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**Open-ended Working Group of the Parties to
the Montreal Protocol on Substances that
Deplete the Ozone Layer**
Twenty-eighth meeting
Bangkok, 7–11 July 2008

**Report of the twenty-eighth meeting of the Open-ended Working
Group of the Parties to the Montreal Protocol**

I. Opening of the meeting

1. The twenty-eighth 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 United Nations Conference Centre in Bangkok, from 7 to 11 July 2008. The meeting was co-chaired by Mr. Mikkel Aaman Sorensen (Denmark) and Ms. Judy Francis Beaumont (South Africa).
2. The meeting was opened at 10.05 a.m. on 7 July by Mr. Sorensen, who welcomed the meeting participants to Bangkok.
3. Opening statements were made by Mr. Rachada Singalavanija, on behalf of Mr. Suwit Khunkitti, Deputy Prime Minister and Minister of Industry of Thailand, and Mr. Marco González, Executive Secretary of the Ozone Secretariat.
4. Mr. Singalavanija welcomed the meeting participants on behalf of the Government and people of Thailand. Noting the success of the Montreal Protocol since its inception in 1987, he welcomed the outstanding work of the Technology and Economic Assessment Panel. He introduced the tasks ahead, such as accelerating the phase-out of hydrochlorofluorocarbons (HCFCs), in particular within the refrigeration and air conditioning sectors. With regard to the latter, he called for technical and financial assistance to be made available to Parties operating under paragraph 1 of Article 5. He also referred to the funding required to enable those Parties to comply with their HCFC reduction schedules under the Protocol and noted that various funding scenarios for the replenishment of the Multilateral Fund for the Implementation of the Montreal Protocol had been prepared. In closing, he urged Parties to maintain the momentum for the successful implementation of the Protocol.
5. Mr. González welcomed the participants to the meeting. Recalling the historic decision adopted at the previous Meeting of the Parties with regard to the accelerated implementation of control measures for HCFCs, he noted that the adjustments to the Protocol adopted at that Meeting had entered into force and had become binding on all Parties on 14 May 2008. Among the challenges faced by Parties at their current meeting, he drew attention to the replenishment of the Multilateral Fund for the Implementation of the Montreal Protocol for the period 2009–2011 and urged Parties to reach an agreement that would be of benefit to them and to the environment itself. Noting that proposals had been submitted with regard to the safe destruction of unwanted ozone-depleting substances, he expressed the hope that the consultant's report on that subject would provide useful information to guide the discussions.

6. Enumerating the reports prepared by the Technology and Economic Assessment Panel, he predicted that they would give rise to vigorous debates and lead to recommendations that could be submitted to the Meeting of the Parties in November 2008. He highlighted the key work of the Panel, which included its work on carbon tetrachloride, methyl bromide, critical uses and essential uses. He also drew attention to the proposal regarding the supply of methyl bromide to satisfy the basic domestic needs of Parties operating under paragraph 1 of Article 5.

7. With regard to the work of the Secretariat, he described the progress that had been made in conjunction with other forums, such as the World Meteorological Organization, the United Nations Framework Convention on Climate Change and the World Customs Organization, he informed the meeting of plans by the Secretariat to prepare a newsletter on interlinkages with other bodies. He also explained that the Secretariat had reorganized its working method to give it a more regional focus, leading to such benefits as reduced costs and enhanced support for Parties. In conclusion, he announced that the Holy See and Iraq had become Parties to the ozone treaties during 2008, bringing the Protocol closer to becoming the first multilateral environmental agreement to achieve universal ratification.

II. Organizational matters

A. Attendance

8. The following Parties to the Montreal Protocol were present: Afghanistan, Algeria, Argentina, Armenia, Australia, Austria, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Benin, Bhutan, Bolivia, Brazil, Brunei Darussalam, Bulgaria, Burundi, Cambodia, Cameroon, Canada, Central African Republic, Chad, Chile, China, Colombia, Comoros, Costa Rica, Côte d'Ivoire, Croatia, Cuba, Czech Republic, Democratic Republic of the Congo, Denmark, Djibouti, Dominica, Dominican Republic, Egypt, El Salvador, Estonia, Ethiopia, European Community, Fiji, Finland, France, Gabon, Germany, Ghana, Guatemala, Guinea, Guinea-Bissau, India, Indonesia, Iran (Islamic Republic of), Iraq, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Lebanon, Libyan Arab Jamahiriya, Lithuania, Madagascar, Malawi, Malaysia, Maldives, Mali, Mauritania, Mauritius, Mexico, Micronesia (Federated States of), Mongolia, Morocco, Mozambique, Namibia, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Philippines, Poland, Portugal, Qatar, Republic of Korea, Romania, Russian Federation, Saint Lucia, Saint Vincent and the Grenadines, Sao Tome and Principe, Senegal, Slovenia, Solomon Islands, South Africa, Sri Lanka, Sudan, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tajikistan, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, United States of America, Uruguay, Uzbekistan, Vanuatu, Viet Nam, Yemen, Zambia and Zimbabwe

9. Observers from the following United Nations entities, organizations and specialized agencies were also present: Secretariat of the Multilateral Fund for the Implementation of the Montreal Protocol, Secretariat of the United Nations Framework Convention on Climate Change, United Nations Development Programme, United Nations Environment Programme Division of Global Environment Facility, United Nations Environment Programme Division of Technology, Industry and Economics, United Nations Industrial Development Organization and the World Bank.

10. Observers from the following intergovernmental and non-governmental organizations and other bodies were also present: Alliance for Responsible Atmospheric Policy, Alliant International, Arkema SA, BASF Polyurethane Specialities (China) Co. Ltd., California Cut Flowers, California Strawberry Commission, Carbon Reduction Technologies AS, Chemtura, Chulalongkorn University, Cool Quip, Crop Protection Coalition, Dow Agrosiences LLC, DuPont Fluoroproducts, DuPont International, Economic Community of West African States, Energy and Resources Group, Environmental Investigation Agency, Environmental Management Bureau, Fire and Environment Protection Network (NBK Ltd.), Florida Fruit and Vegetable Association/Crop Protection Coalition, Florida Tomato Exchange/Crop Protection Coalition, Greenpeace International, Gujarat Fluorochemicals Ltd., Guntner Asia Pacific Pte. Ltd., ICF International, ICL Industrial Products, Industrial Technology Research Institute, Institute for Governance and Sustainable Development, International Pharmaceutical Aerosol Consortium, Japan Fluorocarbon Manufacturers Association, Japan Industrial Conference for Ozone Layer and Climate Protection, Krauss Maffei Technologies GmbH, Kulthorn Kirby Public Company Ltd., Kulthorn Company Ltd., Macter International (Pvt.) Ltd., Mebrom MV, Naeslund International Ltd., National Scout Organization of Thailand, Natural Resources Defence Council, Nordiko

Quarantine Systems Pty. Ltd, SRF Ltd., SunRice (Ricegrowers Ltd.), Technical Education and Skills Development Authority, TouchDown Consulting, Unilever Thai Trading Ltd., University of Chicago and Vimuttayalaya Institute.

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.1/28/1, as orally amended:

1. Opening of the meeting.
2. Organizational matters:
 - (a) Adoption of the agenda;
 - (b) Organization of work.
3. Issues arising out of the 2008 progress report of the Technology and Economic Assessment Panel, or related matter held over from 2007:
 - (a) 2008 progress report of the Technology and Economic Assessment Panel;
 - (b) Review of nominations for essential-use exemptions for 2009 and 2010;
 - (c) Summary of scoping study addressing alternatives to hydrochlorofluorocarbons in the refrigeration and air-conditioning sectors in Parties operating under paragraph 1 of Article 5 (decision XIX/8);
 - (d) 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);
 - (e) Review of and recommendations on process-agent use exemptions; on insignificant emissions associated with uses; and on process-agent uses that could be added to or deleted from table A of decision X/14 (decision XVII/6);
 - (f) Final report on carbon tetrachloride emissions and opportunities for reductions (decision XVIII/10);
 - (g) Report on n-propyl bromide emissions and alternatives, and opportunities for reductions (decision XVIII/11);
 - (h) Review of nominations for critical-use exemptions for 2009 and 2010;
 - (i) Other issues arising out of the Technology and Economic Assessment Panel reports.
4. Report of the Executive Committee on case studies called for under decision XVII/17 on environmentally sound destruction of ozone-depleting substances (decision XVIII/9).
5. Report of the Technology and Economic Assessment Panel on the replenishment of the Multilateral Fund for the Implementation of the Montreal Protocol (decision XIX/10).
6. Proposed adjustments to the Montreal Protocol.
7. Proposed amendments to the Montreal Protocol.
8. Other matters.
9. Adoption of the report.
10. Closure of the meeting.

C. Organization of work

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

III. Issues arising out of the 2008 progress report of the Technology and Economic Assessment Panel, or related matter held over from 2007

A. 2008 progress report of the Technology and Economic Assessment Panel

13. Mr. Lambert Kuijpers, co-chair of the Technology and Economic Assessment Panel, introduced the Panel's 2008 progress report and invited the co-chairs of the Panel's technical options committees to present their findings to the Open-ended Working Group.

14. Ms. Helen Tope, co-chair of the Medical Technical Options Committee, presented the Panel's recommendations on essential-use nominations of CFCs for metered-dose inhalers. There had been significant reductions in the quantities nominated for the European Community and the United States. The Panel and its Medical Technical Options Committee had recommended the nomination by the Russian Federation for 2009, but not those from the European Community for 2009 and the United States for 2010, because of the availability of adequate alternatives or stockpiles. Noting that the European Community had notified the Panel that week of significant new technical information, she stressed that the Panel welcomed the opportunity to work with Parties on nominations and was ready to review the information prior to the Twentieth Meeting of the Parties.

15. Regarding the phase-out of CFC metered-dose inhalers in Parties operating under paragraph 1 of Article 5, she said that significant progress had been made in moving away from CFC metered-dose inhaler use, with a range of technically feasible alternatives available. Even though the CFC production phase-out was less than 18 months away, conversions financed by the Multilateral Fund of locally-owned CFC metered-dose inhaler manufacturing plants remained in their early stages. That said, however, the continued production of small amounts of pharmaceutical-grade CFCs after 2009 was also likely to be impractical. The Panel and its Medical Technical Options Committee had considered options for pharmaceutical-grade CFC production after 2009, had recommended a final campaign production of CFCs based on a consideration of the technical and economic issues, and were of the opinion that, with planning, such production could be feasible in 2011 if project implementation was not delayed any further. A preferred date for a final campaign production could be recommended when timelines for project implementation were clearer and projections of CFC requirements were known.

16. She said that the Panel and its Medical Technical Options Committee had reviewed the essential-use decisions and supporting guidance in the handbook on essential use nominations and found that some decisions were not applicable to Parties operating under paragraph 1 of Article 5 but could nevertheless be relevant to them. New decisions might be needed to take account of the last stages of global transition and final campaign production. In conclusion, she said that the Panel and its Medical Technical Options Committee were seeking guidance from Parties to assess nominations under Article 5 that could be received in 2009.

17. Mr. Ian Rae, co-chair of the Chemicals Technical Options Committee, said that three process-agent applications of carbon tetrachloride nominated by China had been recommended for addition to table A of decision XIX/15 and one application of carbon tetrachloride in India had been recommended for deletion under decision XVII/6. He said that he had been unable to recommend the revision of table B of decision X/14, since not all data were available. In response to decision XIII/7, which called for an update on n-propyl bromide, he reported that estimation of ozone-depleting potential (ODP) values of n-propyl bromide by a three-dimensional model remained under way but the consumption of n-propyl bromide was growing in the United States and Asian countries, while levelling off in Japan. He requested Parties to establish a reporting system to guide any amendments, adjustments and decisions. He reported on the current situation regarding the essential-use nomination of CFC-113 by the Russian Federation under decision XIX/14 and noted that experts had been identified to visit that country to discuss the possible replacement of CFC-113. Lastly, he concluded that the Panel and its Chemicals Technical Options Committee would continue dialogue with the Russian delegation during the twenty-eighth meeting of the Working Group and the recommendation of the necessary volume of CFC-113 for 2009 would be reported on by the Twentieth Meeting of the Parties in Doha.

18. Mr. Paul Ashford, co-chair of the Foams Technical Options Committee, summarized the foam section of the Panel's progress report. He noted that rapid growth was occurring in the manufacture of extruded polystyrene in China and elsewhere in the region, based on small-scale manufacturing facilities using HCFC-142b and, increasingly, HCFC-22. Since there were few, if any, parallel facilities in Parties not operating under paragraph 1 of Article 5, the selection of appropriate technologies for

phase-out would be challenging. The use of polyurethane spray foam was also growing rapidly in China, driven by the requirement for energy efficiency improvements in existing homes.

19. With regard to bank management, he reported that both Parties operating under paragraph 1 of Article 5 and those not so operating continued to evaluate the use of voluntary carbon financing. That was particularly relevant for foams where the cost of recovery was high, because of the costs of material segregation. For some building foam types (most notably polyurethane spray foam), however, recovery was not technically possible because of the inability to segregate the foam from other demolition waste. It was also noted that further work was under way on the development of hydrofluorocarbons (HFCs) with low global warming potential for specialist foam applications. One alternative had already been launched for the one-component foam sector.

20. He said that decision XIX/6 had placed new emphasis on the transition away from HCFC-141b technologies in view of their relatively high ozone-depletion potential and what was termed the “worst first” approach embodied within the decision and the need to meet the 2013 freeze and the 2015 reduction obligations. He stressed that most facilities requiring conversion were in the hands of small enterprises and that all technology options available had some caveats associated with them. For HFCs, concerns existed on prices and the climate impact of direct emissions. For hydrocarbons, the required capital investment could still represent a major barrier – particularly where the consumption of HCFCs was low. A newer alternative, methyl formate, was looking extremely promising, but experience of its use in Parties not operating under paragraph 1 of Article 5 in support of future technology transfer was lacking. He noted that there was a need to develop more experience with methyl formate in the light of its potential in countries operating under paragraph 1 of Article 5 and that relevant pilot projects could be the best way of gaining such experience.

21. Lastly, he noted that the HCFC transition could provide an opportunity for not-in-kind insulation (most notably mineral fibre) to capture market share in applications where greater thicknesses could compensate for the poorer thermal insulation performance of those products. He also noted however, that current market trends remained in the opposite direction.

22. Mr. David Catchpole, co-chair of the Halons Technical Options Committee, gave an update on the status of decision XIX/16, which requested the Panel to study further regional imbalances of halons 1211, 1301, and 2402. He said that the Ozone Secretariat had sent letters requesting information to the International Maritime Organization (IMO), the International Civil Aviation Organization (ICAO) and each Party. To date, responses had been received from IMO, ICAO and 15 Parties. The Ozone Secretariat had also provided the Halons Technical Options Committee with halon production and consumption data for the years 2004–2006. He noted with regret that the Multilateral Fund study on the operation of halon banks worldwide had not yet begun. Owing to the limited availability of country data, and the lack of data from the halon banking study, the Panel’s study would not be ready in time for the Twentieth Meeting of the Parties.

23. Mr. Mohamed Besri, co-chair of the Methyl Bromide Technical Options Committee, presented the overview of the Methyl Bromide Technical Options Committee’s progress report on controlled uses of methyl bromide. He displayed recent data on and trends in the global production and consumption of methyl bromide, use in Parties operating under paragraph 1 of Article 5 and those not so operating in relation to the baselines in 1991, 1995 and quarantine and pre-shipment data for 2006. He noted that the consumption decrease in Parties operating under paragraph 1 of Article 5 had been greatest in countries with economies in transition and that Latin America was currently the region with the highest methyl bromide consumption.

24. He reported on recent progress with alternatives for soil treatment, which included a three-way system using a combination of 1,3-dichloropropene, chloropicrin and metam sodium for the control of nutsedge and plant pathogens and a reduction in the need for methyl bromide made possible in many sectors through the use of barrier films.

25. He also took up the issue of decision XIX/9, by which the Technology and Economic Assessment Panel had been requested to provide an explanation of its methodology for using its meta-analysis in its work. He explained that that had been presented in the Panel’s report and further clarified that the meta-analysis provided the statistical best estimate of the relative effectiveness of the major chemical alternatives to methyl bromide as determined by an analysis of information across a large number of studies in different regions and under different pathogen pressures. The Methyl Bromide Technical Options Committee had used that report as a guide to the relative effectiveness of many alternatives, together with many other updated scientific publications, conference proceedings,

published reports and others, to substantiate and support its recommendations. He confirmed that there had been no change to that approach in the current round of evaluations.

26. Ms. Michelle Marcotte, Co-Chair of the Methyl Bromide Technical Options Committee, reported that the Methyl Bromide Technical Options Quarantine, Structures and Commodities Subcommittee had focused on a thorough review of the current status, technical efficacy, costs and adoption of methyl bromide alternatives in flour mills. Flour milling was the largest non-quarantine and pre-shipment treatment post-harvest methyl bromide use resulting in critical-use nominations from Canada, Israel and the United States. Some 300 metric tonnes of methyl bromide were used worldwide. Critical-use nominations for flour milling had fallen slowly, in part because some flour sector members had challenged the efficacy and cost of alternatives. Fumigators with experience in alternatives, had, however, confirmed the efficacy and reasonableness of cost.

27. The Methyl Bromide Technical Options Committee's Quarantine, Structures and Commodities Subcommittee expressed appreciation to Canada, the European Commission, Israel, the United Kingdom and the United States for their contribution of research reports, commercial experience, fumigation records, economic studies and interviews for the study. As part of the flour milling report, all references had been summarized and each cited reference had been made available to Parties through the Ozone Secretariat. Millers in Canada and the United States faced problems adopting a key alternative, sulphuryl fluoride, because of the lack of regulatory approval for food contact. Some foods that could be contacted by methyl bromide could not be contacted by sulphuryl fluoride, with mills that produced bakery mixes the most affected. Sulphuryl fluoride had not been registered in Israel, where, instead, spot heat treatment was used with good results. Pests could be killed in flour mills through intensive integrated pest management plus a combination treatment of sulphuryl fluoride and temperatures greater than 27° C or by heat treatment greater than 50° C (together with barrier methods).

28. The Quarantine, Structures and Commodities Subcommittee also reported that quarantine and pre-shipment treatment use of methyl bromide had decreased from some 14,000 tonnes in 2005 to some 10,000 tonnes in 2006. Reasons for the reported decrease in quarantine and pre-shipment treatment use were not clear. In addition, sub-Saharan Parties had reported economic hardship caused by the European Union's rejection of commodities exported on pallets treated with methyl bromide, as permitted by International Standard for Phytosanitary Measures 15. Those Parties had claimed that heat treatment of pallets in the region was too expensive, unreliable and environmentally unfavourable.

29. Mr. Kuijpers, speaking as co-chair of the Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee, said that he would focus only on decision XIX/8, since full information could be found in the Panel's 2008 progress report. Parties had considered the use of HCFC alternatives under specific circumstances, such as high ambient temperatures, and had requested the Panel to produce a scoping study on the feasibility of HCFC alternatives, together with a summary of the study for the twenty-eighth meeting of the Working Group. Beginning in 2008, the Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee had established a subcommittee of experts and had undertaken initial analyses of the problems anticipated in the replacement of HCFCs in the air-conditioning and refrigeration subsectors. Some detailed issues had already been covered briefly in the 2008 progress report, but it had proved impossible to prepare a summary and recommendations in time for the current meeting. Since it would be difficult to assemble a report by appropriate experts in a short time frame without any funding and without good logistic and communication possibilities for the review process, the Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee would strive to deliver a summary to the Twentieth Meeting of the Parties.

30. Mr. Stephen Andersen, one of the co-chairs of the Technology and Economic Assessment Panel, reported that actions already taken under the Protocol had protected the climate. He explained that most ozone-depleting substances were potent greenhouse gases phased out under the Protocol but not controlled by the Kyoto Protocol to the United Nations Framework Convention on Climate Change. HFCs were alternatives to ozone-depleting substances encouraged by the Montreal Protocol, but controlled by the Kyoto Protocol. The Panel had recommended quantification of direct chemical emissions and related indirect fuel use emissions using life-cycle climate performance. He said that Parties could protect the ozone layer and climate further by encouraging energy-efficient not-in-kind and low-global warming potential HFCs; discouraging the use of high-global warming potential HFCs; minimizing manufacture, use and end-of-life emissions; accelerating phase-outs of ozone-depleting substances; containing, recovering, reusing and destroying banks of ozone-depleting substances; and implementing controls on currently exempted process-agent, feedstock, laboratory, analytical and essential uses.

31. He said that information had been supplied on organizational issues, including the latest budget request and the positions available on the Panel and its committees. The Panel requested a total of \$100,000 for travel and meeting expenses for experts from Parties not operating under paragraph 1 of Article 5 who were critical to completing work assigned by Parties and whose participation would not otherwise be funded. In 2008, the Panel was seeking a co-chair for the Halons Technical Options Committee from a Party operating under paragraph 1 of Article 5 or with an economy in transition, experts in nutsedge control, orchard replant, forestry and nursery propagation for the Methyl Bromide Technical Options Committee and experts in aviation fire protection for the Halons Technical Options Committee.

32. Following the presentation, panel members responded to various requests for clarification on specific points. Representatives had raised such issues as emissions associated with feedstock applications, the consideration of inventories in the evaluation and recommendation of requests for critical-use exemptions and progress in the development and application of alternatives to methyl bromide.

33. In response, the co-chairs of the various technical options committees supplied further detail on the methods by which the figures presented had been derived.

34. One representative, commenting on the seeming lack of progress in finding alternatives to the use of methyl bromide for the fumigation of high-moisture dates, requested the issue to be given greater priority. One of the co-chairs responded that the issue was receiving significant attention, citing the recent meeting in Egypt under the auspices of the United Nations Industrial Development Organization and a funded project in Algeria and Tunisia that would serve as a model for other countries.

35. In relation to the transition to CFC-free inhalers for asthma alleviation, one representative commented on the issue of patient protection during that transition and on the differences between prescription and over-the-counter medication in terms of cost to the patient.

36. In response to a question as to the date of the final campaign for metered-dose inhalers, one of the co-chairs explained the difficulties and disadvantages of too rigid an approach and suggested that a period of 12 months after the completion of a project was ample for further conversion and for transition to conversion products.

37. Responding to a request for further information on the essential-use nomination by the Russian Federation, one of the co-chairs explained that a site visit, which should have been undertaken by February 2008, would in fact take place in the near future.

B. Review of nominations for essential-use exemptions for 2009 and 2010

38. Following an introduction of the item by the Co-Chair, the representative of the United States set out progress made in terms of essential-use exemptions for metered-dose inhalers in his country during recent years, noting that there had been a reduction of more than 95 per cent since the essential-use nomination process had begun. Where stocks of CFCs were concerned, he said that the issue should be considered on a manufacturer-by-manufacturer basis, as the goods were held by a range of manufacturers. On the issue of essentiality, he explained that domestic action was being taken to determine which drugs for CFC metered-dose inhalers were permitted for sale in the country. While the Medical Technical Options Committee had noted that there were alternatives to epinephrine, the United States representative pointed out that none were available without a prescription, meaning that patients would have to visit a physician to be prescribed them. As a consequence, he warned of the potential problems that a removal of the exemption for the drug could pose to uninsured patients. He requested consultations with the co-chairs of the Medical Technical Options Committee.

39. With regard to the essential-use nomination by the Russian Federation for aerospace purposes, the Co-Chair proposed, in view of the postponement of the site visit to that country, and the Working Group agreed, to suspend consideration of the item until further information was available.

C. Summary of scoping study addressing alternatives to hydrochlorofluorocarbons in the refrigeration and air-conditioning sectors in Parties operating under paragraph 1 of Article 5 (decision XIX/8)

40. Following the introduction of the item by the Co-Chair, Mr. Kuijpers said, in response to a question raised earlier, that the Panel was well aware that high ambient temperatures signified increased energy consumption. He explained that the scoping study had not been finished in time for

consideration at the current meeting, given that many experts were working without funding to explore all possible options, but that the Panel and its Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee would do their utmost to provide more detail during the Twentieth Meeting of the Parties in November 2008. He also said that there would be consultations with relevant design engineers and the affected countries on the provision of further technical information. That would in particular concern South Africa in the case of deep mines.

41. The representative who had raised the original question, while welcoming the response, suggested that, if financial difficulties were impeding progress in the matter, funding should be made available from the Multilateral Fund.

D. 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)

42. Following the introduction of the item by the Co-Chair, one representative, while noting that many countries had made provision to meet their halon needs, said that countries could still encounter shortages if they did not properly manage their halons by using, for example, banks established with the assistance of the Multilateral Fund. She urged all Parties to provide relevant information as soon as possible, so that the study would be available for consideration at the Twentieth Meeting of the Parties.

E. Review of and recommendations on process-agent use exemptions; on insignificant emissions associated with uses; and on process-agent uses that could be added to or deleted from table A of decision X/14 (decision XVII/6)

43. Following the introduction of the item by the Co-Chair, one representative noted that many countries had failed to supply information on, among other things, the use of controlled substances as process agents, as required by decision X/14. She noted that such failure to supply information was hampering the Panel's work and urged all Parties to comply with the relevant decision and thereby enable the Chemicals Technical Options Committee to undertake a review of process-agent uses.

44. One representative wished to add further substances to table A and suggested that informal consultations be held on that matter. Another representative deemed such a step to be unnecessary, given that the country concerned was to deal with the three process agents in question without additional funding. He suggested that, since decision XVII/6 referred to an every-other-year schedule, no modifications should be made to table A until 2009. The Co-Chair suggested, and the Working Group agreed, that the relevant representatives should hold informal consultations and report back at a later date with a solution or proposal.

F. Final report on carbon tetrachloride emissions and opportunities for reductions (decision XVIII/10)

45. Introducing the item, the Co-Chair said that in 2006 the Technology and Economic Assessment Panel had presented, in response to decision XVI/4, a report reviewing emissions of carbon tetrachloride and potential methods to reduce those emissions. The Parties had requested more information on emissions and the related uncertainties, and the Panel delivered a presentation on the matter at the current meeting.

46. Mr. Jose Pons Pons, Co-Chair of the Technology and Economic Assessment Panel, presented the findings of the Panel's 2008 task force on carbon tetrachloride emissions. He explained that production and consumption assessments were more difficult for carbon tetrachloride than for other ozone-depleting substances because it had extremely important feedstock uses. It was possible to work with the raw data on production reported by Parties to the Ozone Secretariat. Global production estimates enabled a calculation and comparison of the bottom-up estimate of emissions with the top-down estimate that was presented in the 2006 scientific assessment. The task force found that the carbon tetrachloride production in 2006 was almost 200,000 metric tonnes, of which feedstock use accounted for 161,000 metric tonnes. The emissions levels calculated by the Scientific Assessment Panel amounted to some 70,000 metric tonnes, or 34 per cent of total production, representing an irreconcilable discrepancy with the figures arrived at by the task force.

47. Other significant findings reported were that both production and emissions of carbon tetrachloride to the atmosphere had remained approximately constant during the last years, that new

feedstock uses of carbon tetrachloride had compensated the reductions in use that resulted from the phase-out of CFCs and that the volume of non-feedstock applications of carbon tetrachloride was declining.

48. He indicated that explanations for the discrepancy between emissions estimates included the possibility that some production may not have been reported, that inadvertent emissions or production could have been larger than expected and that not all chemical plants had the same degree of emission controls. It was expected that work to relate atmospheric carbon tetrachloride concentration with geographic location of emission sources could help to solve that problem.

49. During the ensuing discussion some representatives expressed the hope that further progress would be made, before the Twentieth Meeting of the Parties, in explaining the high percentage of carbon tetrachloride emissions and the patterns of feedstock uses noted in the report. One representative requested the Panel to prepare a comprehensive list of feedstock uses for carbon tetrachloride. The representative of the Panel said that such a task was possible but it should be borne in mind that feedstock uses for carbon tetrachloride were of a much greater magnitude than for other substances.

G. Report on n-propyl bromide emissions and alternatives, and opportunities for reductions (decision XVIII/11)

50. Introducing the item, the Co-Chair recalled that by decision XIII/7 the Parties had requested the Technology and Economic Assessment Panel to report annually on n-propyl bromide use and emissions, and a discussion of that issue was contained in the 2008 progress report.

51. The representative of the European Union and its member States said that previous reports of the Scientific Assessment Panel and the Technology and Economic Assessment Panel had shown evidence of a contribution of n-propyl bromide to ozone depletion. He expressed concern that n-propyl bromide was being marketed as a substitute both for ozone-depleting and non-ozone-depleting substances in many applications, and said that the European Community, with the support of Norway and Switzerland, had proposed a draft decision that would add n-propyl bromide to the list of controlled substances under the Montreal Protocol during the next amendment of the Protocol, and would request Parties to discourage the production and marketing of n-propyl bromide as a substitute for ozone-depleting substances, to restrict its use when alternatives were available, and to report available information.

52. Several representatives said that listing n-propyl bromide as a controlled substance was not appropriate at the current time, as there was insufficient information on its impact on the ozone layer, its uses or the availability of alternatives. One representative said that the Nineteenth Meeting of the Parties had included very short-lived substances, including n-propyl bromide, in the terms of reference for the assessment panels' quadrennial reports for 2010, and that was the correct vehicle for review of the substance.

53. It was decided that consideration of n-propyl bromide should be postponed.

54. At a subsequent session, the representative of the European Union, supported by Norway and Switzerland, submitted a draft decision on very short-lived halogenated substances. Introducing the draft, he said that, as for n-propyl bromide, the Scientific Assessment Panel had reported in 2006 that the contribution of very short-lived halogenated substances to stratospheric ozone depletion was greater than had previously been estimated. There was therefore a need to encourage Parties to report data concerning production and consumption of very short-lived halogenated substances and to discourage the promotion and marketing of those substances.

55. One representative, supported by another, said that the Scientific Assessment Panel, during its lifetime, had on several occasions provided to the Parties analyses of short-lived and very short-lived substances, and the Parties had on each occasion chosen not to take any action. In addition, the Scientific Assessment Panel, in its most recent report in 2006, had said that the data available indicated that the role of very short-lived halogenated substances in stratospheric ozone depletion was very small. Finally, he said that such substances should be considered by the Parties within a coordinated framework, rather than separately.

56. Another representative said that, as already decided by the Meeting of the Parties, such substances were currently best dealt with under the quadrennial reports for 2010 being prepared by the assessment panels.

57. As no consensus was reached on the matter, the Co-Chair suggested that further consultations should be undertaken before deciding how to move the issue forward.

H. Review of nominations for critical-use exemptions for 2009 and 2010

58. Mr Ian Porter, co-chair of the Methyl Bromide Technical Options Committee, opened the presentation on behalf of the Technology and Economic Assessment Panel and the Methyl Bromide Technical Options Committee. The Committee had divided its presentation on critical-use nominations for methyl bromide into three sections, presented by the Committee's co-chairs, followed by a presentation by the Panel.

59. Introducing the 2009–2010 critical-use nominations for methyl bromide, he said that the overall consumption of methyl bromide had declined considerably for controlled uses, from 64,000 tonnes in 1991 to 16,400 tonnes in 2006, of which 7,100 tonnes were accounted for by Parties operating under paragraph 1 of Article 5 and 9, 375 tonnes by Parties not so operating. In addition, the reported consumption for quarantine and pre-shipment purposes was approximately 10,000 tonnes, although it was acknowledged that not all use might have been reported.

60. He said that trends in reductions of methyl bromide used for critical uses had declined since 2005, from 16,050 tonnes to approximately 5,000 tonnes in 2010, although reductions by the remaining five Parties seeking critical use exemptions (Australia, Canada, Israel, Japan and the United States) had varied. Three Parties previously seeking critical use exemptions (European Community, New Zealand and Switzerland) had ceased submitting critical-use nominations.

61. Australia had nominated 38 tonnes for 2010, Canada 36 tonnes for 2009 and 2010, Israel 717 tonnes for 2009, Japan 289 tonnes for 2010, and the United States 3,999 tonnes for 2010. Noting that methyl bromide stocks reported by Parties had totalled 6,720 tonnes at the end of 2007, he explained that those amounts had not been taken into account when evaluating critical-use nominations and that that was a matter for the Parties to consider.

62. Finally, he reported that interim recommendations of 613 tonnes for 2009 and 3,404 tonnes for 2010 had been put forward.

63. Ms. Marta Pizano, co-chair of the Subcommittee on Soils, presented an overview of the 31 critical-use nominations for pre-plant soil use, down from 35 in the last round. Twelve nominations had been submitted for 2009 and 19 for 2010. All nominations were for one year only and there were no Parties submitting nominations that had not previously done so. Israel, Japan and the United States, the remaining Parties submitting nominations, had done so for several sectors. She reported on significant progress achieved in phasing out methyl bromide for soils uses, drawing attention, in particular, to the notification from the European Community that its member States would no longer be submitting critical-use nominations for any use in any member State and to a notification from Japan to the effect that it would phase out methyl bromide for soils uses entirely by 2013.

64. She reported that Israel and the United States had applied for critical-use exemptions for a number of pre-plant uses, including tomatoes, strawberries, ornamental plants, peppers and strawberry runners and nurseries. The subcommittee had been able to make recommendations for all critical-use nominations submitted for both 2009 and 2010 and had not had to relegate any of them to the "unable to assess" category. Of the 697 tonnes nominated for 2009, 608 had been recommended and 88.5 not recommended. Of the 4,042 tonnes nominated for 2010, 3,167 had been recommended and 875 not. The subcommittee had recommended less than the nominated amount when the dosage rates proposed in the nominations had been higher than those contained in standard presumptions set forth by the subcommittee; when alternatives had been available (in which case transition rates between 0 and 33 per cent were applied, depending on the circumstances of the nomination); or when new alternative products had become registered.

65. She also reported that, for the period 2007–2008, registration had been obtained for one year in the United States for a key alternative, a methyl iodide-chloropicrin mixture, considered a one-to-one substitute for methyl bromide. A phase-in period was applied for specific uses, pending the continuing registration of that product. Finally, the Methyl Bromide Technical Options Committee urged Parties to consider the further adoption of barrier films that would be conducive to reductions in the amount of methyl bromide used, in future nominations submitted for key sectors in Australia, Canada, Japan and the United States.

66. Ms. Marcotte reported that the Methyl Bromide Technical Options Quarantine, Structures and Commodities Subcommittee had a sense of optimism about the continued decreasing use of methyl

bromide in the post-harvest sector. In the 2008 round, there had been five structural critical-use nominations, each requesting decreased use of methyl bromide, compared to six in 2007. There had also been four commodity critical-use nominations in 2008 covering seven commodity types, compared to, in 2007, 16 commodity critical-use nominations covering 10 commodity types. In addition to the 451.178 tonnes of methyl bromide approved by the Parties in 2007 for post-harvest uses, Parties had nominated an additional 8.467 tonnes for 2009. In its interim report the Methyl Bromide Technical Options Committee had recommended 4.4 tonnes. Parties had also nominated 313.341 tonnes for 2010; while, as of its 2008 spring progress report, the Methyl Bromide Technical Options Committee had recommended 237.117 tonnes.

67. Australia had nominated 7.83 tonnes for rice in 2010, which had not been recommended because the Methyl Bromide Technical Options Committee was concerned that there was no adoption of alternatives in the sector. Canada had nominated 22.878 tonnes for flour mills but the Committee had been unable to undertake an assessment and had requested the Party to clarify its nominated amount based on only one methyl bromide fumigation per year. Canada had also corrected its nomination for pasta for 2009, reducing its original nomination from 6.067 tonnes to 4.740 tonnes. The Committee had recommended that 2 tonnes thereof should be used in the instance of trial failure. Israel had nominated 2.1 tonnes for dates, which the Committee had recommended, thereby allowing Israel time to continue its research on varieties that were difficult to disinfect with heat. Israel had also nominated 0.3 tonnes for flour mills, which the Committee had recommended to allow Israel time to continue its transition to spot heat treatment. Japan had nominated 5.4 tonnes for chestnuts, which were recommended to allow the Party time to finalize its registration of methyl iodide.

68. The United States had nominated 43.007 tonnes for several commodity sectors in 2010. As of its spring report, the Committee could only recommend 1.984 tonnes for beans. It had been unable to undertake an assessment for dates and walnuts pending further evaluation of research and an assessment of the impact of newly published maximum residue limits on walnut trade. The use of methyl bromide for prunes had not been recommended. The United States had nominated 37.778 tonnes for food processing, which the Committee had recommended because the critical-use nomination appeared to indicate 2010 as the final year for transition for all the sectors included in this critical-use nomination except for cheese in storages, for which there was no alternative. The United States had nominated 191.993 tonnes for mills and processors in 2010. The Committee had recommended 187.534 tonnes to reduce the frequency of methyl bromide fumigation in some flour mills. The United States nomination reflected a 70 per cent decrease for rice mills and a 37.5 per cent decrease for pet foods, bringing the use of methyl bromide in the bakery sector to zero. The United States flour mill nomination was 23 per cent less than that granted by Parties for 2009. The Committee's recommendation would result in a reduction of approximately 24.25 per cent for 2010 in comparison with 2009. The United States had nominated 4.465 tonnes for its regional cured pork product in 2010, a 14 tonne decrease. The Committee recommended that amount because no alternative was registered.

69. Lastly, Mr. Andersen, co-chair of the Technology and Economic Assessment Panel, put forward three issues for further consideration by the Parties that had arisen from the assessment of critical use nominations carried out by the Methyl Bromide Technical Options Committee.

70. He explained that, in respect of some nominations, there was insufficient evidence that appropriate efforts had been made to evaluate, commercialize and secure national regulatory approval of alternatives and substitutes in the year preceding the nomination. Such efforts included the conduct of trials, review of regulatory barriers to the adoption of alternatives, and others.

71. He said that particular treatments had been classified as quarantine and pre-shipment applications by some Parties, but might not be so classified under decisions VI/11, VII/5 and XI/12. The Technology and Economic Assessment Panel had recommended clarification of quarantine and pre-shipment classification in its previous reports, including the 1999 report. The issue was also explored in a leaflet entitled "Methyl Bromide: Quarantine and Preshipment Uses", jointly published by UNEP and the International Plant Protection Convention. He suggested that Parties might wish to review that classification and take appropriate action, such as requiring nomination for critical use, for applications that were not considered to be quarantine and pre-shipment uses.

72. He confirmed that, in many sectors, complete phase out was now possible, but transition rates were slowed by specific regulatory and commercial barriers, such as registration, certification regulations, buffer zones, lack of maximum residue levels for food commodities and the excessively protracted registration of key alternatives preventing transition. Accordingly, he suggested that, as with the phase-out of CFC-based metered-dose inhalers, Parties might wish to consider the advantages of

requiring action plans that described the steps necessary to achieve a final phase-out. In that context, he noted that Japan had developed an action plan to phase out all critical uses for soil treatment by 2013.

73. Following the presentation, the Co-Chair noted that additional and detailed information on the initial findings and recommendations of the Technology and Economic Assessment Panel were found on pages 93–150 and 151–210 of the Panel's 2008 progress report and in summarized form in the Secretariat's note on issues for discussion by the Working Group (UNEP/OzL.Pro.WG.1/27/2/Add.1 and Corr.1). The Co-Chair suggested that Parties should follow the practice adopted at previous meetings and merely raise questions on the report rather than debate individual nominations, as nominating Parties were still consulting with the Committee through bilateral discussions.

74. In the ensuing discussion, many representatives drew attention to the progress that they and other Parties had made in eliminating or significantly reducing the use of methyl bromide. A number observed that such success demonstrated the increasing availability of alternatives, while others expressed concern regarding the slow transition in some sectors and countries. Several representatives noted with concern the continuing presence of excess stockpiles of methyl bromide and requested the Panel to take all stocks into account when considering critical-use nominations. One representative suggested that countries requesting relatively large amounts of critical-use exemptions should submit transitional reports on the measures that they were adopting to deal with the problem.

75. A number of representatives stated that the Technology and Economic Assessment Panel had failed to take into account important national circumstances when considering their nominations. Several expressed significant concern at what they believed were serious substantive, methodological, technical and procedural errors made by the Panel and its Methyl Bromide Technical Options Committee in their consideration of critical-use exemptions, including, among others: a lack of transparency in the development and use of their meta-analysis and other aspects of their work; using generic rather than country-specific analysis; introducing inappropriate consideration of issues that were the responsibility of the nominating Party; offering policy analysis in the absence of direction from the Parties; delays in providing clarifying information to applicants; holding separate subgroup meetings that might prevent full discussions of all issues among all members of the Methyl Bromide Technical Options Committee; and adding a fifth co-chair to that committee without prior authorization from the Meeting of the Parties. Several representatives said that they could not support the addition of a fifth co-chair.

76. The representative of a non-governmental organization expressed the view that the Parties had assigned the Technology and Economic Assessment Panel the responsibility to assist them in evaluating critical-use nominations and that the rules adopted by the Parties made it clear that such nominations would not automatically receive support from the Panel or approval by the Parties. Noting that one Party currently accounted for 92 per cent of all critical-use nominations and that other Parties with similar uses and operating in similar conditions had successfully managed to reduce or eliminate the need for methyl bromide, he requested all Parties to observe the procedures and spirit of decision IX/6.

77. In response to specific questions posed by the representatives, one of the co-chairs of the Methyl Bromide Technical Options Committee explained that the Technology and Economic Assessment Panel was required to report on stocks but that it was up to the Parties to decide how stocks should be handled in relation to critical-use nominations. He also clarified that the Panel spent a great deal of effort considering all relevant alternatives when considering a particular critical-use nomination. The co-chair of the Technology and Economic Assessment Panel explained in detail the circumstances surrounding the possible addition of a fifth co-chair for the Methyl Bromide Technical Options Committee, noting that the decision had been taken in good faith and to enhance the work of the committee but that, given the concerns expressed and if it were the preference of Parties that he should not continue as a co-chair of the Methyl Bromide Technical Options Committee, Mr. Jonathan Banks would revert to the role of chair of the quarantine and pre-shipment task force.

78. One Party expressed the concern that the issues raised about a fifth co-chair of the Methyl Bromide Technical Options Committee could potentially destabilize the work of the Committee and, consequently, related decisions. Its representative called on the relevant interested actors to resolve the issue without delay, thereby also ensuring that the Committee could focus on its key task, which was to provide sound and independent advice in the most efficient manner possible.

79. The Working Group noted that bilateral discussions would take place between the Parties and the Panel on outstanding issues.

I. Other issues arising out of the Technology and Economic Assessment Panel reports

1. Essential uses and campaign production of metered-dose inhalers

80. Introducing the item, the Co-Chair recalled that by decision XVIII/16 the Parties had requested the Technology and Economic Assessment Panel to report to the Open-ended Working Group at its twenty-seventh meeting on its progress in assessing the need for, feasibility of, optimal timing of, and recommended quantities for a limited campaign production of CFCs exclusively for metered-dose inhalers in Parties operating under paragraph 1 of Article 5 and those not so operating. Further consideration of the matter had been deferred to the current meeting and the Panel's 2008 report had recommended that the Parties consider a campaign production run during 2011, with a production of between 1,000 and 2,000 tonnes, excluding China, viewed as sufficient to meet requirements until the transition to CFC-free metered-dose inhalers was completed.

81. Several representatives drew attention to the potential non-compliance difficulties being faced by some Parties operating under paragraph 1 of Article 5 manufacturing metered-dose inhalers that used CFCs, owing to a number of factors, including the relative cost and availability of alternatives; barriers to technology transfer; the length of the project cycle for conversion of manufacturing processes; delays in the development of transition strategies; and uncertainty regarding the applicability of the essential-use process to the situation.

82. The Co-Chair proposed, and the Working Group agreed, to establish an open-ended contact group, to be chaired by Austria and India, to consider all aspects of the issue.

83. Following the discussions in the contact group, the co-chairs of the group submitted a summary report on the group's work, which is contained in the annex to the present report.

2. Administrative issues relating to the Technology and Economic Assessment Panel

84. Introducing the item, the Co-Chair said that the Technology and Economic Assessment Panel progress report had described its continued efforts to minimize costs and, in that regard, was reviewing the membership of some of its technical options committees, while at the same time maintaining appropriate expertise on relevant issues. He also noted that the Panel had requested emergency funding of \$100,000 per year for 2008 and 2009 to cover the travel of members from Parties not operating under paragraph 1 of Article 5 and miscellaneous meeting expenses.

85. Regarding the Methyl Bromide Technical Options Committee, the Panel reported that its two subcommittees could meet separately, which would have the advantage of minimizing costs and facilitating important field visits. Regarding the Medical Technical Options Committee, the Panel noted that its work was likely to diminish after 2011 as the volume of essential-use requests decreased and that further consolidation of the Panel's structure, particularly in relation to its committees, could be considered at that time. Lastly, in terms of membership, the Panel noted that it was seeking, in particular, a co-chair for the Halons Technical Options Committee from a Party operating under paragraph 1 of Article 5, an expert in nutsedge control, orchard replant, forestry and nursery propagation for the Methyl Bromide Technical Options Committee (Soils Subcommittee), experts in aviation fire protection for the Halons Technical Options Committee and experts in the manufacture of metered-dose inhalers from Parties operating under paragraph 1 of Article 5.

86. Two representatives expressed strong objections to the prospect of separate meetings of the two subcommittees of the Methyl Bromide Technical Options Committee and the appointment of a fifth co-chair. Another representative expressed concern about reducing the number of members of the Methyl Bromide Technical Options Committee and the Medical Technical Options Committee. She suggested that, if such reduction were necessary, an appropriate balance should be struck between members from Parties operating under paragraph 1 of Article 5 and those from Parties not so operating, and that the compliance needs of Parties operating under paragraph 1 of Article 5 should be taken into consideration.

87. The Working Group noted that bilateral discussions would take place between the Parties and the Panel on outstanding issues.

IV. Report of the Executive Committee on case studies called for under decision XVII/17 on environmentally sound destruction of ozone-depleting substances (decision XVIII/9)

A. Presentation of the report and ensuing discussion

88. In considering the item, the Working Group had before it the report prepared on behalf of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol, entitled "Study on the collection and treatment of unwanted ozone-depleting substances in Article 5 and non-Article 5 countries" (OzL.Pro.WG.1/28/4).

89. Introducing the item, the representative of the Multilateral Fund Secretariat said that, by decision XVIII/9, the Meeting of the Parties had requested the Executive Committee to develop terms of reference and conduct case studies relating to the treatment of unwanted ozone-depleting substances. The study based on the terms of reference had been undertaken by a consultancy firm and the final report had been completed and was before the working group.

90. The representatives of the consultancy firm gave a presentation on the background, methodology, findings and recommendations of the report. The main objective of the study had been to develop an information resource to assist Parties operating under paragraph 1 of Article 5 to establish effective management systems for unwanted ozone-depleting substances. Information for the study had been gathered using a desk study and nine country case studies. Five main recommendations for managing unwanted ozone-depleting substances in those Parties had emerged from the study: define the scope of management; select the most appropriate management approach; ensure provision of adequate infrastructure and equipment; address cost and funding issues; and coordinate with other multilateral institutions. A questionnaire had been circulated soliciting information from all such Parties on existing infrastructure and legislation; the information obtained would be shared with the Ozone and Multilateral Fund secretariats.

91. In the ensuing discussion a number of issues were raised, to which the representatives of the consultancy firm responded. Some representatives asked whether, in recommending that construction of new destruction facilities should be avoided, the study had taken into account the cost of transporting ozone-depleting substances to distant facilities, and the carbon dioxide emissions resulting from such transport. The consultant said that such issues could be considered on a case-by-case basis, and depended on such factors as the volume of material requiring destruction. Use of existing facilities was generally preferable, where possible, from an environmental standpoint. In response to questions about the relative cost-effectiveness of destroying different types of ozone-depleting substances, he said that pilot projects were being carried out that would provide more data on that matter. Destruction of materials used in the commercial sector tended to be more cost-effective owing to the greater quantities involved.

92. There was some discussion of the economic incentives for treatment of ozone-depleting substances. Opportunities existed in the carbon trading market, but there was still limited experience of the methodology and effectiveness of such finance. Some representatives expressed the hope that resources for capacity-building to assist Parties operating under paragraph 1 of Article 5 with destruction of ozone-depleting substances would be made available in the forthcoming replenishment of the Multilateral Fund, which remained the principle source of such finance.

93. Some representatives asked what criteria had been used to select countries for the study, and what consideration had been given to the special needs of low-consumption countries, where the low volumes of materials requiring treatment made it difficult to deal with them in a cost-effective manner. The consultant said that the selection had been based on the terms of reference; the exercise had concentrated on more readily quantifiable large-volume, regional approaches; the needs of low-consumption countries were better met individually. The recommendation for a clearing house would assist in identifying the best means of dealing with smaller volumes of materials that might be quite widely scattered within countries or regions.

94. Responding to a question about coordination between strategies for management of ozone-depleting substances and the more general chemicals and waste management strategies of other international instruments, such as those of the Basel and Stockholm conventions, the consultant said that such dialogue was already occurring and its continuation was recommended in the report, although no specific procedures had been suggested.

B. Proposals by Parties

95. Representatives of the Federated States of Micronesia and Mauritius and also of Argentina presented two proposals for possible decisions and for adjustments or amendments to the Montreal Protocol to promote the safe destruction of ozone-depleting substances contained in ozone-depleting substance banks, such as refrigeration and air-conditioning systems, thermal insulating foam, stockpiles of new or recovered ozone-depleting substances and other locations.

96. The representative of Mauritius noted that his country's joint proposal with the Federated States of Micronesia was intended to deal with equipment and related ozone-depleting substances at the end of its useful life, and was designed to protect health and the environment and to reduce impacts on both climate and ozone. The importance of the issue was noted as being critical for small island States that faced a significant threat from climate change. Noting the success of the Montreal Protocol to date in tackling climate change, he suggested that further work to deal with banks could eliminate millions of tonnes of emissions at an economically feasible cost, and that the proposal was designed to provide incentives to begin destroying such unwanted material. To accomplish that, assistance from the Multilateral Fund was noted as being important in enabling countries to establish policies and to gain access to destruction facilities. In that regard, it was proposed that the list of approved incremental costs that had guided the Fund should be changed to include the destruction of ozone-depleting substance banks. He also welcomed the opportunity to take action under the Protocol to enable the immediate destruction of unwanted ozone-depleting substance banks.

97. In introducing its proposal on unwanted ozone-depleting substances, the representative of Argentina noted that her country's geographic location rendered it particularly vulnerable to both ozone depletion and sea level rise. Noting the success of the Protocol in tackling both of those issues, in addition to the studies that had demonstrated that significant environmental benefits could be attained through the destruction of ozone-depleting substance banks, she noted both the importance of economic incentives in the development of appropriate strategies, and the need for financial and technical support from the Multilateral Fund to facilitate destruction. She also noted that her proposals called for measures to offset the allocation of exempted material through destruction, a provision which would, in time, apply to Parties operating under paragraph 1 of Article 5. Without action, she said, most banks would be released to the atmosphere by 2050, meaning that the forthcoming Meeting of the Parties would need to take swift action.

98. The European Community, also speaking on behalf of the European Union and its 27 member States, informed Parties that, at a later stage during the current meeting, it would introduce a proposal for a draft decision on the management of banks. The proposal would aim to deal with a number of issues associated with the management of ozone-depleting substance banks and the actions that could be undertaken in that regard.

99. All representatives who spoke on the issue noted the environmental importance of tackling the problem of banked ozone-depleting substances and many cited the need to act quickly if releases from these sources were to be prevented, the positive impacts that such steps would have on both protecting stratospheric ozone and tackling climate change, and the availability of cost-efficient and technologically feasible options. Many representatives expressed support for the specific proposals under discussion. Many representatives, including a number that spoke in support of the proposals, also conceded that the subject involved a complex and interrelated set of issues that would need to be explored fully before a final decision on the matter could be reached. The Co-Chair proposed, and the Working Group agreed, to establish an open-ended contact group, to be chaired by Canada and Mexico, to consider the two proposals, the many issues raised during the discussion in plenary, a related proposal to be introduced by the European Community, and other associated matters.

100. Following the discussions in the contact group, a summary report and a number of proposals developed by the co-chairs were submitted. These may be found in the annex to the present report.

V. Report of the Technology and Economic Assessment Panel on the replenishment of the Multilateral Fund for the Implementation of the Montreal Protocol (decision XIX/10)

101. The report of the replenishment task force of the Technology and Economic Assessment Panel was introduced by Mr. Jose Pons Pons, a member of the task force. He said that, in its report, the task force had estimated the total funding requirement for the Multilateral Fund for the triennium

2009–2011 in the range of \$343 million–\$640 million and he explained the parameters and the methodology used in determining that wide range. Outlining the content of his presentation, he presented the composition of the replenishment task force and the timeline for the completion of the report. He then reviewed the relevant texts of decision XIX/10 on the replenishment and of decision XIX/6 on adjustments to the Montreal Protocol with regard to Annex C, Group I, substances (hydrochlorofluorocarbons), which defined the accelerated HCFC phase-out schedules and requested the Executive Committee to give priority to environmental aspects in conversion projects, including climate.

102. Following those elements he presented a comparison of the funding requirement as determined by the task force for the triennium 2006–2008 in the year 2005 (\$419.4 million), and the numbers currently anticipated by the task force (\$427.1 million). That difference, he said, could be considered strikingly small. A summary of the funding for non-HCFC ozone-depleting substance activities for the period 2009–2011, which included consumption and production phase-out plans, metered-dose inhaler conversion projects, carbon tetrachloride and methyl bromide investment projects, gave a total of \$83.7 million.

103. Following that introduction, Mr. Kuijpers, co-chair of the replenishment task force, focused on all issues related to HCFCs. He mentioned that data reported under Article 7 for 2000–2006 were taken as a starting point for extrapolations, as the data from other sources, such as the HCFC data presented in the Panel's special report on ozone and climate (2005) and the HCFC surveys, including that for China, presented shortcomings and could not be used to extrapolate reliably HCFC consumption levels for the post-2006 period. The report by the replenishment task force presented HCFC-22, HCFC-141b and HCFC-142b as the only relevant HCFCs; HCFC-123, HCFC-124, and HCFC-225 had not been considered since quantities under Article 5, expressed in ODP tonnes, were extremely small. He stressed that, in larger consuming countries operating under paragraph 1 of Article 5, HCFC-141b accounted for 40 per cent of the total consumption in ODP tonnes, and that HCFC-142b consumption levels were rapidly growing from virtually zero in 2000 to high consumption levels in several Parties operating under paragraph 1 of Article 5.

104. The task force had defined four groups of Parties on the basis of specific 2006 consumption levels: the first was very large, totalling more than 15,000 ODP tonnes (China); the second was moderately large, totalling 7,000 ODP tonnes (17 Parties); the third was somewhat smaller, totalling 1,000 ODP tonnes (34 Parties); and the fourth was small, totalling 150 ODP tonnes (83 Parties). In metric tonnes, HCFC consumption in 2006 under Article 5 amounted to over 300,000 tonnes. He noted that 95 per cent of 2006–2010 HCFC consumption would be in Parties of the first and second groups, and that 70 per cent would be in the first group only. For the years subsequent to 2006, separate consumption for HCFC-22, HCFC-141b and HCFC-142b had been extrapolated via a statistical "least squares" method for each of the four groups of Parties, as well as per Party in the first and second groups. The extrapolated values for 2007–2012 showed much smaller growth percentages, nevertheless, the total consumption of 25,000 ODP tonnes in 2006 could well grow to 32,000 ODP tonnes in 2012.

105. He said that, although the Executive Committee had approved HCFC phase-out management plan guidelines in April 2008, the task force report was unable to use any insight from the country-based plans since they would be in preparation during the coming two years. He explained the impact of possible cut-off dates and second conversions, which were defined as conversions of equipment that had already been acquired with financial support from the Multilateral Fund. Early cut-off dates, such as the years before 2003, would affect funding requirements, since the number of eligible conversions would be relatively small. Cut-off dates around 2005–2007 would yield ample production capacity available for consumption reduction. The task force had not, however, considered those issues since clear guidance had been lacking. In the task force report, funding requirement calculations had been based on costs of conversion per metric kilogram of HCFCs, instead of the cost per ODP kg. Two parameters had been used in funding calculations: funding of a particular consumption level, being either the baseline or the 2012 consumption level, and a particular cost-effectiveness factor, in which factor either zero or two years funding of operating costs was assumed.

106. He mentioned that, in the event that only funding for the baseline level was assumed, no funding would be needed to achieve the 2013 freeze; funding would however begin to be required for the 10 per cent reduction step in 2015 years before, owing to the implementation period of projects. He also explained that, for the foams sector, cost-effectiveness factors were based on various types of conversions away from HCFC-141b and HCFC-142b; mix of replacements in countries and in companies yielded an average cost-effectiveness. Following that approach, the issue of climate impact had been considered automatically. The same would apply to the refrigeration and air-conditioning

subsectors, where a mix of conversions to high and low global warming potential refrigerants (with each having particular energy efficiencies) would determine the cost-effectiveness factor and would automatically take into account a certain reduction of greenhouse gas emissions.

107. He noted that servicing was important for all countries operating under paragraph 1 of Article 5 for achieving compliance, but particularly for low-consumption Parties. In the task force report, cost estimates had been made for tackling the servicing sector, using the Multilateral Fund's experience in funding refrigerant management plans, national phase-out plans, terminal phase-out management plans through such measures as the setting up of legal and technical frameworks and the training of various groups of people. The task force report gave \$63 million as the sum required for the triennium 2009–2011 to realize the first 10 per cent reduction step in 2015, with smaller amounts in the trienniums thereafter.

108. Ms. Zhang Shiqiu, co-chair of the replenishment task force, continued the presentation, pointing out that the HCFC-141b and HCFC-142b production phase-out had been adopted in parallel with the consumption phase-out of those chemicals. Funding of their production phase-out was not to begin until 2012, while the production phase-out of HCFC-22 would begin after 2014. Plants that were used to produce HCFC-22 for emissive uses could cover increasing feedstock production of HCFC-22. She mentioned that only HCFC production plants in China were likely to be eligible for financial phase-out assistance; plants in other Parties operating under paragraph 1 of Article 5 were not likely to be eligible for financial assistance using the current type of Multilateral Fund phase-out agreements. Based on experience, \$3 per kg had been used to calculate the funding requirement for production phase-out. The Protocol had not yet financed emissions reduction measures; it would however be highly desirable to fund disposal and destruction in the triennium 2009–2011, because after 2012–2014 CFC banks would have leaked away. Where it concerned the funding requirement, she mentioned that the task force had used the figure of 1,500 tonnes to be destroyed per year, at \$6 per kg, which would result in a funding requirement of \$27 million for destruction in the triennium 2009–2011. She detailed the elements considered to be supporting activities and subsequently summarized the funding requirement for those activities as being \$92.0 million, \$100.1 million and \$104.8 million for the triennium 2009–2011 and the two trienniums thereafter, respectively.

109. In conclusion, she summarized the elements for the funding requirement for the triennium 2009–2011, which consisted of two ranges, owing to either baseline or 2012 consumption level funding and two cost-effectiveness factor combinations. The ranges reported for the triennium 2009–2011 were \$342.8 million–\$392.3 million and \$518.3 million–\$639.8 million. She also reported on the indicative funding requirement ranges for the trienniums 2012–2014 (\$421 million–\$636 million) and 2015–2017 (\$536 million–\$658 million), and noted that the estimated funding requirement for 2009–2011 was between \$343 million and \$640 million.

110. Following the presentation, individual Parties raised a number of questions, which were subsequently answered by members of the replenishment task force. Many representatives commended the Panel on the scope and detail of its report, but suggested that some technical aspects required further exploration. General concern was expressed in response to the likely effect of recent dramatic rises in the price of crude oil affecting transport costs, high and rising inflation levels and the falling value of the United States dollar. In those contexts, many representatives suggested that the replenishment levels were too low, that ranges were too wide and that a contingency allocation should be included. Some participants queried whether the United States dollar should continue to be used as the currency of costing.

111. The representative of a non-governmental organization made a statement containing a number of recommendations on measures to accelerate the phase-out of HCFCs, in line with decision XIX/6, without resorting to HFCs, including setting phase-out dates for HFCs of 2020 for industrialized countries and 2020 for developing countries; refusal to fund HFC projects; promoting the use of natural refrigerants; safe destruction of CFC and HCFC banks; and mandatory annual reporting on n-propyl bromide production and consumption.

112. In response, one of the members of the task force said that the United States dollar would continue to be used, unless the Parties decided differently, given that all funding in the Multilateral Fund was expressed in that currency. In the case of inflation, no adjustments had been made, since the Panel had been required to work on the basis of costs as applicable at that time. The same was true, he said, of the problems relating to the rise in oil prices, which had begun to spiral sharply since 2007, when the study had been initiated.

113. Further areas of concern included the basis used for calculating the figures presented, the cost-effectiveness of the elements, the precision of baselines and cut-off dates and prioritizing the elements of the programme. Several representatives expressed concern that the levels of funding for institutional support had not been increased.

114. The Co-Chair proposed, and the Working Group agreed, that a contact group, to be chaired by Mr. Jozef Buys (Belgium) and Mr. Sateaved Seebaluck (Mauritius), should be established to identify key issues on further work to be done by the Panel for a supplementary report to be produced to enable Parties to negotiate further on the matter at the Meeting of the Parties in Doha.

115. Following the contact group's discussions, its co-chairs reported to the Working Group that the group had agreed that their deliberations should continue throughout the meeting. The group would take up the issues contained in the Panel's report at a more technical level.

116. The group of African countries submitted a proposed draft decision containing a proposal on financing institutional strengthening activities in Parties operating under paragraph 1 of Article 5 of the Montreal Protocol. The representative of Uganda, introducing the item on behalf of the group, outlined the difficulties still facing many Article 5 Parties in phasing out ozone-depleting substances. Stressing the role that the national ozone units would continue to play during the phase-out period, she said that there was a need for an incremental adjustment for funding of institutional strengthening under the replenishment of the Multilateral Fund for the period 2009–2011, particularly given the inflationary and exchange rate pressures currently affecting funding allocations.

117. A number of representatives expressed support for the draft decision. Several representatives, while recognizing the major role of the national ozone units in helping Parties meet their compliance obligations, noted that the issue of institutional strengthening was being reviewed by the Technology and Economic Assessment Panel, at the request of the Executive Committee, and was also being considered by the contact group on replenishment, and were therefore of the view that there was no need for further consideration of the matter outside those forums.

118. The Co-Chair suggested, and the Working Group agreed, that the draft decision should be forwarded in its current form to the Twentieth Meeting of the Parties for further consideration. One representative said that an unfortunate precedent would be set if proposed draft decisions on issues under consideration by the replenishment contact group were allowed to proceed in a process external to that group. At a subsequent session, the representative of the group of African countries said that, in the group's opinion, the matter had been adequately dealt with by the contact group and it had therefore decided to withdraw its proposal for a draft decision. Accordingly, the Working Group agreed that the draft decision would not be forwarded to the Meeting of the Parties.

119. Following the discussions by the contact group, the co-chairs of the group submitted a summary report on the group's work and key elements on which the Panel was invited to elaborate in its supplementary report. The summary, and the list of key elements which was approved by the Working Group, are contained in the annex to the present report.

VI. Proposed adjustments to the Montreal Protocol

120. The Working Group took up agenda item 6 in conjunction with agenda item 7, the deliberations on which are covered in chapter VII below.

VII. Proposed amendments to the Montreal Protocol

121. The representatives of Kenya and Mauritius introduced a draft decision on a proposed adjustment to the Montreal Protocol to reduce the allowance of methyl bromide produced for "basic domestic needs" in developed countries for export to Parties operating under paragraph 1 of Article 5, which had been circulated as a conference-room paper. They noted that the maximum production allowance for methyl bromide produced in Parties not operating under paragraph 1 of Article 5 to meet the basic domestic needs in Parties that were so operating now exceeded the consumption of methyl bromide by the latter Parties. Their proposal would reduce the maximum production allowance for methyl bromide basic domestic needs from 10,076 metric tonnes to 5,038 metric tonnes per year, to ensure that the supply was not substantially greater than the demand. A review of methyl bromide production for basic domestic needs would occur no later than 2010 so that the Parties could further adjust the level. Such measures were necessary to avoid potentially excessive production of methyl bromide which, if left unaddressed, could delay the adoption of available alternatives in developing

countries, undermine projects supported by the Multilateral Fund and further damage the ozone layer. The proposed adjustment, which was consistent with the suggestions of the contact group that had met during the Nineteenth Meeting of the Parties in 2007 to consider harmful trade in methyl bromide, would have no impact on the permitted uses of methyl bromide for quarantine and pre-shipment purposes.

122. During the ensuing discussion, all those taking the floor commended Kenya and Mauritius on the proposal, which they said raised important issues and provided a useful basis for further discussions. Many representatives expressed support for the proposal, noting the importance of advancing efforts to reduce the use and harmful trade of methyl bromide. One also stated that measures would have to be taken to assure that the proposed adjustment did not create harmful price pressures and that cost-effective alternatives for particular uses of methyl bromide were available. Another suggested adding a request to the Technology and Economic Assessment Panel to provide data on the amount of methyl bromide used globally for different applications, including quarantine uses, the doses used for particular quarantine applications and regional patterns in the use of methyl bromide.

123. Several other representatives, while noting the importance of the issue, stated that both the proposal and a number of related issues required further and more detailed discussion before an agreement could be reached. Some noted that effective and complementary licensing systems were needed by all exporters and importers of methyl bromide to ensure that such efforts would have the desired effect. One representative noted that actual production to meet basis domestic needs for methyl bromide was actually far below the maximum production allowance and suggested exploring the potential to alter the reduction schedule for the consumption of methyl bromide in Parties operating under paragraph 1 of Article 5, to match any change in the maximum production allowance.

124. The Working Group agreed that there was as yet no consensus on the proposed adjustment but that the matter should be discussed further at the Twentieth Meeting of the Parties and that informal discussions among the Parties should continue prior to that meeting.

VIII. Other matters

A. Presentation by the representative of Qatar on arrangements for the Twentieth Meeting of the Parties

125. The representative of Qatar gave a brief slide presentation on progress made in preparations for the joint eighth meeting of the Conference of the Parties to the Vienna Convention for the Protection of the Ozone Layer and the Twentieth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, to be held in Doha in November 2008. He explained that the meeting would be a paperless meeting, in which all documentation would be made available solely in electronic form. He explained that various demonstrations would be available during the current meeting and, on behalf of Qatar, welcomed the Parties to his country.

B. Amendment to decision XV/3 on hydrochlorofluorocarbons (HCFCs)

126. The representative of Australia submitted a draft decision amending decision XV/3, on the definition of States not party to the Montreal Protocol in respect of control measures on HCFCs, in the light of decision XIX/6 to accelerate the phase-out of HCFCs. The Working Group decided to forward the draft decision for consideration by the Twentieth Meeting of the Parties.

C. Reduction in methyl bromide use for quarantine and pre-shipment purposes

127. The representative of the European Community introduced a proposed draft decision that was also supported by Mexico and Switzerland, and which had been circulated as a conference-room paper, noting that use of methyl bromide for quarantine and pre-shipment purposes represented a major use of an ozone-depleting substance that remained uncontrolled under the Montreal Protocol and that methyl bromide was also a hazardous substance with potential serious human health impacts notably on workers in ports and warehouses. He explained that the aim of the proposal was to improve the knowledge base and information flow on quarantine and pre-shipment applications; to develop and implement national strategies to reduce the use of methyl bromide for quarantine and pre-shipment purposes, in line with the recent International Plant Protection Convention recommendation; and, at the

Twentieth Meeting of the Parties, to consider several options for reducing the use of methyl bromide for quarantine and pre-shipment applications and related emissions.

128. During the ensuing discussion, all those taking the floor noted the importance of the topic. Many noted that they had only just received the proposal, however, and were not in position to discuss it at the current meeting. Without prejudging their views on particular aspects of the proposal, they looked forward to reviewing the document and engaging in future discussions on the issues involved.

129. Some representatives commented further on their Governments' concern for what they viewed as unnecessarily high levels of methyl bromide use for quarantine and pre-shipment purposes. The representative of a non-governmental organization stated that, since some experts believed that methyl bromide use for quarantine and pre-shipment purposes was actually higher than commonly reported, it was now time to consider limiting the blanket exception.

130. The Working Group agreed that the time available was insufficient for a full consideration of the issue and that discussions on the issues in question would continue in the margins of the meeting and at the Twentieth Meeting of the Parties.

D. Offer by Egypt to host the Twenty-First Meeting of the Parties

131. At the closing session of the meeting, the representative of Egypt conveyed his country's offer to host the Twenty-First Meeting of the Parties. Following that offer, the representative of the United Republic of Tanzania, recalling her country's expression of interest, at the Nineteenth Meeting of the Parties, in hosting the Twenty-First Meeting, said that, subsequent to consultations with Egypt, the United Republic of Tanzania had agreed to support Egypt's offer.

IX. Adoption of the report

132. The present report was adopted on Friday, 11 July 2008, on the basis of the draft report contained in documents UNEP/OzL.Pro/WG.1/28/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

133. Following the customary exchange of courtesies, the twenty-seventh meeting of the Open-ended Working Group of the Parties to the Montreal Protocol was declared closed at 6.55 p.m. on Friday, 11 July 2008.

Annex

Summary reports by the co-chairs of the contact groups

I. Contact group on campaign production

1. As an initial step, the group began to identify important elements that could help in solving problems arising during the final phase-out of CFC-based metered-dose inhalers. Group members were of the opinion that there was a general lack of data and information to determine clearly whether a genuine need for a final production campaign would be feasible. After a comprehensive exchange of views on short and long-term problems, the group identified the following significant topics and questions (the list served as an agenda for the meetings of the contact group):

1. Elements of a campaign production:
 - (a) Ways to detect the need for a production campaign;
 - (b) Estimation of amounts of CFCs necessary to be produced;
 - (c) Strategies to avoid overproduction and insufficient production;
 - (d) Policy options.
2. Guidance to the Implementation Committee on Bangladesh's potential non-compliance
3. Essential-use process:
 - (a) Adequacy of the current regime;
 - (b) Guidance for essential-use applications for Parties operating under paragraph 1 of Article 5;
 - (c) Time frame;
 - (d) Awareness-raising.

A. Campaign production

2. The group was of the opinion that, in view of the lack of data and information, the Technology and Economic Assessment Panel could be requested to assess the amounts of CFCs required, consistent with decision IV/25 and possible essential-use applications submitted by Parties operating under paragraph 1 of Article 5. In that process the Panel should liaise with the Parties concerned and implementing agencies of the Multilateral Fund. The group observed that the quantities of non-pharmaceutical-grade CFCs should be minimized and destroyed.

3. Various views were expressed by the group on how to conduct and organize a campaign that would take into account ownership of material produced, storage and the logistical problems of supply and minimization of amounts for destruction.

B. Guidance to the Implementation Committee on Bangladesh's potential non-compliance

4. Bangladesh was seeking guidance on its potential non-compliance with CFC phase-out regulations that had been caused by difficulties associated with manufacturing metered-dose inhalers that used CFCs. The representative of Bangladesh observed that the matter had been reported to the Implementation Committee for a possible non-compliance decision. He subsequently submitted an informal paper to the group explaining a possible solution that the Parties could consider. In the ensuing discussion the group advised Bangladesh to sign quickly the agreements with UNDP and UNEP so that the projects approved by the Executive Committee could be implemented without further delay. Bangladesh had indicated to the group that it would be signing the pending contracts within the next two months. The Party was also requested to submit data to the Secretariat in accordance with Article 7 of the Protocol. The Implementation Committee would review the reported information at its next meeting, taking into account decision XVIII/16, and recommend appropriate action to be taken.

C. Essential-use process

5. It was acknowledged that the essential-use process was extremely detailed, demanding and time-consuming, and, as such, the group expressed some urgency in tackling the issue. It was also noted that Parties operating under paragraph 1 of Article 5 might not be fully familiar with the application process that was required to enable the evaluation of information submitted by Parties. A consensus emerged that the current essential-use regime based upon decision IV/25 should be extended to Parties operating under paragraph 1 of Article 5.

6. It was also mentioned that there might be a need to review the handbook on essential uses to meet the requirements of Parties operating under paragraph 1 of Article 5. One Party provided examples of new information to be included in the essential-use application, which included submission of a phase-out strategy with indicative phase-out dates and volumes of CFCs, information on stocks and type of CFCs, information on prices of CFC metered-dose inhalers and available alternatives, and the situation of local manufacture compared to imported products. Essential-use nominations should be submitted for assessment by the Medical Technical Options Committee. The group said that the Medical Technical Options Committee should take into account the short time available for impending essential-use nominations, which had a deadline of 31 January 2009, and bear in mind unforeseeable circumstances when considering phase-out strategies, and suggested that the Medical Technical Options Committee might need to provide short-term technical support for those submissions. Parties not operating under paragraph 1 of Article 5 indicated that technical support could be provided to Parties that were so operating, to enable them to prepare applications for essential-use nominations.

D. Way forward

7. The group agreed that the Ozone Secretariat should carry out a review of all relevant decisions on essential uses in order to extend their applicability to essential-use nominations submitted by Parties operating under paragraph 1 of Article 5. A report by the co-chairs would be posted on the Secretariat's website for Parties to provide their comments by 15 September 2008. Subsequently, the co-chairs would endeavour to prepare a draft decision regarding essential-use applications for Parties operating under paragraph 1 of Article 5 for consideration by the Twentieth Meeting of the Parties in Doha in November 2008.

II. Contact group on destruction and banks

Introduction

1. There is general consensus that all Parties believe that the issue of destruction and ozone-depleting substance banks is an important one and requires immediate attention and action. A contact group was formed at the twenty-eighth meeting of the Open-ended Working Group of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer to discuss the issue further and to make progress thereon.

2. Parties are invited to submit their comments on this summary report and, in particular, on the co-chairs' proposals contained therein to the Ozone Secretariat by 15 September 2008 at the latest.

A. Opening and organization of the contact group

3. The contact group was opened by the co-chairs, Mr. Agustín Sánchez (Mexico) and Mr. Martin Sirois (Canada), who welcomed the participants. After agreeing to leave the meeting open to observers, the contact group heard an initial presentation from the European Community on its new proposal on the management of banks distributed as a conference-room paper at the twenty-eighth meeting of the Open-ended Working Group. The group also had for its consideration a joint proposal from the Federated States of Micronesia and Mauritius, contained in pre-session document UNEP/OzL.Pro.WG.1/28/3/Add.1, and one from Argentina, circulated at the meeting as a conference-room paper, that had been introduced in plenary.

4. The group agreed that the discussions would be organized on the key issues that seemed to underlie all of the proposals and that had emerged from statements delivered in the plenary on the matter. The group deliberated for over six hours on those key issues that it believed would contribute to a thoughtful decision on the issue.

B. Discussion of key issues

5. Specifically, the group considered five key issues: the scope of action (e.g., the substances that should be addressed, the sectors to be covered, and the definitions of unwanted material and banks); the options for financing action; the linkages that the issue of destruction might have with other international legal agreements such as the Framework Convention on Climate Change and the Basel Convention; the environmental benefits that it was hoped to achieve; and the short and long-term policy options that were needed to deal with the issue.

C. Scope of action

6. Where scope was concerned, various views were expressed, which included:

(a) Substances to be addressed: Some members felt that only ozone-depleting substances that were no longer produced should be included. Most members of the group supported focusing on CFCs and halons which would be phased out shortly. It was thought that that approach would have the virtue of ensuring that there was no perverse incentive created to produce more of an existing substance in the hope of securing funding for its destruction. That said, some delegations thought that any programme should be aimed at helping dispose of any ozone-depleting substance that was unwanted (although that term should be more precisely defined), including HCFCs, especially since the facilities to destroy all ozone-depleting substances would be the same, and HCFC-foamed refrigerators would soon be reaching the end of their useful lives;

(b) Sectors or sources to be addressed: Most members of the group supported addressing the easiest sources first. In that context, stocks of contaminated ozone-depleting substances which had already been assembled were noted as being readily available and at risk of venting in some countries. It was also noted that refrigerants and halons were likely to be more accessible in old use systems and would therefore be more cost-effective to deal with than foams. Stocks that had resulted from confiscations were also mentioned as being readily available. The suggestion was made that reuse of such stocks should be considered before destruction if that would obviate the need for new production to meet essential or critical uses. It was suggested that consideration could be given to selling such confiscated material to another country in order to fund more compliance and confiscation efforts. Concerning banked ozone-depleting substances in used equipment, it was noted that it might be harder to gain access to those substances and that locating such banks and equipment could require surveys, support and capacity-building;

(c) In relation to scope and the environmental benefits to be achieved: It was noted that a decision on the benefits to be achieved would affect the scope of the actions contemplated. In that context, it was suggested that, if the Parties wished also to include climate benefits, they might not need to consider destroying halons as the destruction of halons was thought to yield limited or no climate benefits;

(d) The concept of unwanted ozone-depleting substances: This concept was explored and had different meanings for different delegations. Some suggested focusing on contaminated ozone-depleting substances, others thought that the term should include ozone-depleting substances in obsolete use systems. The notion that some ozone-depleting substances might be unwanted in one country but not in another was also expressed. It was noted that the scope of action would be affected by a decision by the group on the definition of the term.

7. The overall concept of the scope of action that would be necessary to address the issue was discussed, and there seemed to be general agreement that the issue needed to be dealt with in a holistic manner that included policies, regulations and incentives and that it covered recovery, collection, storage and transport.

8. Most members of the group, noting the success, efficiency and experience of the Multilateral Fund and its direct nexus to the Montreal Protocol, expressed the view that the Fund should be the primary mechanism used to provide technical and policy support to Parties operating under paragraph 1 of Article 5 in their efforts to deal with banks and the destruction of unwanted ozone-depleting substances. Given that many of those banks would need to be dealt with in the near future, those members noted that the funding currently provided for under the replenishment task force report might not be sufficient for the issues to be satisfactorily addressed.

9. Other members of the group, while not discounting the role that the Multilateral Fund might play in addressing ozone-depleting substance banks, suggested that there were a variety of other

institutions that could possibly contribute to that effort, especially as destruction would likely involve climate co-benefits. Those members felt that, at the current point in the discussions, all those options should be kept at least for consideration. Some suggested that, if any other sources of funding were considered, it should be up to the donor countries to find such complementary funding and to funnel it through the Multilateral Fund.

10. Others suggested that initial efforts should be launched by using the Multilateral Fund and, in parallel, that other modalities should be studied, including those that might be developed in the post-2012 era, to see whether they could contribute to further steps that might be taken. The need to ensure additionality of the funding as it related to activities that would not otherwise be taken was also noted.

11. In terms of environmental benefits, most members of the group acknowledged that the primary benefits that should be considered were ozone and climate benefits. It was noted that the Parties could benefit greatly from a cost-benefit analysis of undertaking different collection and destruction activities. Such an analysis could help to attract other sources of financing, as well as helping to determine the appropriate level at which to set any incentives for collection and destruction. In that context, some members wished to consider whether it would be positive or negative to provide an incentive for collection and destruction at a level that could discourage redeployment for servicing purposes.

12. Regarding policy options to deal with the issue of destruction and banks, one member of the group proposed that the Protocol should be amended to make destruction mandatory and that the indicative list of incremental cost should be amended to include the destruction of ozone-depleting substances. Several other members, however, suggested there was insufficient information at the current stage to consider an amendment or mandatory approach. Many of those Parties suggested a step-by-step approach which could start with pilot projects in a geographically diverse set of countries representing both small and large consumers. While some were interested in pursuing the notion contained in the proposals by the Federated State of Micronesia and Mauritius and by Argentina regarding the creation of destruction credits that could be marketed to enable new production, others suggested that that idea, while interesting and worth exploring, should not be considered as a substitute for the current essential-use process. It would have to be explored in much greater detail before it could be agreed to. In that context, there seemed to be agreement around the desirability of taking immediate action on certain easier activities that could be undertaken at the current stage and on establishing a framework to enable development of further information and policy options which could inform future decisions on the matter.

13. The members of the group acknowledged that the issue of destruction touched on the work of a number of other multilateral environmental agreements and institutions. Those noted in that context included, in particular, the Basel Convention, and also the Stockholm Convention, the Rotterdam Convention, the Framework Convention on Climate Change and the Clean Development Mechanism. Specific issues regarding the ability of certain countries to transport waste consistent with the Basel Convention were noted and it was also noted that past and more recent discussions with the Secretariat of the Basel Convention had demonstrated a willingness on the part of that institution to work with the Parties to the Montreal Protocol on the issue.

D Co-chairs' proposals

1. Proposal on scope

14. Given the general agreement and sense of urgency to take quick action, and taking into account, first, the understanding that it will be hard to address every facet of the issue immediately; second, the fact that there will be a limited amount of time to address CFCs and halons, and, third, the emphasis placed by Parties on the easiest first concept, it is suggested that the Parties might agree in the short term to focus on already assembled stocks of CFCs and halons that are either contaminated or are the result of confiscations, with the understanding that consideration should be given to the redeployment of confiscated ozone-depleting substances (as opposed to destruction) if they can be redeployed in a manner that would obviate the need for new production mainly for essential or critical uses.

15. A proposed decision should promote steps that should be taken in the areas of policies, regulations and incentives, and embody an understanding that destruction encompasses actions related to recovery, collection, bank management (including storage) and transport.

2. **Proposal on funding modalities, environmental benefits, and policy options**

16. Consideration should be given to requesting the Multilateral Fund, as a first step, to support activities in Parties operating under paragraph 1 of Article 5 related to the collection, containment, bank management, transport and disposal (destruction or redeployment) of already existing stocks of contaminated or confiscated CFCs and halons. To that end, the Technology and Economic Assessment Panel should be requested to include in its supplemental replenishment report an analysis of the costs that might be involved with the collection of such already existing stocks, their transport to destruction facilities or redeployment as the case may be, and their destruction. To support that effort, such Parties are requested to provide the Technology and Economic Assessment Panel with information on the amount of stocks of contaminated or confiscated ozone-depleting substances that they have ready and waiting for destruction.

17. [The Technology and Economic Assessment Panel] [The Ozone Secretariat] [The Fund Secretariat] should initiate investigations of and discussions with other potential sources of funding that might be available to provide complementary funding for climate co-benefits that were expected to accrue from that effort. To facilitate such discussions, [the Technology and Economic Assessment Panel] [the Executive Committee/Fund Secretariat] is asked to initiate a study on the costs and benefits of collection, storage, bank management, transportation and destruction of different categories of unwanted ozone-depleting substances, including ozone-depleting substance refrigerants in obsolete equipment, and ozone-depleting substance banks currently in foams, taking into account, on the benefit side, the climate and ozone benefits to the suppressed release of such ozone-depleting substances to the atmosphere.

18. Such a study should also consider the size of the incentive that may be necessary to encourage the robust recovery and destruction of ozone-depleting substances and, in addition, consider the advantages and disadvantages of having such incentives lead to a discouragement of redeployment of collected ozone-depleting substances for servicing. Given the urgency of the issue, it would be desirable to have that study, if possible, in time for consideration by the Twenty-First Meeting of the Parties.

4. **Proposal on synergies with other conventions**

19. Accordingly, to facilitate a greater understanding of the legal and administrative issues that might be associated with the transport of ozone-depleting substances from the source country to the destroying country, the Ozone Secretariat should be requested to liaise with the Secretariat of the Basel Convention and to prepare a paper for consideration at the twenty-ninth meeting of the Open-ended Working Group of the Parties. In that regard, the Basel Secretariat should be invited to attend the twenty-ninth meeting of the Open-ended Working Group, to respond to queries by the Parties as needed.

III. **Contact group on replenishment**

A. **Overview of the summary by the co-chairs**

1. The co-chairs of the replenishment contact group presented their report on the work of the group, which, they noted, had invested over 1,000 person-hours in rich discussions on a wide variety of important and complex issues. The contact group had been mandated to prepare a list of issues for the Technology and Economic Assessment Panel to consider and elaborate on in a report supplementing its replenishment report, in order to assist the Parties in their negotiations on replenishment at the Twentieth Meeting of the Parties. The full list of issues proposed and subsequently agreed by the Open-ended Working Group for consideration by the Panel is set out in section B below.

2. The contact group had, in addition, been asked to consider the issue of the fixed exchange rate mechanism. On that matter, the contact group had discussed the issues surrounding the continuation of the use of the fixed exchange rate mechanism, including whether the continuation should be permanent or for three more years. The Ozone Secretariat was requested to prepare a draft decision containing both options for consideration at the Twentieth Meeting of the Parties.

3. The issues identified for consideration by the Technology and Assessment Panel fell into two broad categories: general issues, and issues related to HCFC. Within the general category, a study of the effect of inflation on all activities was requested. A number of Parties expressed their concern regarding

the impact of national currency devaluation against the United States dollar on the costs and implementation of activities supported by the Multilateral Fund. The Panel had also been asked to consider a number of issues related to destruction, and Parties operating under paragraph 1 of Article 5 were requested to provide the Panel with information, by 15 August 2008, on the amount of stocks of contaminated or confiscated ozone-depleting substances that they had ready and waiting for destruction. The Panel was also requested to indicate the additional cost estimates for destruction separately from the estimates of the total replenishment figures.

4. With regard to HCFC-related issues to be considered by the Panel, the matter of HCFC production reduction in order to achieve the freeze had been a subject of much debate in the contact group. Some Parties had expressed concern that, as there was a possibility that the production sector could realize actual reduction by 2011, which might need funding from the Multilateral Fund, and in order not to provide disincentives for the industry for that reduction, that possibility should not be undermined in the forthcoming replenishment. In addition, some Parties expressed the view that there were no additional compliance obligations in respect of the HCFC production sector in the 2009–2011 triennium as reflected in the May 2008 report by the Technology and Economic Assessment Panel replenishment task force.

5. Other HCFC-related matters for consideration by the Panel were Multilateral Fund-related issues, including the implications of various cut-off dates for funding eligibility of HCFC projects for the forthcoming replenishments (and hence second-stage conversions); cost-effectiveness in the consumption sector; climate benefits (business-as-usual scenario and alternative substances, cost and cost-benefits, funding options); a risk analysis of future HCFC growth; reconsideration of figures on demonstration projects; and other issues, including the possible effect of the export rule and the multinational rule on the level of funding.

6. Following the presentation, the Co-Chair of the Open-ended Working Group said that, while the deliberations of the contact group on replenishment had benefited from full interpretation and wide participation, more focused and in-depth discussion might be facilitated at the Twentieth Meeting of the Parties by continuing negotiations with a smaller group comprising 12 representatives from Parties operating under paragraph 1 of Article 5 and 12 representatives from Parties not so operating, and by ensuring balanced regional representation.

B. Key elements approved by the Open-ended Working Group for the Technology and Economic Assessment Panel to elaborate in a report supplementing its replenishment report

1. General

- A study on the variation of inflation on all activities, assuming several percentages. The Panel should explain the rationale for using those percentages

2. Institutional strengthening

- Institutional strengthening funding scenarios that consider needs likely to be encountered in the next triennium in implementing all aspects of the work programme, giving adequate attention to group 4 countries

3. Destruction

- An analysis of the costs that might arise in the collection of existing stocks of contaminated or confiscated CFCs and halons, their transport to destruction facilities or redeployment as the case may be, and their destruction. Parties operating under paragraph 1 of Article 5 are requested to provide information to the Panel by 15 August 2008 on the amount of stocks of contaminated or confiscated ozone-depleting substances that they have ready and waiting for destruction

4. General issue of HCFCs

- The Panel should take into account the conclusions of the Executive Committee on relevant issues, including production sector issues, in order to achieve the freeze

5. Multilateral Fund-related issues

- Estimate of the impact of the cut-off dates of 30 September 2007, 1 January 2004, as well as 1 January 2000 and 1 January 2010 for this replenishment and the next two replenishments, including scenarios for funding different components of second stage conversions, namely, incremental capital costs, incremental operating costs and technical assistance, taking into consideration decision XIX/6

6. Servicing sectors and cost-effectiveness

- An explanation of how cost-effectiveness factors have been constructed and which effects are being taken into account
- The extent to which the possibility of converting equipment at the end of its useful life will have an effect on the cost-effectiveness figures for the consumption sector and the resulting impact on the funding requirement and the compliance risks and feasibility of the application of this method in project management

7. Climate benefits

To the extent possible:

- Provide a business-as-usual scenario based on cost-effectiveness considerations
- Provide an overview of specific alternative substances by sectors and where possible by subsectors
- Where applicable, give cost and cost-benefits of more climate-friendly technologies stating the underlying assumptions. Environmental benefit could be indicated using indicators, including global warming potential reductions and energy use of alternative substance (\$/tonnes CO₂ equivalent)
- Based on the work being carried out by the Executive Committee, provide information on national and international schemes (flexible and/or market mechanisms) for funding emission reductions of HCFC replacements

8. Baseline operating costs

- A risk analysis, not including costs, relating to extrapolations of future HCFC growth in group 1 countries, based on an annual growth rate of 9 per cent for the years 2011 and 2012, as an annex to the supplemental report, to help the Parties to foresee the risks that may result from the growth rate used by the Panel in the assumption in its current report
- Additional reference date of 2007 in the analysis

9. Demonstration projects

- Reconsideration of its figures taking into account the different applicability of technologies due to climate diversity among countries and to make the corresponding cost adjustments to the remaining HCFC compliance activities

10. Other issues

- Consideration of the export rule and the multinational rule of the Multilateral Fund as these may have an effect on the level of funding