of the report

177. The present report was adopted on Saturday, 18 July 2009, on the basis of the draft report contained in documents UNEP/OzL.Pro/WG.1/29/L.1, L.1/Add.1 and L.1/Add.2. The Ozone Secretariat was entrusted with the finalization of the report following the closure of the meeting.

X. Closure of the meeting

178. Following the customary exchange of courtesies, the twenty-ninth meeting of the Open-ended Working Group of the Parties to the Montreal Protocol was declared closed at 5.25 p.m. on Saturday, 18 July 2009.

Annex I

Draft decisions

The Working Group agreed to forward to the Twenty-First Meeting of the Parties the following draft decisions, together with those draft decisions contained in the reports of the contact groups (as set out in annex II). The draft decisions and the reports of the contact groups have not been formally edited by the Ozone Secretariat.

A. Draft decision XXI/[]: Global laboratory use exemption

The Twenty-first Meeting of the Parties decides:

Noting the reports the Technology and Economic Assessment Panel (TEAP) provided under Decision XVII/10 and under Decision XIX/18 on laboratory and analytical uses of controlled substances.

Recalling Decisions VII/11, XI/15, XIII/15 and XIX/18 that already eliminated [a number of][the following] uses from the global exemption for laboratory and analytical uses:

- (a) Refrigeration and air conditioning equipment used in laboratories, including refrigerated laboratory equipment such as ultra-centrifuges;
- (b) Cleaning, reworking, repair, or rebuilding of electronic components or assemblies;
- (c) Preservation of publications and archives;
- (d) Sterilization of materials in a laboratory;
- (e) Testing of oil, grease and total petroleum hydrocarbons in water;
- (f) Testing of tar in road-paving materials;
- (g) Forensic finger-printing;
- (h) All laboratory and analytical uses of methyl bromide except:
 - (i) As a reference or standard:
 - To calibrate equipment which uses methyl bromide;
 - To monitor methyl bromide emission levels;
 - To determine methyl bromide residue levels in goods, plants and commodities;
 - (ii) In laboratory toxicological studies;
 - (iii) To compare the efficacy of methyl bromide and its alternatives inside a laboratory;
 - (iv) As a laboratory agent which is destroyed in a chemical reaction in the manner of feedstock;
- (i) Testing of organic matter in coal from the global exemption for laboratory and analytical uses of controlled substances.]

1. To extend the applicability of the global laboratory and analytical use exemption also to countries operating under Article 5(1) from 1 January 2010 until 31 December 2010 for all controlled substances except those in Annex B Group III [TCA], Annex C Group I [HCFC] and Annex E [MB], and as of 2015 for all ODS.

2. To extend the global laboratory and analytical use exemption beyond 2011 until 2015:

(a) for parties operating under Article 5(1) for all controlled substances except those in Annex B Group III [TCA], Annex C Group I [HCFC] and Annex E [MB]

(b) for parties not operating under Article 5(1) for all controlled substances except those in Annex C Group I [HCFC]

- [3. To eliminate the following uses from the global exemption for laboratory and analytical uses:
- (a) The analysis of:
 - (i) Arsenic
 - (ii) Cascariosides
 - (iii) Chloride in saline solutions
 - (iv) Copper
 - (v) Copper gluconate
 - (vi) Cyanocobalamin
 - (vii) Furazolidone
 - (viii) Halothane (1-bromo-1-chloro-2,2,2-trifluoroethane)
 - (ix) Simethicone
 - (x) Sulphur
 - (xi) Trimethoprim
 - (b) The determination of the:
 - (i) Specific weight in cement samples
 - (ii) Relative stiffness of leather
 - (iii) Iodine index / value
 - (iv) Bromine index / value
 - (v) Hydroxyl index / value
 - (vi) Breakthrough times (for example of gas masks, breathing filters or canisters)
 - (c) The use of controlled substances as a solvent for:
 - (i) Dithizone for pre-treatment of acetate buffers
 - (ii) iodometric titrations
 - (iii) o- and n-difluoromethylations
 - (iv) organic synthesis
 - (v) polymers
 - (vi) spectrophotometry (IR, UV et cetera)
 - (d) The liquid-liquid partitioning method for iodide and bromide analysis
 - (e) Extraction of iodine and its derivatives and thyroid extracts from semi-solid pharmaceutical preparation.]

4. To encourage all Parties to urge their national standards setting organisations to identify and review those standards which mandate the use of ODS in L&A procedures with a view to adopting where possible ODS-free L&A products and processes, (including solvents and technologies);

5. To request the Technology and Economic Assessment Panel and its Chemicals Technical Options Committee to complete the report as requested under Decision XIX/18 and to provide the list of laboratory and analytical uses of ozone-depleting substances as requested, including those uses where no alternatives exist.

In particular to identify the international and national standard methods that require the use of Ozone Depleting Substances and to indicate the corresponding alternative standard methods not mandating the use of Ozone Depleting Substances.

When suggesting alternatives the Technical and Economic Assessment Panel should consider technical and economical availability of those alternatives in Article-5 and non-Article-5 countries [as

well as to ensure that the alternatives show similar or better statistical properties (for example accuracy or detection limits)].

6. To request the Ozone Secretariat to update the list of laboratory and analytical uses that the Parties have agreed should no longer be eligible under the global exemption, as required by Decision X/19.

7. To request Parties to already investigate domestically the possibility of replacing Ozone Depleting Substances in those laboratory and analytical uses listed in the report by the Technology and Economic Assessment Panel and to make this information available to the [Technology and Economic Assessment Panel][Ozone Secretariat] [by 31 December 2009].

B. Draft decision XXI/[]: List of uses of controlled substances as process agents

The Twenty-first Meeting of the Parties decides:

To adopt the following uses of controlled substances as a revised table A for decision X1X/15

No.	Process agent application	Substance
1	Elimination of NCl_3 in chlor-alkali production	CTC
2	Chlorine recovery by tail gas absorption in chlor-alkali production	CTC
3	Production of chlorinated rubber	CTC
4	Production of endosulfan	CTC
5	Production of ibuprofen	CTC
6	Production of chlorosulfonated polyolefin (CSM)	CTC
7	Production of aramid polymer (PPTA)	CTC
8	Production of synthetic fibre sheet	CFC-11
9	Production of chlorinated paraffin	CTC
10	Photochemical synthesis of perfluoropolyetherpolyperoxide precursors of Z-perfluoropolyethers and difunctional derivatives	CFC-12
11	Reduction of perfluoropolyetherpolyperoxide intermediate for production of perfluoropolyether diesters	CFC-113
12	Preparation of perfluoropolyether diols with high functionality	CFC-113
13	Production of cyclodime	CTC
14	Production of chlorinated polypropene	CTC
15	Production of chlorinated EVA	CTC
16	Production of methyl isocyanate derivatives	CTC
17	Production of 3-phenoxybenzaldehyde	CTC
18	Production of 2-chloro-5-methylpyridine	CTC
19	Production of imidacloprid	CTC
20	Production of buprofenzin	CTC
21	Production of oxadiazon	CTC
22	Production of chloradized N-methylaniline	CTC
23	Production of 1,3-dichlorobenzothiazole	CTC
24	Bromination of a styrenic polymer	BCM
25	Synthesis of 2,4-D (2,4- dichlorophenoxyacetic acid)	CTC
26	Synthesis of DEHPC (di-(2-ethylhexyl) peroxydicarbonate)	CTC
27	Production of radio-labelled cyanocobalamin	CTC
28	Production of high modulus polyethylene fibre	CFC-113
29	Production of vinyl chloride monomer	CTC
30	Production of sultamicillin	BCM
31	Production of prallethrin (pesticide)	CTC
32	Production of o-nitrobenzaldehyde (for dyes)	CTC
33	Production of 3-methyl-2-thiophenecarboxaldehyde	CTC
34	Production of 2-thiophenecarboxaldehyde	CTC
35	Production of 2-thiophene ethanol	CTC
36	Production of 3,5-dinitrobenzoyl chloride (3,5-DNBC)	CTC
37	Production of 1,2-benzisothiazol-3-ketone	CTC
38	Production of m-nitrobenzaldehyde	CTC
39	Production of tichlopidine	CTC

No.	Process agent application	Substance
40	Production of <i>p</i> -nitro benzyl alcohol	CTC
41	Production of tolclofos methyl	CTC
42	Production of polyvinylidene fluoride (PVdF)	CTC
43	Production of tetrafluorobenzoylethyl acetate	CTC
44	Production of 4-bromophenol	CTC

C. Draft decision XXI/[]: Sources of carbon tetrachloride emissions and opportunities for reductions

Explanatory note

When studying the stockpiling cases compiled by the Secretariat, the EU notes that significant quantities are related to CTC stockpiling for being destroyed in a subsequent year, which is coherent with the usual practice in chemical industrial production. Most of the quantities included in that list correspond to EU Member States that have industrial chemical productions that lead to by-production or co-production of CTC, which is stored to be destroyed at a later stage.

On the other hand, when studying the Report on Emission Reductions and Phase-out of CTC carried on under ExCom Dec. 55/45, a concern has been raised in relation to discrepancies between atmospheric concentrations and the emission reported by Parties. It seems that emissions up to 40.000 t/year of CTC are not considered by the usual reporting – emission tracking mechanisms.

This concern is not new, and TEAP was requested in 2006 to provide information to the Parties about this issue by Decision XVIII/10, but has been unable to properly complete this task due to the difficulties in obtaining relevant data.

The main emitting regions identified under the ExCom report are South East Asia and China, North America and Europe.

The EU is further investigating the industrial chemical productions that could lead to carbon tetrachloride emission and invites other Parties with similar industrial facilities to conduct an internal study to clarify the sources of CTC emissions, with the aim of identifying the source of the referred discrepancies.

EU thinks this issue deserves important efforts, due to the magnitude of the unidentified associated emissions and has important value to clarify how Parties are dealing with industrial CTC productions and the by-production or co-productions of CTC when producing other chemical substances.

Draft decision

The Twenty-first Meeting of the Parties decides:

Recalling Decision XVII/10 on sources of carbon tetrachloride emissions and opportunities for reduction, and the difficulties expressed by Technology and Economic Assessment Panel (TEAP) in obtaining relevant data to carry on the requested analysis,

Reiterating the concern regarding the large discrepancy between reported emissions and observed atmospheric concentrations, which clearly indicates that emissions from industrial activity are being significantly underestimated,

Mindful of the obligations to ensure control measures under Article 2D of the Montreal Protocol regarding production and consumption of carbon tetrachloride,

Desiring to reduce emissions to background concentration levels,

Noting the report UNEP/OzL.Pro/ExCom/58/50 of the 58th Executive Committee on emission reductions and phase-out of carbon tetrachloride in light of decision XVIII/10 of the Eighteenth Meeting of the Parties and its verbal report to the Twentieth Meeting of the Parties concluding that the rapid decrease in model-estimated bottom-up emissions (i.e. based on information from industry and Article 7 data) is significantly lower than emissions derived from atmospheric measurements for the range of scientifically determined atmospheric lifetimes.

Noting that the report provided by TEAP speculated that the decrease in emissions from controlled uses seems to be compensated by a rapidly growing new source. It pointed out that more work needs to be done, providing the example of the need to explore high growth products such as HCFC-22 and its consequences for CTC co-production when producing feedstock for HCFC-22.

1. To request Parties to review their carbon tetrachloride productions, consumptions and sources of emission by examining their the relevant production, consumption and associated emissions, including release via products and waste streams, and by giving special attention to the co- and by-production of carbon tetrachloride in chloroform and other industrial chemical production processes;

2. To request Parties to provide the TEAP, through the Ozone Secretariat, with the relevant information resulting from the review undertaken in accordance with paragraph 1, that should include:

(a) Number and installed capacity of facilities intentionally producing carbon tetrachloride and an estimate of the annual emissions

(b) Number of facilities/plants that could lead to co- or by-production of carbon tetrachloride, including information about the type of chemical production process, its installed capacity, and the management measures related to carbon tetrachloride and an estimation of the annual emissions

(c) Number of CTC destruction facilities

(d) Existing quantities of CTC produced for or maintained in stocks for feedstock and process agents applications

(e) Existing waste and incidental quantities of carbon tetrachloride that are not destroyed

3. To request the TEAP, in conjunction with its 2010 Assessment, to investigate chemical alternatives to ODS in exempted uses such as process agents and feed-stocks and also investigate alternatives, including not-in-kind alternatives, to products made with process agents and feedstocks;

4. Request TEAP and the Scientific Assessment Panel (SAP) to address and resolve the elements that would reconcile the large discrepancy in emissions reported and those inferred from atmospheric measurements;

5. To request that TEAP and SAP report their relevant findings taking into account the information received from the Parties according to paragraph 2 and results of the study according to para 3 and report in time for the thirtieth meeting of the Open-ended Working Group for the consideration of the Twenty second Meeting of the Parties in 2010.

D. Draft decision XXI/[]: The treatment of stockpiled ozone-depleting substances relative to compliance (decision XVIII//17)

Explanatory note

At OEWG 26 stockpiled ODS for exempted use in future years was discussed. It turned out that a number of Parties stockpiled ODS and thereby exceeding their prescribed levels of production and consumption. This excess represented:

(a) ODS production in that year, stockpiled for domestic destruction or export for destruction in a future year;

(b) ODS production in that year, stockpiled for domestic feedstock use or export for that use in a future year;

(c) ODS production in that year, stockpiled for export to meet basic domestic needs of developing countries in a future year;

(d) ODS imported in that year, stockpiled for domestic feedstock use in a future year.

The Secretariat observed that only scenario (d) appeared to be consistent with the Protocol on the basis of decision VII/30 (Annex 1). The Working Group was told that the Committee had tentatively concluded that if situations (a)–(c) should occur again the Secretariat should report them to the Implementation Committee for case-by-case consideration as possible cases of non-compliance.

In considering this issue fully, the Parties decided in decision XVIII/17 to note the four cases discussed above; to recall that the Implementation Committee had concluded that scenario (d) was, in any event, in conformity with the provisions of the Montreal Protocol and decisions of the Meetings of the Parties; to request the Secretariat to maintain a consolidated record of the cases in which the Parties had explained that their situations were the consequence of scenarios (a), (b) or (c) and incorporate that record in the documentation of the Implementation Committee, for information purposes only, and in the Secretariat's report on data submitted by the Parties in accordance with Article 7 of the Protocol; to

recognize that new scenarios not covered by paragraph 1 would be addressed by the Implementation Committee in accordance with the non-compliance procedure of the Protocol and the established practice thereunder; and to agree that the Twenty-First Meeting of the Parties would revisit the issue in the light of information gathered in accordance with paragraph 3 of the decision.

The Secretariat made a consolidated record of cases in scenarios (a)-(c). OEWG 29 is expected to consider this matter and to make recommendations, as appropriate, to the Twenty-First Meeting of the Parties to the Montreal Protocol.

Action

Treatment of stockpiled ozone-depleting substances relative to compliance; Two questions need to be addressed

(a) **FIRST**, Given the language of the decision, would export more than one year later (rather than in the following year) fulfil the expectation in the decision and the Parties' representation that they had overproduced for export?

(b) **SECOND**: Given the fact that audits by the Multilateral Fund only affect Parties operating under paragraph 1 of Article 5, would bringing such matters to the Implementation Committee create an imbalance, under which reliance on the decision by such Parties would be reviewed while the use of the decision by Parties not so operating would not?

Possible CRP: A consistent approach is needed to treat A2 & A5 taking into account commitments under the MLF. We are prepared to engage and clarify in a CRP elements to ensure a consistent approach that provide evenness of interpretation for the MOP.

Proposal

In order to follow up these possible cases of non compliance the Meeting of the parties could consider addressing the issues as follows, based on a combination of the options discussed by the Parties:

The Meeting of the Parties could clarify that, quantities produced in excess of control limits in a given year could be registered through a domestic reporting and monitoring framework and, where they were exported for basic domestic needs, used for feedstock, or destroyed, deducted in the following year, provided that the Party concerned had in place a domestic system for ensuring that the earmarked quantities were put to their intended uses. Any such reporting framework should take into account existing reporting obligations, and to report the description of such domestic system to the Ozone Secretariat.

In any of those cases the [Implementation Committee] [Secretariat] would have to assess the existence and the effectiveness of such domestic systems.

[The Secretariat could be asked to present a set of criteria to assess if this system is designed in a way to ensure the monitoring of the excess production for the consideration of the [xx]Meeting of the Parties]

Provided that the Secretariat could conclude that the destruction, feedstock-use or export in line with scenario's a, b, or c, has taken place [within [3 months] [1 year]] of its intended year, [and it is demonstrated that the production [stockpiling] was done incidentally,] these cases would not have to be considered by the Implementation Committee.

[For Parties] that have excess production according to the scenarios a, b, and c in subsequent years these cases should be analyzed further by the Secretariat and brought forward to the Implementation Committee as to assess whether these cases should be brought forward to the Meeting of the Parties.

Arguments:

- Transparency
- Pragmatism

Draft decision

The Twenty-first Meeting of the Parties decides:

1. To remind all Parties to report all production of ODS, including unwanted or unintentional by-production, to enable the calculation of their consumption.

2. To recall that the Secretariat was requested to maintain a consolidated record of the cases in which the Parties have explained that their situations are the consequence of one of the following scenarios:

- (a) Ozone-depleting substance production in that year which had been stockpiled for domestic destruction or export for destruction in a future year;
- (b) Ozone-depleting substance production in that year which had been stockpiled for domestic feedstock use or export for that use in a future year;
- (c) Ozone-depleting substance production in that year which had been stockpiled for export to meet basic domestic needs of developing countries in a future year;

and incorporate that record in the documentation of the Implementation Committee, for information purposes only, as well as in the Secretariat's report on data submitted by the Parties in accordance with Article 7 of the Protocol.

3. To note that the Secretariat reported 23 cases from 1999 involving 12 Parties which had exceeded the allowed level of production or consumption of a particular ozone-depleting substance in a given year and explained that their excess production or consumption represented one of the scenarios mentioned in paragraph 1.

4. To require Parties to establish a reporting and monitoring framework that [allows for] [facilitates] the registration of quantities produced in excess of control limits in a given year and, where they were exported for basic domestic needs, used for feedstock, or destroyed, deducted in the following year, taking into account the reporting requirements under Article 7.

5. To require any Party reporting on excess production covered by the scenarios in paragraph 1 to have in place a domestic system for ensuring that the earmarked quantities were put to their intended uses [within [3 months] [1 year]].

6. To request the Secretariat to develop criteria in order to assess if such a domestic system is ensuring that the earmarked quantities were put to their intended uses [within [3 months] [1 year]] and present this to the [XX] Meeting of the Parties for their consideration.

7. To request the Secretariat to further analyze cases of Parties that report excess production under Article 7 more than 2 times in [4] [3] [2] subsequent years and to bring forward to the Implementation Committee for further consideration any case which is not in line with paragraphs 4 and 5.

8. To recognize that new scenarios not covered by paragraph 1 will be addressed by the Implementation Committee in accordance with the non-compliance procedure of the Protocol and the established practice thereunder.

E. Draft decision XXI/[]: Evaluation of the financial mechanism of the Montreal Protocol

The Twenty-first Meeting of the Parties decides:

That an evaluation of the financial mechanism of the Montreal Protocol should be undertaken in time for presentation of the report to the [xxth] meeting of the parties in [2012] [2013][2016]. The terms of reference for that evaluation should be agreed by the parties [one] [two] year[s] before the meeting at which the evaluation report is due.]

F. Draft decision XXI/[]: Institutional strengthening

The Twenty-first Meeting of the Parties decides:

Taking into account that Parties to the Montreal Protocol have assumed a firm commitment to recover and protect the ozone layer,

Acknowledging that institutional strengthening support from the Multilateral Fund has played a paramount role to allow Article 5 Parties to comply with their commitments on ODS phase-out,

Conscious that National Ozone Units are the guarantee for the long-term success of the Montreal Protocol,

Aware that National Ozone Units in Article 5 Parties have acquired their capacity to deal with ODS phase-out thanks to institutional strengthening support,

Considering the great workload that Article 5 Parties still have to face looking towards the consolidation of CFC, halon and CTC phase-out, the phase-out of methyl bromide consumption and the early HCFC phase-out,

Acknowledging that institutional strengthening is one important element related to the policy issues involved in HCFC Phase-out management plan criteria,

Also acknowledging that the Executive Committee decision 57/36 limits fund requests for the renewal of IS projects up to the end of December 2010 at current levels,

Recognizing that such a decision could jeopardize Article 5 Parties' capacity to handle the complexity involved in ODS phase-out,

1. Requests the Executive Committee, as a matter of urgency, to extend and increase the levels of financial support for institutional strengthening requirements from Article 5 Parties, taking into account the findings reached by the Multilateral Fund Secretariat in document 57/63 on 'Institutional Strengthening by end 2010: funding and levels'.

Annex II

Summaries of the work of the contact groups¹

A. Contact group on essential-use nominations, the revision of the handbook on essential-use nominations, and campaign production of CFCs for metered-dose inhalers

1. Report by the co-chairs on the work of the group

This group met four times over four days. The co-chairs thank the participants for their active and constructive participation, attendance by the Medical Technical Options Committee (MTOC), the Multilateral Fund Secretariat and implementing agencies and the assistance of the Ozone Secretariat.

Essential Use Exemptions

Attached, as Annex A, is a fully square bracketed proposed text for a future decision on the recommendations for essential-use nominations (EUNs) for 2010. We note the intention of the group at this stage to have one decision at the Meeting of Parties covering both Article 5 and non-Article 5 parties. There are some new proposed elements in this text that need to be discussed further concerning links to the campaign production issue.

Handbook

The group began discussions on the further data and information requirements that had been identified by the TEAP in their progress report as not fully covered by some of the EUNs it had received. It was noted that the TEAP made it clear in its report that an essential-use recommendation this year would not guarantee that the MTOC would reach a similar conclusion when reviewing future nominations.

The information gaps identified in particular were data on availability and affordability of alternatives to CFC metered-dose inhalers (MDIs) for both the nominating party and its respective export markets.

The group therefore considered the suggested changes made by the MTOC to the EUN handbook which provides detailed guidance to nominating parties on the information required to assess essentiality under Decision IV/25.

The group noted that the handbook has already agreed to be amended to take into account the changes sought by paragraphs 1-3 of Decision XX/3. This revised handbook will be sent to all Parties shortly. The MTOC was asked in paragraph 4 of Decision XX/3 to suggest further changes for consideration by Parties in light of experience gained during the first year of assessments of EUNs from Article 5 Parties.

In the discussions of the group, general concerns were raised about the level of detail that seemed to be expected of many of the suggested changes, and that it might be difficult to collect and submit such data. This was especially so for proposed changes to paragraphs 7 and 8 in the TEAP report which dealt with information from export markets. Issues of potential issues of sovereignty or confidentiality were raised, as were equity issues where it did not seem that Article 2 Parties had been required to produce such information.

Alternatively, Parties pointed out that production of CFCs for export markets is unique to the Article 5 nominations and that this information would be very important in establishing "essentiality" as required under Decision IV/25.

Some Parties thought that it would be very important that any further changes to the handbook would allow a transition by Article 5 Parties so that the further information would only be required from 2011, other Parties thought that it was important such information was included for the nominations submitted in 2010.

¹ The summaries and the draft decisions set out within them are reproduced as prepared by the contact groups, without formal editing.

Some Parties felt that many of the changes did not take into account the specific situation and difficulties faced in Article 5 Parties.

A fully square bracketed text of the recommended changes, including some further changes and suggested text made from the group, is attached as Annex B to this report.

Campaign Production

The complexities of the campaign production issue were highlighted with technical, administration, timing and management issues all needing to be discussed.

The group identified early that one of the key issues was the amount of CFCs that might be required in a campaign production. There appears to be great uncertainty both in regard to demand and supply that pose potential risks to the certainty of supply of pharma-grade CFCs for Parties from 2010 with essential use exemptions.

The group therefore determined that it is the supply issues in the short term that needs to be resolved most urgently, to have more certainty about which facilities will produce the CFCs required, especially in 2010, and for each of the out-years, in what circumstances and in what amounts.

The group decided that certain information will need to be investigated by Parties between now and the Meeting of Parties ready for discussions at that meeting. There are a number of possible options that the group wishes to keep open at this point so uncertainties need to be resolved in the following areas:

- o The Executive Committee agreements on the phase-out of CFC production both with China and with India that appear not to allow production for export in these countries beyond 2009.
- o Legal and technical issues surrounding the ability and capacity of the facility in the United States of America to produce CFCs beyond 2009.
- o The amount and availability of stockpiles available globally of pharma-grade CFCs.

Statement by the Russian Federation

The Russian Federation made a statement in the contact group expressing appreciation to MTOC experts for the time spent considering its EUN for 2010. The Russian Federation wished the MTOC to undertake a mission, prior to the Meeting of Parties, of experts to study technical, economic and administrative issues, including:

- o The status of transition in the enterprises manufacturing CFC MDIs;
- o Technical, financial, logistical, administrative or other barriers to transition;
- o Possible options to facilitate the transition and overcome any barriers.

It was agreed in the contact group that this issue would be concluded bilaterally between the Russian Federation and MTOC.

Decision XX/3, paragraph 1(g)

An issue was raised concerning this paragraph where Article 5 parties using CFC MDIs where the sole active ingredient is salbutamol, were to have already submitted preliminary plans of action for phase-out. The group did not have time to explore this issue fully but it seemed after some clarifications that despite no formal submissions, this information was taken into account by the MTOC in its recommendations.

2. Proposal by the co-chairs of the contact group on essential-use nominations, the revision of the handbook on essential-use nominations, and campaign production of CFCs for metered-dose inhalers for a draft decision in response to decision XX/3, paragraph 4: suggestions for appropriate changes to the handbook on essential-use nominations

The Twenty-first Meeting of the Parties decides:

[Recalling that in decision XX/3, paragraphs 1-3, Parties made a number of modifications to previous decisions related to the essential use exemption process in order to make them fully applicable to both non-Article 5 and Article 5 Parties,

Recalling also that decision XX/3, paragraph 4, requested the Technology and Economic Assessment Panel to reflect paragraphs 1-3 of the same decision in a revised version of the handbook on essential-use nominations and to submit, for consideration by Parties, suggestions for any appropriate changes to the handbook and the timing to make such changes;

Noting with appreciation the changes to the Handbook suggested by the Medical Technical Options Committee for consideration by Parties at the OEWG-29, in order to clarify the information requirements arising from existing decisions,

To make modifications to the Handbook so that the revised version pertaining to the information requested for each nomination (see nomination forms in Appendix C and, for MDIs only, Appendix D) reads as follows:

1. Provide a detailed description of the use that is the subject of the nomination. (Decision IV/25, pars. 2 and 3)
2. Provide details of the type, quantity and quality of the controlled substances that is requested to satisfy the use. (Decision IV/25, pars. 2 and 3). Specify whether the quantity is requested for production or for use from existing stockpile.
3. Indicate the period of time and the annual quantities of the controlled substances that are requested. (Decision IV/25, pars. 2 and 3). For CFC MDIs, indicate an estimate of the expected annual future requirements until CFC MDI transition is completed and historic 3-year consumption data to satisfy the use.
4. For CFC MDIs, specify the intended market(s) for sale or distribution for the use, the active ingredient(s) for the use in each market and the quantity of CFCs required for each active ingredient in each market. If necessary, provide the best estimate for quantities for intended markets, using available data from requesting companies. When more specific data are not available, data aggregated by region and product group may be submitted for CFC MDIs intended for sale in Parties operating under paragraph 1 of Article 5. (Decisions XV/5, par. 2, ~~and~~ XVI/12, par. 2, and XX/3 par.1(a)).
5. For CFC MDIs, state whether each intended market for sale or distribution is subject to a transition strategy adopted and submitted to the Secretariat and posted by the Secretariat on its website pursuant to Decision XII/2 or Decision IX/19. (Decision XV/5, par. 3 and XX/3 par. 1(a)).
6. Explain why the nominated volumes and the intended use of these quantities are necessary for health and/or safety, or why it is critical for the functioning of society. (Decision IV/25, pars. 1(a)(i), 2 and 3)
7. Explain what other alternatives and substitutes have been employed to reduce the dependency on the controlled substance for this ~~application~~ use in the domestic markets subject to the nomination. (Decision IV/25, pars. 1(a)(ii), 1(b)(i), 2 and 3(d)).
8. Explain what alternatives ~~were investigated~~ are available in the domestic markets and why they ~~were~~ are not considered adequate. Describe the availability and affordability of alternatives in the intended markets subject to the nomination, including examples of comparative data on CFC MDI versus CFC-free product prices. Where a manufacturer's CFC MDI is available in the market at the same time as its equivalent HFC MDI, please explain why the HFC MDI is not a suitable alternative. Describe any barriers to the introduction or uptake of alternatives, including information on regulatory approval processes, and on pricing policies applicable to imported products. (Decision IV/25, pars. 1(a)(ii), 1(b)(i), 2 and 3(d)). Confirm that the global database of CFC MDIs and their alternatives under Decision XIV/5 has been consulted and taken into account in the nomination. [Any Party exporting CFC-MDIs will get prior informed consent of the Government of the importing country for such exports

to that country] [For each intended import market subject to the nomination, attach a declaration by the importing country stating the reasons why the imported CFC MDI products are considered necessary].

9. For CFC MDIs, confirm that each company requesting essential use allocations has fully complied with Decision VIII/10.1 to respond to the request to demonstrate ongoing research and development of alternatives to CFC MDIs with all due diligence and/or collaborate with other companies in such efforts. (Decision VIII/10, par. 1 and Decision XX/3, par. 1(a)(i) and (ii)). [Describe the status of the development of alternatives to CFC MDIs, plans for their approval and expected launch dates].

10. If the use is for a CFC MDI product approved in non-Article 5 Parties after 31 December 2000, or approved in Article 5 Parties after 31 December 2008, excluding any product in the process of registration and approved by 31 December 2009 for the treatment of asthma and/or chronic obstructive pulmonary disease, provide documentation to demonstrate that this product is necessary for health or safety and that there are no technically and economically feasible alternatives available. (Decision XII/2, par. 2 and Decision XX/3, par. 1(f)).

11. Describe the measures that are proposed to eliminate all unnecessary emissions. At a minimum, this explanation should include design considerations and maintenance procedures. (Decision IV/25, pars. 1(b)(i), 2 and 3(b); Decision VI/9, par. 4; ~~and~~ Decision VIII/10, pars. 6 and 7; and Decision XX/3, par. 1(a)(i) and (ii)).

12. Explain what efforts are being undertaken to employ other measures for this application in the future, including, in the case of MDIs, efforts to foster approval of alternatives in the domestic and export markets. (Decision IV/25, pars. 1(a)(ii), 3(d) and 4; Decision VIII/10, par. 1; Decision VIII/11; ~~and~~ Decision XII/2, par. 4; and Decision XX/3 par. 1(a)(i) and (ii)).

13. Explain whether the nomination is being made because national or international regulations require use of the controlled substance to achieve compliance. Provide full documentation including the name, address, phone and fax number of the regulatory authority requiring use of the controlled substance and provide a full copy or summary of the regulation. Explain what efforts are being made to change such regulations or to achieve acceptance on the basis of alternative measures that would satisfy the intent of the requirement.

14. For CFC MDIs, confirm that the Secretariat's list of CFC MDI active ingredients and/or category of products determined to be non-essential by a Party has been consulted and that none of the volumes requested shall be used for items posted on that list. (Decision XII/2, par. 3).

15. For CFC MDIs, beginning with the nomination following the submission of a national or regional MDI transition strategy to the Secretariat, briefly summarise the nominating Party's national transition strategy, [including phase-out dates and CFC MDI manufacturing plant conversion timelines], and describe progress made on the transition to CFC-free alternatives under that strategy. (Decision IX/19, pars. 5 and 5 bis, and Decision XII/2, pars. 5(c) and 6).

16. 15.bis For CFC MDIs, describe the Party's plan of action regarding the phase-out of the domestic use of CFC MDIs where the sole active ingredient is salbutamol, and describe progress towards implementing that plan. (Decision XV/5 pars. 4, 4 *bis* and 5, and Decision XX/3 par. 1(a)(iii)).

17. For CFC MDIs, describe progress made towards determining and submitting a specific date by which time the Party will cease making nominations for essential use exemptions for CFCs for metered-dose inhalers where the active ingredient(s) is not solely salbutamol and the metered-dose inhalers are expected to be sold or distributed on the market of any Party not operating under paragraph 1 of Article 5. (Decision XV/5, par. 6)

[16.bis For CFC MDIs, for Parties operating under paragraph 1, describe progress made towards submitting a specific date by which time a regulation or regulations to determine the non-essentiality of the vast majority of CFCs for MDIs where the active ingredient is not solely salbutamol will have been proposed. (Decision XVII/5 par. 3 *bis*).

18. Describe the efforts that have been made to acquire stockpiled or recycled controlled substance for this application both domestically and internationally. Explain what efforts have been made to establish banks for the controlled substance. (Decision IV/25, par. 1(b)(ii)).

19. For CFC MDIs, indicate the existing stock of pharmaceutical-grade CFCs (pre- and post-~~1996~~ phase-out) held by the Party requesting an essential use exemption, describing the quantity (metric tonnes), the quality and the availability for the year prior to the nomination. Describe how this stockpile will be utilised in coming years. (Decision IV/25, par. 1(b)(ii) and Decision XVI/12, par. 3)

20. For CFC MDIs, confirm that the nominating Party has given due consideration to the following. That:

(a) Each company's existing stock of pharmaceutical-grade CFCs (including CFCs the company possesses or has title to, pre- and post- ~~1996~~ phase-out) aims not to exceed one year's operational supply (the amount used by the company to produce CFC MDIs in the preceding year);

(b) The Party's aggregate stocks of pharmaceutical-grade CFCs (pre- and post-~~1996~~ phase-out) aims not to exceed one year's operational supply for that Party;

(c) The Party's nomination has been reduced, if necessary, with the objective of the Party's aggregate stocks of available pre- and post-~~1996~~ phase-out pharmaceutical-grade CFCs not exceeding one year's operational supply; and

(d) All available pre-~~1996~~ phase-out stockpiles have been or will be depleted by companies before drawing on essential use quantities and thereby assure that pre-~~1996~~ phase-out stockpiles are taken into account in making essential use requests.

(Decision IV/25, par. 1(b)(ii), ~~and~~ Decision XVI/12, par. 3, Decision XVII/5 par. 2, Decision XIX/13 par. 2 and Decision XX/3 par 1(c)).

21. Briefly state any other barriers encountered in attempts to eliminate the use of the controlled substance for this application.]

3. Co-chairs' proposal for text for a draft decision on essential-use nominations for controlled substances for 2010 and 2011

The Twenty-first Meeting of the Parties decides:

[Noting with appreciation the work done by the Technology and Economic Assessment Panel and its Medical Technical Options Committee,

Mindful that, according to decision IV/25, the use of chlorofluorocarbons for metered-dose inhalers does not qualify as an essential use if technically and economically feasible alternatives or substitutes are available that are acceptable from the standpoint of environment and health,

Noting the Technology and Economic Assessment Panel's conclusion that technically satisfactory alternatives to chlorofluorocarbon-based metered-dose inhalers are available for some of the therapeutic formulations for treating asthma and chronic obstructive pulmonary disease,

Taking into account the Technology and Economic Assessment Panel's analysis and recommendations for essential use exemptions for controlled substances for the manufacture of metered-dose inhalers used for asthma and chronic obstructive pulmonary disease,

Welcoming the continued progress in several Parties operating under paragraph 1 of Article 5 in reducing their reliance on chlorofluorocarbon-based metered-dose inhalers as alternatives are developed, receive regulatory approval and are marketed for sale,

1. To authorize the levels of production and consumption for 2010 and 2011 necessary to satisfy essential uses of chlorofluorocarbons for metered-dose inhalers for asthma and chronic obstructive pulmonary disease as specified in the annex to the present decision;

[2. That the Parties listed in the annex to the present decision shall have full flexibility in sourcing the quantity of chlorofluorocarbons to the extent required for manufacturing of metered-dose inhalers, as authorized in paragraph 1 above, either from imports or from domestic producers or from reprocessed stocks;]

Annex to decision

Essential-use authorizations for 2010 and 2011 of chlorofluorocarbons for metered-dose inhalers

Party	Quantity (metric tonnes)	
	2010	2011
Argentina	178	-
Bangladesh	156.7	-
China	972.2	-
Egypt	227.4	-
India	343.6	-

Iran	105	-
Pakistan	34.9	[158.2]
Russian Federation	212	-
Syria	44.68	[49.22]
United States	-	[67.0]

B. Contact group on the environmentally sound management of banks of ozone-depleting substances

1. Deliberations on potential future actions

The contact group discussed elements that the Parties might wish to consider in developing a decision on further actions that might be taken on environmentally sound management of ODS banks.

The following points/suggestions were made

- (a) Continue with step by step approach agreed in decision XX/7 – as matter of urgency, finalize/submit strategies and national plans called for under decision XX/7 – for Article 5 parties, possibly utilizing remaining funds from CFC phase-out plans to identify quantities of ODS they feel are surplus.
- (b) Continue to develop practical information on destruction through pilot projects, projects that include co-funding, information dissemination on ongoing programmes, and further destruction project proposals.
- (c) Continue to try to clarify the scope of desired recovery and destruction efforts through national efforts to identify the quantity of ODS ready for destruction, and the further categorization/elaboration of banks.
- (d) Use the Multilateral Fund to identify priority areas and fund destruction demonstration and other projects that are cost-effective projects that will deliver significant reductions (low-hanging fruit).
- (e) Develop more information on how countries with disposal programmes have taken into account long-term servicing needs to enable all Parties to consider how to take this issue into account in their own context.
- (f) Request reports from the Multilateral Fund on work being done on destruction pursuant to decision XX/7, including reports on status and success of pilot projects, obstacles encountered, studies undertaken, and related experience with co-funding.

It was suggested that the items noted above be put in two categories: activities that could be undertaken within the Montreal Protocol, and activities that could be undertaken individually by parties.

The contact group also discussed the possibility of, and potential modalities for enabling information-sharing with the GEF.

It was noted that this goal could possibly be accomplished through a collective decision/guidance from the Parties to the Montreal Protocol to be directed to the GEF. Such an action could include a request to the GEF to:

- reactivate the GEF window for short-term response measures to address ODS destruction;
- continue its support for CEIT countries and expand its support for parties operating under paragraph 1 of Article 5 for the environmentally sound disposition of ODS banks.

As an alternative to providing collective guidance from the Parties to the Montreal Protocol, it was noted that individual parties/GEF participants themselves could/should consider pursuing related issues with the GEF.

Some thought that it was valuable for the Ozone Secretariat to engage in the GEF replenishment and in post-replenishment GEF deliberations. In that regard, it was suggested that opportunities for dialogue with the GEF should be strengthened, and that the Ozone and Multilateral Fund Secretariats should provide the GEF with information on destruction of ODS banks and related ongoing activities.

The value of institutionalized dialogue between the GEF and the Montreal Protocol was noted as being important, not only at the Secretariat level, but also at the Parties' level; it was suggested that this effort could include reaching out to the participants of the GEF on Montreal Protocol issues.

2. Summary of suggested work for the TEAP to cover in the finalization of its report

TEAP was requested to complete the second phase of the reporting process requested by Decision XX/7 in time for the Meeting of Parties and to take into account the following guidance to the extent possible:

- Paying close attention to the guidance provided by Decision XX/7, in particular the paragraph 7 chapeau which inter alia calls for the relative costs and environmental benefits to the ozone layer and the climate, of destruction versus recycling, reclaiming and reusing such substances.
 - In relation to environmental benefits, the TEAP is asked to consider ozone benefits, climate benefits, and any other follow-on economic, social and environmental benefits that might accrue such as benefits to waste management streams and to management of environmental harmful substances.
- The need for a detailed breakdown of costs associated with the destruction of ODS banks, including by category of process (such as collection, transportation, storage and destruction), as well as the relative costs and environmental benefits of destroying ODS banks by some subregions and by time period (taking into account when ODS banks can be best addressed). The TEAP is asked specifically to include, if possible, the costs of transportation of ODS to destruction facilities for those countries without destruction facilities, the costs and risks of possible long term storage of ODS, and to further delineate the costs in the domestic refrigeration sector relating to the capture and destruction of blowing agent and refrigerant components.
- The practicalities related to separation of various ODS, especially those for which production and consumption has already been phased-out, and provide more detail on the benefits and negative impacts of dealing with a mix of substances and sectors based on their availability and on other possible perverse consequences resulting from destruction, such as early retirement of equipment.
- Further information on the possible effect of the generation of carbon credits from ODS destruction on the existing voluntary carbon market including the timing of such credits being generated, the importance of credibility of such credits and how to enhance the credibility of such credits, and how to ensure that perverse outcomes do not arise (such as in relation to the compliance market) with input from the World Bank study being undertaken through the Multilateral Fund.
- Any information that might be taken into account from the approval of interim disposal guidelines by the ExCom at its 58th meeting, and from any project proposals received before finalisation of the report.
- Inclusion of information from TEAP on the geographical location of potential destruction centers with a view toward possibly defining or establishing regional or subregional strategies for the destruction of ODS,

3. Summary of suggested further work for the Ozone Secretariat

The Ozone Secretariat was requested to continue the analysis commenced in document UNEP/OzL.Pro/Workshop.3/2, and in that regard:

To categorize the funding opportunities included in its report as follows: funding opportunities falling under the purview of the Montreal Protocol itself, funding opportunities that involve cooperation between the Montreal Protocol and other institutions including co-financing, funding opportunities that can be taken by individual Parties, and funding opportunities that can be taken independently by other institutions;

To continue its consultations with the World Bank Global Environment Facility, and the various multilateral environmental agreement secretariats and to report on any further progress of relevance;

To provide further information on producer or manufacturer responsibility/take-back programmes;

To compile information related to past discussions that have taken place on legal issues associated with Multilateral Fund financing for destruction of ozone-depleting substances.

C. Contact group on high-global-warming-potential alternatives to ozone-depleting substances

1. Draft decision on HCFCs

The Twenty-first Meeting of the Parties decides:

Noting that the transition from, and phase-out of, ozone-depleting substances has implications for climate system protection;

Concerned about the future potentially significant contribution of HFCs to the global warming of the atmosphere;

Recalling that decision XIX/6 requests the Parties to accelerate the phase-out of production and consumption of hydrochlorofluorocarbons (HCFCs);

Mindful of the need to safeguard the climate change benefits associated with phase-out of HCFCs;

Aware of the increasing availability of low-GWP alternative to HCFCs, in particular in the refrigeration – air conditioning and foam sectors;

Aware also of the need to ensure appropriately the safe implementation and use of low-GWP technologies and products;

Recalling para 9 and 11 (b) of decision XIX/6,

1. To request the Scientific Assessment Panel and the Technology and Economic Assessment Panel to make a comprehensive assessment of the impact of alternatives to HCFCs on the environment, particularly on the climate, in order to establish a comprehensive methodology for the assessment of impacts [as part of the 2010 assessment] [and submit a report to the Parties by [.....]];

2. To encourage Parties to promote policies and measures aimed at avoiding the selection of high-GWP alternatives to HCFCs and other ozone-depleting substances in those applications where other economical, market-available and [proven] [tested] alternatives exist that minimise impacts on the environment, including on climate, as well as meeting other health, safety [and economic] considerations [taking into account the needs of Article 5 Parties from the Multilateral Fund] [in accordance with Decision XIX/6];

3. To encourage [and provide incentives for] Parties[, in particular non-Article 5 Parties,] to promote the further development, [marketing and availability] [and commercialization] of low-GWP alternatives to HCFCs and other ozone-depleting substances that minimise environmental impacts particularly for those specific applications where such alternatives are not presently available;

4. To further encourage Parties to promote the development and selection of alternatives to HCFCs that minimize environmental impacts, in particular impacts on climate, as well as meeting other health, safety and economic considerations;

5. [To [request] [call upon] the Executive Committee as a matter of urgency to expedite the finalisation of its guidelines, taking into account the special needs of Article 5 Parties with regard to HCFC phase-out, in accordance with Decision XIX/6;]

6. To [request] [direct] the Executive Committee, when developing and applying funding criteria for projects and programmes regarding in particular the phase out of HCFCs [to take into consideration paragraph 11 of decision XIX/6]:

(a) [to give priority to projects and programmes which focus on, inter alia, substitutes and alternatives that minimize other impacts on the environment, in particular on the climate, taking into account global-warming potential, energy use and other relevant factors and provide additional funding for additional climate benefits, if any;

(b) to take into account, when considering the cost-effectiveness of projects and programmes, the need for [increased climate change mitigation] [the need for climate benefits] and costs thereof generated by the implementation of alternative products and technologies with high GWP or non-optimal energy efficiency;]

2. Draft decision on HFCs

The Twenty-first Meeting of the Parties decides:

Noting that the transition from, and phase-out of, ozone-depleting substances has implications for climate system protection;

Concerned about the future potentially significant contribution of HFCs to the global warming of the atmosphere;

Recalling that decision XIX/6 requests the Parties to accelerate the phase-out of production and consumption of hydrochlorofluorocarbons (HCFCs);

Recognizing the important work undertaken by the Technology and Economic Assessment Panel on the status of alternatives to HCFCs and HFCs and encouraged by the new information made available to the Parties with regard to the existence of low- or no-GWP substitutes for high-GWP HFCs in most sectors and the rapid technological development of low-GWP substitutes in many other sectors;

Noting that the Technology and Economic Assessment Panel, in its 2009 update, pursuant to Decision XX/8, noted the potential overall growth of HFC banks and emissions which could [surpass] [undermine] the climate benefits from the accelerated phase-out of HCFCs;

Recognizing the need to expedite action [at the global level] taking into account common but differentiated responsibilities in order to prevent the potential growth of HFC emission and that further data and longer-term projections are being developed to better understand the issue taking note of the actions already underway under the United Nations Framework Convention on Climate Change;

Mindful that HFCs are controlled under the United Nations Framework Convention on Climate Change and its Kyoto Protocol and recognizing that there is scope for exploring cooperation with the Montreal Protocol for reducing emissions and minimizing environmental impacts from hydrofluorocarbons, [and that Montreal Protocol Parties and associated bodies have considerable expertise in [these areas that they could share] [controlling similar substances]];

[Recognizing that the expertise and infrastructure of the Montreal Protocol[, in particular with the Multilateral Fund and its technical and scientific bodies,] can offer a sound basis to build on in view of effectively addressing HFCs;]

[Mindful of the need for collaborative efforts to mitigate the global warming of the atmosphere, taking into account common but differentiated responsibilities;]

Mindful that some Parties have expressed reservations over the ability to control HFCs under the Montreal Protocol in view of their zero ozone-depleting potential;

Recalling para 9 and 11 (b) of decision XIX/6,

1. To encourage Parties in a position to do so, to forward best available data or estimates of their current and historic production and consumption of individual species of HFCs, in a standardized format to be prepared by the Ozone Secretariat, and requesting data to be treated as confidential where necessary, to the Ozone Secretariat no later than [15 February 2010], if possible;

2. To request the Ozone Secretariat to collaborate with the UNFCCC Secretariat in order to make HFC inventory data available to the Meeting of the Parties and the Technology and Economic Assessment Panel;

3. To request the Technology and Economic Assessment Panel in its 2010 progress report or its 2010 assessment:

(a) To update and supplement the data contained in previous reports with respect to emission, production and consumption of HFCs in the Parties, including sectors with emerging applications [that were not using ODS before], taking into account any new information available [no later than [15 May] 2010. The study should include to the extent possible the technical feasibility, costs and [environmental] benefits from potential controls on production and consumption of HFCs].

(b) [To list all sub-sectors with concrete examples of technologies where low-GWP alternatives are used, indicating what substances are used, conditions of application, their costs, relative energy efficiency of the applications, and to the extent possible, available markets and percentage share in those markets and collecting concrete information from various sources including information voluntarily provided by Parties and industries.]

(c) [To identify and characterize the implemented measures for ensuring safe application of low-GWP alternative technologies and products as well as barriers to their phase-in, in the different [refrigeration and air conditioning] sub-sectors, collecting concrete information from various sources including information voluntarily provided by Parties and industries.]

[perhaps move (b) and (c) to HCFC draft decision]

(d) [To report on by-product emissions during the production of ozone-depleting substances, specifically the generation of HFC-23 as a byproduct during the production of HCFC-22 considering both the emissions rate of HFC-23 and effective destruction efficiencies;]

(e) [To provide a comparison of the availability of alternatives and mitigation technologies available to replace ozone-depleting substances when CFC controls were agreed in the late 1980s as compared to the situation as it currently stands with respect to alternatives for HFCs in the same applications];

(f) To provide a characterization of the information previously provided in accordance with decision XX/8, updated to the extent practical, to inform the Parties of the uses for which low- or no-GWP and/or mitigation technologies are or will soon be commercialized, including the predicted amount of HFC uses that can be replaced.

4. To request the Ozone Secretariat to communicate to the UNFCCC Secretariat the [important and encouraging outcomes of the] [report of the Co-Chairs and the detailed report of the] workshop on high global-warming-potential alternatives for ozone-depleting substances, and the Open-ended Working Group and/or the Meeting of the Parties [which may contribute to a global solution on HFC emissions for consideration by the UNFCCC];

[5. *Option 1* To request the Ozone Secretariat to communicate to the UNFCCC Secretariat the Parties' determination to cooperate, and [where appropriate] to [assist the UNFCCC Secretariat to] work towards an [appropriate] international [emissions] reduction arrangement for HFCs.]

[5. *Option 2* To request the Ozone Secretariat to communicate to the UNFCCC Secretariat the Parties' determination to cooperate with the UNFCCC Secretariat for an appropriate international emissions reduction arrangement for HFCs.]

[5. *Option 3* To request the Ozone Secretariat to communicate to the UNFCCC Secretariat the Parties' determination to cooperate with the UNFCCC towards handling the international HFCs challenge.]

[5. *Option 4* To request the Ozone Secretariat to communicate to the UNFCCC Secretariat that the Parties to the MP decided to encourage the selection of alternatives to HCFCs that minimize the impact on climate.]

3. List of concepts relevant to the proposed amendment on HFCs:

Conceptual discussion (exchange of information) on:

1. Substances to be covered (Annex F) and how to categorize them
 - Add to the list [HFOs (e.g. 1234yf, 1234ze)], hydrofluoroethers, PFCs
 - What to do with HFC-23 controls? Give priority to group I HFCs?
 - Some HFCs are not covered in other legislation
2. Baseline
 - Need to account for both HCFCs' and HFCs' production and consumption?
 - Data is not known – how to ensure accuracy?
 - Need for grace period?
 - Baseline to be the same as for the Kyoto Protocol?

3. Phase-down steps
 - Phase-down, not phase-out – alternatives not available for all applications
 - Rate and plateau? Same or different depending on different composition of baseline (HCFCs and/or HFCs)?
 - Environmental benefit to be looked at globally, i.e. benefits stemming from both Article 5 and non-Article 5 efforts?
 - Assess which phase-down conditions would bring additional environmental benefits in comparison with existing or forthcoming national regulation of HFCs, and limitation of HFC phase-in through the MLF process?
 - Needs to consider the linkage to the HCFC phase-out?
 - Assess what level of transitions would be required for HCFC to HFCs, taking into account the availability of alternatives that are technically feasible and economically viable, etc.
 - Applicability only to non-Article 5 or also Article 5?
 - Assess the contribution of the phase down to the Kyoto Protocol?
4. Linking the work with the UNFCCC
 - Assess the contribution of the phase-down to the UNFCCC?
 - Scope for reporting synergies?
 - What should be the appropriate roles of UNFCCC and Montreal Protocol with regard to HFCs?
 - How would the institutions of UNFCCC (including IPCC) and the Vienna Convention / Montreal Protocol collaborate on the assessments (scientific, technical, etc.), reporting, decision-making (MOP/COP), etc.?
 - How to ensure environmental benefits?
 - UNFCCC is the appropriate framework for HFC emission control, Montreal Protocol to provide technical support/inputs?
 - Enhanced collaboration in the area of provision of assistance to developing countries
 - Can production and consumption control be established under UNFCCC?
 - Ensuring that production and consumption control would result in emission reductions?
 - Unit of account stated in GWP for baseline, etc.?
5. Finance
 - What would be the role of MLF, GEF and other relevant financial institutions and how to ensure collaboration between them?
 - How to ensure technology transfer?
 - The Montreal Protocol model is effective – incremental cost, permanent sustained aggregate reduction, etc.
 - What would be the legal basis for the use of MLF for HFCs?
 - What kind of funding model would be appropriate for reducing emissions?
6. By-product emissions
 - HFC-23 emissions and linkage to HCFC-22
7. Unit of accounting
 - GWP unit of accounting may be the most appropriate?
 - How to implement other options (LCA, LCCP, etc.) in a practical way?

8. Importance of import and export licensing systems for HFCs
 - Not an obligation at the moment, so many countries do not have such systems – support would be needed to establish the systems?
 - Support needed for reporting inventories and data of HFCs?
 - Should such systems be considered for the future?
 - Consistency with other relevant bodies such as WTO?

Annex III

Summary report by the co-chairs of the workshop on the management and destruction of ozone-depleting substance banks and the implications for climate change

Introduction

1. As requested by decision XX/7 of the Twentieth Meeting of the Parties, a workshop on the management and destruction of ozone-depleting substance banks and the implications for climate change was held on 13 July 2009 in Geneva. The workshop comprised two general sections, the first dealing with technical issues and the second dealing with policy and funding issues. Under each section presentations were given, followed by a session of questions and clarifications and an opportunity for participants to exchange views on the issues under consideration. A brief overview of the main presentations under the two sections is set out in chapters I and II below. Chapter III presents a consolidated list of some of the principal ideas put forward by participants at the workshop. Chapter IV presents a consolidated list of suggestions by some of the participants' for further work that might be useful in facilitating a robust decision on related items.

I. Technical issues

2. Following an overview of related challenges by the Executive Secretary of the Ozone Secretariat and an introduction of the agenda by the co-chairs of the workshop, representatives of the Technology and Economic Assessment Panel gave a presentation on ozone-depleting substance banks, which contained extensive and useful information on those banks. Their presentation was divided into four separate components, outlined in sections A–D below, which also included a brief review of some key points that arose in the presentation and the workshop discussions.

A. Bank distribution and accessibility and the environmental benefits of mitigating reachable banks

3. As requested in decision XX/7, the Panel attempted to assess those segments of the ozone-depleting substance banks that were considered reachable given a low, medium and high level of effort. In that context, the Panel reported that it had defined reachable banks in a broad sense, as all banks of ozone-depleting substances that had not yet entered the waste stream. In terms of levels of effort, the Panel noted that costs of collection of the ozone-depleting substances in the waste stream tended to drive overall costs of disposal of ozone-depleting substance banks. Given that fact, and also the fact that costs of collection were lower in areas with higher population densities, the Panel explained that it had used population density as a major determinant in classifying the level of effort.

4. In terms of the total amounts of ozone-depleting substances that were available in reachable banks, and taking into account that the focus of the Panel's report was on low and medium effort options, the Panel estimated that a global total of 1,546 kilotonnes of CFCs, HCFCs and halons was reachable at a low effort, and 1,463 at a medium effort. It explained that the estimated size did not take into account the fact that some components of the bank could perhaps be used more favourably to meet predicted long-term shortfalls (e.g., halons) or long-term needs (e.g., CFCs that might be needed for servicing).

5. Where those and other estimates in the report were concerned, the Panel stressed that its analysis, and particularly its cost analysis, were at varying stages of infancy, and that it might be therefore useful to consider several of the sections in the report as an initial effort to develop and validate methodologies that could be refined on the basis of further information that would be forthcoming in the future.

B. Cost factors and economic feasibility

6. The representatives of the Panel noted that the major components of cost included segregation of ozone-depleting substances from the waste stream, collection and recovery following ozone-depleting substance segregation and the destruction of recovered ozone-depleting substances. In

that context, they noted that the application in which the ozone-depleting substance was used was the single biggest factor effecting accessibility. In addition, they noted that existing national laws on waste segregation could have an impact on the incremental cost of ozone-depleting substance disposal that might be faced by individual countries. Where destruction itself was concerned, they noted that related costs should be relatively uniform across all applications and countries, and that the individual substance to be destroyed would not significantly affect the destruction cost.

7. Given available studies and their emerging understanding of related costs, they were able to present an indicative cost-abatement curve that was application-specific. As noted above, however, they cautioned that the Panel's work on costs was still in its infancy, and that its efforts to date had been based on data that could be characterized as limited and anecdotal. That said, they noted the following costs for the destruction of all low and medium effort banks were they to be destroyed at the current time.

Region	Low effort	Medium effort	Total
Developed countries	\$19–26 billion	\$43–59 billion	\$64–86 billion
Developing countries	\$27–35 billion	\$44–58 billion	\$70–93 billion
Global total	\$46–62 billion	\$89–117 billion	\$135–179 billion

8. In response to questions, the representatives of the Panel clarified in particular that, while the costs that it had estimated for the destruction of banks would be incurred over a long period, a significant portion of the funding would be necessary in the earlier years to address the need to develop infrastructure, as well as to address those sectors that were diminishing quickly. They also explained that costs for countries which had already developed waste management systems would be lower and that, if ozone-depleting substance destruction programmes were more generally targeted, costs could be spread over chemicals and applications with different cost effectiveness.

C. Funding issues and the risk of perverse incentives

9. In terms of funding, the representatives of the Panel noted that carbon financing was recognized as one of the few funding sources that would be able to generate the level of funds required for ozone-depleting substance bank management. Under carbon financing, funding would be driven by the global-warming-potential value of the ozone-depleting substances destroyed. In that regard, they estimated that it would take the following carbon prices to achieve the noted categories of reductions if related ozone-depleting substance banks were to be destroyed at the current time:

CO₂ price in \$/tonnes	low effort	medium effort
Developed countries	9–12.44	26.45–34.98
Developing countries	11.70–15.60	15.95–21.10

10. Where policy issues and perverse incentives were concerned, the Panel noted the following potential risks – all of which they suggested could be overcome with careful management: the risk that the value of destruction credits could become so high that it would lead to production for the purpose of destruction; the diversion of needed ozone-depleting substances away from justified recycling; the destruction of banks that might otherwise be required for later uses (such as halons); and missed potential for ozone-depleting substance transformation.

D. Role and implications of incentive mechanisms in promoting ozone-depleting substance destruction

11. In terms of incentive mechanisms, the Panel noted the current availability of funding through the voluntary carbon markets and suggested that certain components needed to be in place to ensure that those markets were not misused. Essential components noted included the presence of a robust and transparent registry and the development of good methodologies to ensure, among other things, additionality and the achievement of related reductions. In that regard, it suggested that the Montreal Protocol was uniquely placed to create an essential framework for that purpose. Several concerns were expressed about using the voluntary markets, relating, among other things, to the credibility of related credits, guarantees that the work promised would actually be done in the manner promised, and concerns that ozone-depleting substance destruction credits might become so readily available as to flood the market and diminish the value of all voluntary market credits.

12. Following a final round of clarifying questions and a brief open discussion, the workshop turned its attention to the Secretariat's report on funding opportunities for the destruction of ozone-depleting substance banks.

II. Policy and funding issues

13. In its consideration of policy and funding issues, the workshop heard presentations from the Secretariat on funding opportunities and an update by the secretariat of the Multilateral Fund on related action, reports by the European Commission and the World Bank on continuing related work; and, finally, engaged in a brief open discussion of the issues involved.

A. Presentation by the Ozone Secretariat and the secretariat of the Multilateral Fund

14. Following introductory remarks on the Kyoto Protocol's cap and trade provisions and the carbon markets, representatives from the Secretariat and from the Multilateral Fund secretariat gave presentations focusing on over 20 funding options that had been identified for supporting ozone-depleting substance destruction. Those options may be divided into the categories listed below.

1. Options relating to funding for Article 5 Party efforts that could potentially be accessed through international organizations

15. The following options may be included under this category:

(a) Use of the Multilateral Fund to fund pilot projects, to fund destruction projects as part of its main mission, or to fund destruction projects through a new facility that would focus on climate co-benefits;

(b) Use of the ozone, climate and persistent organic pollutants funding focal areas of the Global Environment Facility (GEF): in that context, the Secretariat noted that GEF was currently in replenishment discussions and it was therefore of crucial importance that it should receive guidance on the issues on which the ozone regime might like it to focus. Where the persistent organic pollutants focal area was concerned, a specific proposal was put forward that persistent organic pollutant or ozone-depleting substance projects related to the collection or destruction of ozone-depleting substances should only be considered for funding under GEF or the Multilateral Fund if they included an indication that synergies with the other multilateral environmental agreements were considered and were, to the extent possible, being exploited;

(c) Efforts by the United Nations Industrial Development Organization (UNIDO) to undertake projects aimed at helping countries set aside some portion of the sales price of ozone-depleting substance equipment in order to use related funds for end-of-useful-life disposal;

(d) The possibility of having the World Bank work with donors to tap into their existing donor trust funds for ozone-depleting substance destruction purposes; the possibility that the World Bank could spearhead a funding initiative for ozone-depleting substance destruction as had been done for the closure of ozone-depleting substance production facilities in the 1990s in the Russian Federation; and the possibility of having the World Bank attempt to include ozone-depleting substance destruction in the development strategies of their client countries.

2. Options related to the carbon markets

16. The following options fall under this category:

(a) The idea put forward by the United Nations Development Programme to establish an ozone-depleting substance carbon facility, possibly managed by Montreal Protocol bodies, with a view to demonstrating proof of concept and building confidence in ozone-depleting substance destruction credits in a manner that might facilitate their medium or long-term inclusion in carbon compliance markets;

(b) Efforts by UNIDO to develop methodologies for obtaining ozone-depleting substance destruction credits in the voluntary carbon market;

(c) Use of the voluntary carbon market and, in particular, the Chicago Climate Exchange and the Voluntary Carbon Standard Association to generate funding for ozone-depleting substance destruction;

(d) Potential use by the European Community of some of its emissions credit auction revenues to fund ozone-depleting substance destruction activities.

3. Other opportunities that might be available as an option for use by all Parties individually if they were consistent with national laws and preference

17. The following options are subsumed under this category:

(a) Producer responsibility programmes under which a levy or tax is placed on import or sale of bulk ozone-depleting substances or products containing ozone-depleting substances, on the understanding that the levy or tax collected would be used to fund end-of-useful-life treatment;

(b) Use of alternative producer incentive programmes where the producer of the ozone-depleting substance alternative agrees to dispose of the ozone-depleting substance if the user agrees to use its product;

(c) Use of extinguisher exchange programmes where halon extinguishers brought in for refilling are replaced with extinguishers containing alternatives;

(d) Use of refrigeration equipment energy-efficiency projects in which users return their old equipment and receive a subsidy toward the purchase of new, energy-efficient equipment.

4. Potential opportunities discussed with other multilateral environmental agreements

18. Lastly, the following options may be grouped under this category:

(a) Use of the quick Start Programme under the Strategic Approach to International Chemicals Management to facilitate joint work;

(b) Initiatives co-funded by the secretariats of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Stockholm Convention on Persistent Organic Pollutants and the Multilateral Fund.

B. Other presentations

19. Following the presentations by the Secretariat and the secretariat of the Multilateral Fund on the above study, and a brief question-and-answer session, the workshop heard presentations by the European Commission, the United States of America and Australia on their destruction efforts and a presentation on a study undertaken by the World Bank on methodologies that might be used to gain access to the voluntary carbon markets for ozone-depleting substance destruction.

III. Ideas put forward by workshop participants

20. The presentations given during the workshop were followed by open discussion sessions among the participants in the workshop. The ideas set out in the following subparagraphs reflect some of the common threads that were identified by representatives during the open discussion and are not meant to be an exhaustive list of the ideas raised:

(a) The work by the Technology and Economic Assessment Panel represented an excellent start in developing methodologies and initial information to facilitate consideration of the issue;

(b) Action to eliminate the large amount of ozone-depleting substances contained in banks could benefit the climate system significantly and the ozone layer;

(c) The potential costs of efforts to eliminate ozone-depleting substance banks posed significant challenges;

(d) In the view of some, the Multilateral Fund should be the main vehicle for the cost-effective destruction of ozone-depleting substances, while others considered that the voluntary carbon markets presented good opportunities instead;

(e) The high level of climate co-benefits and the high cost of destruction necessitated a broad examination of funding options;

(f) Work currently under way, including Multilateral Fund pilot projects, would produce further specific information that would be useful to all Parties and to the Technology and Economic Assessment Panel;

- (g) Some considered that more demonstration projects might be desirable and some also considered that the Fund should go beyond demonstration projects;
- (h) The voluntary carbon markets presented an opportunity in the short term, but efforts would have to be undertaken to ensure that any effort to use them for the purposes of ozone-depleting substance destruction should support and not undermine either the carbon markets or the ozone and climate regimes;
- (i) Many considered that the Clean Development Mechanism was not widely accessible to all Article 5 Parties, but others considered that the Mechanism represented a good long-term option for ozone-depleting substance destruction that should be pursued;
- (j) Appropriate incentives were considered necessary by some to stimulate destruction;
- (k) Some considered that GEF presented good opportunities for efforts to destroy ozone-depleting substances and that this option should be examined further, while others considered that issues relating to timing, other priorities and quota-setting for funding rendered problematic the use of GEF in efforts to destroy ozone-depleting substances;
- (l) Some considered that producer and manufacturer responsibility programmes (where a fee levied on the sale of an ozone-depleting substance or ozone-depleting substance product would be used for end-of-life treatment) presented a good model for dealing with ozone-depleting substance destruction;
- (m) All Parties should consider developing plans to deal with unwanted ozone-depleting substances;
- (n) Many Parties raised the possibility of Montreal Protocol bodies collaborating to develop information on a framework to manage ozone-depleting substance destruction credits;
- (o) The workshop report could be sent to climate institutions and appreciation should be expressed to those multilateral environmental agreements which had participated in preparing information for the workshop;
- (p) It was noted that, in some sectors, urgent measures were needed to prevent emissions from ozone-depleting substance banks;
- (q) It was also noted that other multilateral environmental agreements had other priorities and that the Montreal Protocol Parties should not expect co-funding from them;
- (r) Many considered that positive results of Multilateral Fund and bilateral pilot projects should be shared widely;
- (s) Many noted the desirability of first addressing the most cost-effective products – what might be termed the “low-hanging fruit”.

IV. Suggestions for further work

21. During the discussions that took place throughout the day, a number of suggestions were made for possible additional work by the Panel or the Secretariat. A non-exhaustive list of those suggestions is set out below, solely for the record:

- (a) Further delineations of ozone-depleting substance bank data related to regions and subregions;
- (b) Delineation of the funding that might be needed year by year;
- (c) Further assessment of the voluntary carbon markets and consideration of safeguards that could be put in place to ensure the credibility of any related credits issued for ozone-depleting substance destruction;
- (d) Further explanation of why destruction of all ozone-depleting substances would be preferable to an approach focusing only on the most cost-effective sectors;
- (e) Further identification and delineation of benefits in terms of their ozone-depleting potential;

- (f) Further delineation of the benefit to the ozone layer of ozone-depleting substance destruction, including considering the extent to which such destruction would accelerate the repair of the ozone layer;
 - (g) Desirability of having information on costs related to the transport of ozone-depleting substances to destruction facilities located outside countries;
 - (h) Further delineation of ozone-depleting substance banks that included a distinction between ozone-depleting substances in existing stockpiles, ozone-depleting substances in waste equipment and ozone-depleting substances in equipment in operation. With regard to ozone-depleting substances in stockpiles, further delineation was also needed, depending on the usability of the ozone-depleting substance;
 - (i) More transparent explanation of how low, medium and high efforts were determined by the Panel;
 - (j) Further consideration of chemical recovery and destruction efforts being undertaken through other multilateral environmental agreements, including the Stockholm and Basel conventions, and their possible linkages to ozone-depleting substance destruction;
 - (k) Consideration of the cost of enforcement of waste recovery efforts;
 - (l) Explanation why the cost of halon recovery and destruction appeared similar to that for refrigeration, and further explanation why halon bank destruction was being discouraged;
 - (m) Consideration of the role of bilateral funding for ozone-depleting substance destruction projects.
-