UNITED
NATIONS

EP

UNEP/OzL.Pro.WG.1/30/7

United Nations
Environment
Programme

Distr.: General
12 July 2010

Original: English

Open-ended Working Group of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer
Thirtieth meeting
Geneva, 15–18 June 2010

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

I. Opening of the meeting

1. The thirtieth meeting of the Open-ended Working Group of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer was held at the Geneva International Conference Centre, from 15 to 18 June 2010. The meeting was co-chaired by Mr. Fresnel Díaz (Bolivarian Republic of Venezuela) and Mr. Martin Sirois (Canada).

2. The meeting was opened at 10.15 a.m. on 15 June by Mr. Sirois.

3. Mr. Marco González, Executive Secretary of the Ozone Secretariat, made an opening statement, recalling that 2009 had seen the universal ratification of the Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol. Encouraging those parties that had yet to ratify one or more of the amendments to the Protocol to do so expeditiously, he said that such ratification had more than symbolic meaning. Failure to ratify the amendments by the designated phase-out dates could have serious consequences for the ability of parties to gain access to financing and other resources needed to achieve smooth phase-out. The Secretariat stood ready to provide any needed technical advice to parties and to work towards universal ratification with those 33 that had not ratified one or more of the amendments.

4. The beginning of 2010 had seen another milestone as parties operating under paragraph 1 of Article 5 had, with the assistance of parties not so operating, ceased the production and consumption of most ozone-depleting substances. The efforts of the parties operating under paragraph 1 of Article 5, as well as the cooperation of the parties not so operating, were worthy of recognition. June 2010 in turn marked the twentieth anniversary of the establishment of the Montreal Protocol's financial mechanism, including the Multilateral Fund for the Implementation of the Montreal Protocol, which had been a turning point in the relationship between developed and developing countries in terms of their common but differentiated obligations under the Protocol.

5. Outlining the issues to be examined at the current meeting, he said that they had the potential to set the agenda of the Montreal Protocol for the next decade as Governments around the world continued their efforts to protect the ozone layer while harnessing the power of the Protocol to help to protect the world's climate as well.

II. Organizational matters

A. Attendance

6. The following parties to the Montreal Protocol were present: Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Australia, Austria, Bahrain, Bangladesh, Belgium, Belize, Benin, Bosnia and Herzegovina, Botswana, Brazil, Burkina Faso, Cambodia, Cameroon, Canada, Central African Republic, Chad, Chile, China, Colombia, Comoros, Congo, Costa Rica, Côte d'Ivoire, Croatia, Cyprus, Democratic Republic of the Congo, Denmark, Djibouti, Dominica, Dominican Republic, Egypt, Estonia, Ethiopia, European Union, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Greece, Grenada, Guatemala, Guinea, Guinea-Bissau, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Italy, Jamaica, Japan, Jordan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Lebanon, Lesotho, Madagascar, Malawi, Malaysia, Mali, Marshall Islands, Mauritius, Mexico, Micronesia (Federated States of), Mongolia, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Paraguay, Philippines, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Saint Lucia, Saint Vincent and the Grenadines, Senegal, Serbia, Seychelles, South Africa, Spain, Sri Lanka, Sudan, Swaziland, Sweden, Switzerland, Tajikistan, Thailand, the former Yugoslav Republic of Macedonia, Togo, Tonga, Trinidad and Tobago, Turkey, Turkmenistan, Uganda, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, United States of America, Uruguay, Uzbekistan, Vanuatu, Venezuela (Bolivarian Republic of), Viet Nam, Yemen, Zimbabwe.

7. Observers from the following United Nations entities, organizations and specialized agencies were also present: Global Environment Facility, Secretariat of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Secretariat of the Multilateral Fund for the Implementation of the Montreal Protocol, United Nations Development Programme, United Nations Environment Programme, Secretariat of the United Nations Framework Convention on Climate Change, United Nations Industrial Development Organization, United Nations Joint Inspection Unit, World Bank.

8. The following individual observers and observers from intergovernmental and non-governmental organizations and other bodies were also present: Alliance for Responsible Atmospheric Policy, Alliant International University, Asada Corporation, Asahi Glass Co., Ltd., Australian Refrigeration Council, Ltd., Boehringer Ingelheim Pharmaceuticals, Inc., Business Council for Sustainable Energy, California Citrus Quality Council, California Strawberry Commission, Carbon Reduction Technologies, Chemtura Corporation, Chicago Climate Exchange, Skopje Children's Hospital, Climate Action Reserve, Climate Wedge Ltd., Daikin Industries, Ltd., Dow AgroSciences LLC, DuPont International S.A., Energy Changes, Environmental Investigation Agency, EOS Climate, Inc., Essencis Manufatura Reversa S.A., Florida Fruit and Vegetable Association/Crop Protection Coalition, Green Cooling Association Inc., Greenpeace International, GTZ Proklima, Gujarat Fluorochemicals Limited, ICF International, Industrial Foams Pvt. Ltd., Industrial Technology Research Institute, Institute for Governance and Sustainable Development, International Pharmaceutical Aerosol Consortium, Japan Fluorocarbon Manufacturers Association, Japan Refrigeration and Air Conditioning Industry Association, Kyoto University, M. De Hondt BVBA, Mebrom NV, Navin Fluorine International Limited, Nordiko Quarantine Systems Pty Ltd., N.serve Environmental Services GmbH, Palfridge, Silver Breeze, RAL Quality Assurance Association, Refrigerant Reclaim Australia, Refrigerants Australia, RTI Technologies, SENS International, SGL Carbon GmbH, Shecco, Sherry Consulting, SRF Limited, TouchDown Consulting, Trane, TRICAL, TÜV SÜD Industrie Service, University of Leiden.

B. Adoption of the agenda

9. The Co-Chair suggested that item 5 of the provisional agenda set out in document UNEP/OzL.Pro.WG.1/30/1/Rev.1, on adjustments to the Protocol, should be deleted from the agenda of the meeting because no party had put forth a proposed adjustment for discussion. Several representatives said that item 6 of the provisional agenda should not be included because the proposed amendment put forth under the item had been discussed extensively by the Twenty-First Meeting of the Parties in November 2009. Following discussion those representatives stated that they could agree to the retention of item 6 as long as discussion of it did not unduly cut into the time available to discuss other agenda items. Following further discussion, the Working Group agreed to delete item 5 of the provisional agenda, to retain item 6 and to discuss under other matters a number of issues, including the situation of Haiti and additional information on the budget to be submitted to the Meeting of the Parties. It was also agreed that the Working Group would discuss, as a new sub-item under item 7 of the

provisional agenda, the treatment of polyols in calculating consumption of hydrochlorofluorocarbons (HCFCs). Accordingly, the Working Group adopted the following agenda on the basis of the provisional agenda contained in document UNEP/OzL.Pro.WG.1/30/1/Rev.1, as amended:

1. Opening of the meeting.
2. Organizational matters:
   (a) Adoption of the agenda;
   (b) Organization of work.
3. Presentation of the 2010 progress report of the Technology and Economic Assessment Panel.
4. Issues related to the financial mechanism under Article 10 of the Montreal Protocol:
   (a) Report of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol on a special facility under the Multilateral Fund (decision XXI/2);
   (b) Terms of reference for an evaluation of the financial mechanism (decision XXI/28);
   (c) Terms of reference for a study on the 2012–2014 replenishment of the Multilateral Fund.
5. Proposed amendments to the Montreal Protocol.
6. Issues related to hydrochlorofluorocarbonss:
   (a) Response by the Technology and Economic Assessment Panel to the hydrochlorofluorocarbon issues highlighted in decision XXI/9;
   (b) Scoping study by the Technology and Economic Assessment Panel on alternatives to hydrochlorofluorocarbons in the refrigeration and air-conditioning sectors in parties operating under paragraph 1 of Article 5 with high ambient temperature conditions (decision XIX/8);
   (c) Treatment of polyols in calculating consumption of hydrochlorofluorocarbons.
7. Issues related to exemptions from Article 2 of the Montreal Protocol:
   (a) Nominations for essential-use exemptions for 2011 and 2012;
   (b) Results of the mission by the Technology and Economic Assessment Panel and its Medical Technical Options Committee to the Russian Federation to review that country’s transition to chlorofluorocarbon-free metered-dose inhalers (decision XXI/4);
   (c) Nominations for critical-use exemptions for 2011 and 2012;
   (d) Technology and Economic Assessment Panel-led report on quarantine and pre-shipment issues (decision XXI/10);
   (e) Laboratory and analytical uses of ozone-depleting substances (decision XXI/6);
   (f) Issues relating to the use of ozone-depleting substances as process agents (decision XXI/3).
8. Environmentally sound management of banks of ozone-depleting substances:
   (a) Outcomes of the seminar on identifying and mobilizing funds for the destruction of ozone-depleting substances (decision XXI/2);
   (b) Review by the Technology and Economic Assessment Panel of technologies for the destruction of ozone-depleting substances (decision XXI/2).
9. Treatment of stockpiled ozone-depleting substances relative to compliance (decision XVIII/17 and paragraph 131 of the report of the Twenty-First Meeting of the Parties).
10. Additional issues arising from the 2010 progress report of the Technology and Economic Assessment Panel.

11. Other matters.

12. Adoption of the report.

13. Closure of the meeting.

C. Organization of work

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

III. Presentation of the 2010 progress report of the Technology and Economic Assessment Panel

A. Panel presentation

11. Mr. Ashley Woodcock, Co-Chair of the Medical Technical Options Committee, introduced the Panel's presentation of its 2010 progress report. He began by summarizing the Committee's recommendations for 2010 essential-use nominations for chlorofluorocarbons (CFCs) for metered-dose inhalers from parties operating under paragraph 1 of Article 5 of the Protocol and parties not so operating. He reported substantial progress in the transition from metered-dose inhalers containing CFCs to CFC-free inhalers, with adequate numbers of affordable CFC-free inhalers becoming available in importing countries, as a result of which the Committee was unable to recommend CFCs nominated for metered-dose inhalers for beta-agonists and inhaled corticosteroids intended for export. The Committee had recommended CFCs nominated for metered-dose inhalers intended for domestic use for beta-agonists and inhaled corticosteroids, and for anticholinergics, where they were essential. He presented a table showing that the essential-use quantities nominated for 2011 were all lower than the quantities authorized for 2010. Reductions in the nominated quantities of CFCs that the Committee had recommended were in line with the principles outlined above, and recommendations had been made in accordance with paragraph 3 of decision XV/5.

12. He recalled that the Committee had previously highlighted concerns about the security of supply of pharmaceutical-grade CFCs for metered-dose inhaler manufacturers in parties operating under paragraph 1 of Article 5, and noted that the Executive Committee of the Multilateral Fund at its sixtieth meeting had decided to modify production agreements for China and India to allow the production of pharmaceutical-grade CFCs to meet the essential uses of other countries for 2010, subject to annual review. He noted that if the Committee's recommendations for 2011 were approved it was possible that future CFC needs for countries other than China and the Russian Federation (estimated at less than 300 tonnes in 2011 and 2012) could be met from stocks, without the need for new pharmaceutical-grade CFC manufacture. As for China and the Russian Federation, China could manufacture enough to meet both their needs. He noted that manufacturing conversions would be completed in 2011 in many parties operating under paragraph 1 of Article 5, in some cases without assistance from the Multilateral Fund, and that some companies had capacity to manufacture CFC-free inhalers that was not being fully used.

13. Ms. Helen Tope, Co-Chair of the Medical Technical Options Committee, offered some observations on the essential-use nominations for CFCs for metered-dose inhalers from Argentina, Bangladesh, China and India, providing background to the Committee's recommendations and highlighting issues relevant to any future possible nominations. She recalled that by decision XXI/4 the Technology and Economic Assessment Panel and its Medical Technical Options Committee had been requested to report to the Open-ended Working Group at its thirtieth meeting on issues affecting the transition from CFC-based metered-dose inhalers to CFC-free alternatives in the Russian Federation. She outlined the findings of the mission undertaken by a team of technical experts to the Russian Federation in February 2010 in response to that decision, funding for which had been provided by Finland, Sweden and two Russian manufacturers of metered-dose inhalers. She reported that funding support for technology conversion and equipment was critical and that, with funding, the manufacturing transition could be completed by the end of 2012. Despite a lack of funds, progress was being made with pharmaceutical reformulation and regulatory approval processes were proceeding, and an inter-ministerial group had been convened to facilitate cooperation between relevant parties. For the Russian Federation's 2011 essential-use nomination, the Committee was recommending the same amount of CFCs as had been approved in 2010, instead of the higher amount nominated for 2011; affordable imported CFC-free metered-dose inhalers were available to make up any shortfall in requirements. She noted that without additional demonstrated progress, the Committee might be unable to recommend any future nominations.

14. Mr. Masaaki Yamabe, Co-Chair of the Chemicals Technical Options Committee, presented that Committee's progress report. He reported that three process-agent uses from table A of decision X/14 had been discontinued in the European Union, recalling that reporting under table B was only required for those parties using process agents. Clarification was needed on sources of carbon tetrachloride emissions in the European Union from process agent applications, feedstocks, inadvertent production and other uses. Regarding laboratory and analytical uses of ozone-depleting substances he said that parties had provided extensive information about their reasons for such uses, that alternative substances and procedures for most such uses could be adopted by parties operating under paragraph 1 of Article 5 and parties not so operating at no extra cost and that some laboratory uses were difficult to replace where ozone-depleting substances were converted or transformed. He said that the Committee would provide further information pursuant to paragraphs 5 and 6 of decision XXI/6 at the Twenty-Second Meeting of the Parties. The Committee, he said, recommended an essential-use exemption for 100 tonnes of CFC-113 in 2011 for the Russian Federation for use in its domestic aerospace programme (with a projected decrease to 35 tonnes in 2014) and recommended that the party make efforts to introduce appropriate alternatives and newly designed equipment to achieve an accelerated phase-out of CFC-113. On destruction technologies, the Committee had identified approximately 180 facilities in 27 countries employing a variety of technologies, far more than had been reported in the 2002 report of the task force on destruction technologies. Information had been obtained on four emerging destruction technologies, including for the conversion of halons and CFCs into unsaturated fluoromonomers and the chemical decomposition of methyl bromide.

15. Mr. Miguel Quintero, Co-Chair of the Foams Technical Options Committee, presented the Committee's progress report, which covered issues of particular importance for all parties. He said that, in parties not operating under paragraph 1 of Article 5, hydrofluorocarbon (HFC) use was continuing to decline in the polyurethane sector as hydrocarbon technologies continued to mature. Further optimization of hydrocarbon technologies had largely closed the gap in thermal performance with HFC technologies. The transition from HCFCs had been completed in the extruded polystyrene sector, with the primary choice of alternative being combinations of saturated HFCs. Short-lived (unsaturated) HFCs were being investigated in a number of foam applications; the short-lived HFC-1234ze was already in commercial use for polyurethane one-component foam. He noted that in parties operating under paragraph 1 of Article 5 the accelerated HCFC phase-out under decision XIX/6 was heightening the need for the validation of suitable HCFC alternatives. A recent workshop had confirmed the use of methyl formate in Australia, Brazil and the United States of America in integral skin foam, specialty flexible foam and most rigid foam applications. Furthermore, a pilot project in the polyurethane sector using methylal was under way in Brazil, and pilot projects had been approved for HFC-1234ze in the extruded polystyrene sector in Turkey and for super-critical carbon dioxide in polyurethane spray foam in Colombia. Pre-blended hydrocarbons might have a significant role to play for smaller enterprises and two pilot projects had been approved in that area. He said that the Executive Committee of the Multilateral Fund had not approved a methodology for quantifying the climate impacts of technology transitions and that pilot projects on the end-of-life management of domestic refrigerators had been identified and were in the process of development.

16. Mr. David Catchpole, Co-Chair of the Halons Technical Options Committee, presented that Committee's progress report. He said that four new halon alternatives would be included in the 2010 assessment report. Halon 1301 continued to be produced in China and France for feedstock use. There had been a further decline in recycling and recovery operations in parties operating under paragraph 1 of Article 5. In the area of civil aviation safety, contaminated halon 1211 first found on civil aircraft in the third quarter of 2009 had since been found on more aircraft in other countries. Inconclusive testing had identified a wide variety of substances, including significant concentrations of flammable refrigerants, including hydrocarbons, and an investigation of alleged criminal activity was under way. Committee members were working with the International Civil Aviation Organization (ICAO) and other authorities to resolve the issue. As a response to decision XXI/7, one of the Committee co-chairs had participated in a three-day meeting with industry bodies and government agencies at ICAO to discuss progress in eliminating halons in civil aviation. The group had developed draft resolution text for the thirty-seventh session of the ICAO General Assembly providing for the replacement of halons in lavatories for new production aircraft in 2011, in hand-held extinguishers for new production aircraft in 2014, and in engine nacelles and auxiliary power units in 2014 for aircraft for which new application type certifications had been submitted.

17. He said that the draft resolution urged States to issue guidance material for halon alternatives and fire detection systems for cargo bays; encouraged States to promote research on alternative fire suppression systems; and urged States to take note of their halon reserves and to report to the Assembly at its next session. The dates were up to three years delayed from those originally agreed upon,

primarily because of implementation time frames required under the Convention on International Civil Aviation. Industry bodies had requested a further two-year delay, to 2016, to allow time for testing a low-global-warming-potential (GWP) alternative to halon 1211. The Committee had been instrumental in strengthening the draft resolution by changing the phrase “consider a mandate” to “establish a mandate” and it continued to work with the ICAO secretariat on other options that might reduce the time needed to implement the proposed resolution.

18. The progress report of the Methyl Bromide Technical Options Committee was presented by the Committee co-chairs, Mr. Mohamed Besri and Ms. Michelle Marcotte. Mr. Besri said that most parties had made substantial progress in phasing out methyl bromide. Consumption in 2008 in parties not operating under paragraph 1 of Article 5 had been 6,996 tonnes, or about 12 per cent of the baseline, and 2008 consumption by parties operating under paragraph 1 of Article 5 had been 5,395 tonnes, or 34 per cent of the baseline. The four parties previously using 90 per cent of methyl bromide in parties not operating under paragraph 1 of Article 5 had reduced consumption in 2010 to 11 per cent (United States), 0 per cent (European Union), 8 per cent (Israel) and 4 per cent (Japan). Israel would not submit critical-use nominations after 2012 and Japan was expected to stop submitting critical-use nominations for soil uses by 2013.

19. Regarding progress in soil treatment using chemical alternatives, such alternatives (1,3-D/Pic, chloropicrin, metham sodium and metham potassium), alone or in combination with other alternatives, were widely used in many countries for many pre-plant soil applications. The adoption of methyl iodide and the three-way fumigant system 1,3-D/Pic/metham sodium was rapidly decreasing global consumption and significantly reducing critical-use nominations from the United States. Di-methyl disulfide was effective against a wide range of nematodes but less effective against soil-borne fungi and weeds. The adoption of barrier films had expanded in parties still applying for critical-use exemptions for methyl bromide, including Israel, Japan and – for its south-eastern states – the United States. California continued to prohibit barrier films with methyl bromide.

20. Regarding progress in soil treatment using non-chemical alternatives, grafting continued to be adopted in many countries for vegetable and cucurbit production. Research was under way in the United States to establish the technology on a wider scale. Soil-less culture continued to expand in the ornamental, vegetable and strawberry industries around the world. Biofumigation had proved successful and was being adopted in many countries, such as Spain. Solarization was being adopted in many countries and was particularly efficient when combined with other non-chemical and chemical alternatives. Steaming methods were being improved to increase effectiveness and economic feasibility.

21. Ms. Marcotte continued the presentation, focusing on progress in alternatives for structures and commodities. Sulfuryl fluoride was a major alternative but its regulatory approval had stalled in Canada and the United States and some approvals had been revoked within the European Union. The high GWP of sulfuryl fluoride was comparable to that of CFC-11; millers, food processors and their customers cited environmental concerns about its use. Approval by the International Maritime Organization would increase the use of phosphine for in-transit fumigation. On the use of alternatives in mills in the United Kingdom of Great Britain and Northern Ireland, all mills and food processors had adopted intensive integrated pest management to minimize the need for full-site treatment and had implemented other non-methyl bromide treatments; consequently methyl bromide was no longer used. The United Kingdom approach would be applicable to mills in Canada and the United States. Scientists from the Committee and the United States Department of Agriculture were investigating the date pest control situation in the United States; the research had not so far been successful but was continuing.

22. Mr. Lambert Kuijpers, Co-Chair of the Refrigeration, Air-conditioning and Heat Pumps Technical Options Committee and Co-Chair of the Technology and Economic Assessment Panel, reported that all equipment chapters in the Committee’s report had contributed to the decision XXI/9 task force report and that several Committee experts that had worked on the various chapters had been involved in the preparation of the report requested by decision XIX/8 on alternatives to HCFCs in parties with difficult climatic and operating conditions. The material from those reports would be used in the Committee’s 2010 assessment report, which the Committee would finalize at two more meetings.

23. In his capacity as Co-Chair of the Panel, he reported on organizational issues pertaining to the Panel and its technical option committees. In April 2010, Panel and committee members numbered 50 from parties operating under paragraph 1 of Article 5 and 100 from parties not so operating. Many members from parties not operating under paragraph 1 of Article 5 were struggling to get support from their Governments and employers for travel to meetings or compensation for their time; the Panel was therefore urgently requesting all Governments, industry associations and enterprises in such parties to look once more into all possibilities for funding members.

24. He reported that Mr. Jose Pons Pons had retired as Co-Chair of the Panel but would continue as Co-Chair of the Medical Technical Options Committee. Methyl Bromide Technical Options Committee Co-Chair Ms. Marta Pizano had been nominated by Colombia as Co-Chair of the Panel and the Panel supported her nomination. As at early 2010, Mr. K. Madhava Sarma had retired from the Panel as a senior expert member and Sweden had submitted a nomination for a senior expert member. Finally, in accordance with decision XXI/10, the Panel had reorganized the Methyl Bromide Technical Options Committee, establishing three subcommittees: Quarantine and Pre-shipment; Structures and Commodities; and Soils.

B. Discussion

25. In response to questions about her presentation during the discussion that followed, Ms. Marcotte said that yearly progress and assessment reports included information on methyl bromide alternatives for almost all uses; for some uses alternatives had not yet been found. Regarding the use of methyl bromide for high-moisture dates, she noted that in 2009 the United Nations Industrial Development Organization (UNIDO) had initiated a project and continued work relating to the control of high-moisture dates. On the same issue, the representative of UNIDO clarified that while prominent experts and a reputable laboratory in Europe had been involved in testing promising alternatives, the results had not met the expectations of date producers. The project would continue and any progress would be reported at the thirty-first meeting of the Working Group or at the Twenty-Second Meeting of the Parties.

26. In response to a request by one representative that the Panel re-examine his country's most recent request for an essential-use exemption, the representative of the Panel commended that country's manufacturers on their efforts to develop affordable alternatives, adding that the availability of a wide range of alternatives had influenced the decision to reduce the recommendations for essential-use exemptions. The Panel would, however, be willing to discuss the issue bilaterally and requested that supporting documentation be made available.

27. Responding to a question about possible alternatives to the use of sulfuryl fluoride in the flour mills sector, the representative of the Panel said that available alternatives could not always be used as effective fumigants. While phosphine could sometimes be used to control pests for some commodities, the Panel had noted with concern that some pests were becoming resistant to it.

28. One representative expressed the expectation that new members of the Panel should not be negotiating members of delegations so as to maintain the independence of the Panel as an advisory body. That representative also requested an update on ICAO activities since the submission of the 2010 progress report to the parties. The representative of the Panel said that the Panel and the ICAO secretariat were working on a draft resolution to be submitted to the ICAO Assembly in September 2010.

29. One representative, noting that the Chemicals Technical Options Committee had suggested that the Meeting of the Parties might wish to establish a reporting system to enable it to consider accurate data for n-propyl bromide, reported that from 1 January 2010 n-propyl bromide had to be reported under the new European Union regulation on ozone-depleting substances. Referring to the Panel's recommendations on laboratory and analytical procedures, he pointed out that the use of ozone-depleting substances for analysis of hydrocarbon oils and greases in water had already been removed from the list of approved uses and requested clarification on recommendations to use carbon tetrachloride as a chain transfer agent during polymerization even though the 2010 progress report indicated that newer methods and alternatives were available. The representative of the Panel took note of the reporting system described. Concerning the use of carbon tetrachloride as a chain transfer agent in polymerized reactions, he said that there remained a question as to the availability of alternatives. Discussions were continuing on how to classify that application, and further information could be provided in the Committee's assessment report, to be published in early January 2011.

30. In response to a question regarding whether the Panel took into account countries' need to respect synergies with other multilateral environmental agreements, the representative of the Panel said that the Panel was aware of the GWP of some chemicals presented as alternatives and would take account of the fact that some substances were covered under other multilateral environmental agreements. He said, however, that synergies were not at issue in respect of sulfuryl fluoride because it was not covered under the Kyoto Protocol to the United Nations Framework Convention on Climate Change. Furthermore, HFC-134a was not being phased out, but only controlled, and was much less harmful than CFCs.

IV. Issues related to the financial mechanism under Article 10 of the Montreal Protocol

A. Report of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol on a special facility under the Multilateral Fund (decision XXI/2)

31. Introducing the sub-item, Ms. Maria Nolan, Chief Officer of the Multilateral Fund secretariat, recalled that by decision XXI/2 the Executive Committee of the Multilateral Fund had been requested to report to the Working Group on discussions on the possible establishment of a facility under the Multilateral Fund that would support activities outside the usual scope of Fund spending. The Executive Committee, at its sixtieth meeting, in March 2010, had decided to send the Working Group an excerpt from the report of its fifty-ninth meeting describing its discussions on the issue. That excerpt was set out in document UNEP/OzL.Pro.WG.1/30/3, and a detailed summary of the Committee's discussions on the issue at its sixtieth meeting was available in document UNEP/OzL.Pro.WG.1/30/2/Add.1 (paras. 3–12). A presentation on the special facility had been made at the seminar on the environmentally sound management of banks of ozone-depleting substances that had been held in conjunction with the current meeting and a detailed report had previously been provided to the Twenty-First Meeting of the Parties (UNEP/OzL.Pro.21/6, paragraphs 13–21).

32. In the discussion following the presentation one representative said that there was no common understanding of the objectives of the facility and that additional discussion was necessary to provide guidance to the parties on the purpose, orientations and modalities of operation of a special facility to finance environmental benefits additional to those covered by the Multilateral Fund.

33. Another representative said that there was no consensus on the issue, stressing that the Multilateral Fund should continue to play the leading role in funding activities under the Protocol and that other vehicles such as the special facility should not interfere with its operation. A third representative, agreeing with the previous speakers, said that the proposal for the facility had received scant attention at the most recent meeting of the Executive Committee owing to lack of time. Decision XXI/2 requested the Executive Committee to continue its deliberations on the facility and, as it would meet again before the Twenty-Second Meeting of the Parties, it could report to the Parties in the context of its annual report.

34. The Working Group agreed that it would await the outcome of the Executive Committee's further deliberations and take up the issue at its thirty-first meeting if necessary.

B. Terms of reference for an evaluation of the financial mechanism (decision XXI/28)

35. Introducing the sub-item, the Co-Chair noted that the parties had agreed, by decision XXI/28, to complete the terms of reference for the next evaluation of the financial mechanism of the Protocol by 2011 at the latest. The terms of reference for the most recent evaluation, which had been adopted by the parties in 2003, were set out in the annex to document UNEP/OzL.Pro.WG.1/30/2/Add.1.

36. One representative said that periodic evaluation of the financial mechanism was important but noted that the previous evaluation had called for significant additional resources that in the end had yielded limited results. Given that experience, he said, the terms of reference should result in a more outcome-focused evaluation report.

37. Another representative said that it was an opportune moment to undertake the evaluation, as 2010 marked the end of the consumption of CFCs in developing countries. She said that the operation of the Fund had been highly successful but expressed agreement that the previous review had not been comprehensive. There was a need to measure performance against purpose and to provide guidance to parties on the way forward for the HCFC phase-out and the final phase-out of methyl bromide. A good evaluation would take time. Another representative said that there had been no discussion of how to finance the evaluation and that any additional expense should be defrayed from existing resources.

38. The Working Group agreed to establish an open-ended contact group, co-chaired by Mr. Paul Krajnik (Austria) and Mr. David Omotosho (Nigeria), to develop draft terms of reference for consideration by the Working Group.

39. Following the contact group's deliberations its co-chair reported that the group had discussed the scope of the study and its financial implications, including suggestions that it should be budget-neutral. A number of suggestions for guiding the consultants had been put forward and

incorporated in a draft decision. As agreement on those provisions had not yet been reached, however, they remained in square brackets to indicate a lack of consensus.

40. The Working Group agreed to forward the revised draft decision, with certain provisions in square brackets as set out in annex I to the present report, to the Twenty-Second Meeting of the Parties for further consideration.

C. Terms of reference for a study on the 2012–2014 replenishment of the Multilateral Fund

41. Introducing the sub-item, the Co-Chair recalled that since its inception the Multilateral Fund had been replenished every three years and that in the year prior to each replenishment the parties had developed terms of reference for the Technology and Economic Assessment Panel to use in determining the funds that would be necessary to enable parties operating under paragraph 1 of Article 5 to comply with their obligations during the replenishment period. The terms of reference for the most recent replenishment were set out in the annex to document UNEP/OzL.Pro.WG.1/30/2.

42. One representative, noting that 2012–2013 would be a critical period for the accelerated phase-out of HCFCs as the obligation of parties operating under paragraph 1 of Article 5 to freeze consumption came into force, said that the replenishment should focus on the first step in the phase-out of HCFCs but should also result in adequate and stable funding for activities aimed at phasing out methyl bromide and destroying banks of ozone-depleting substances.

43. Several other representatives stressed the importance of HCFC phase-out during the replenishment period. One added that the terms of reference should take into account decision XIX/6, on climate change benefits, to ensure that the replenishment covered related projects. He and another representative said that it should be clear that the Fund would support the development of national strategies for the management and destruction of ozone-depleting substance banks, in particular in parties operating under paragraph 1 of Article 5. One representative suggested taking into consideration elements from decision XXI/9, on environmentally sound alternatives to HCFCs. Another suggested that the issue of illegal trafficking and the development of related indicators should be considered.

44. Several representatives suggested that the terms of reference for the study prepared for the previous replenishment would be a good starting point for discussion.

45. The Working Group agreed that the contact group established to discuss terms of reference for an evaluation of the financial mechanism, as discussed in section B of chapter IV, above, would also discuss terms of reference for the study on the 2012–2014 replenishment.

46. Following the contact group's deliberations its co-chair reported that the group had prepared and discussed a draft decision and draft terms of reference, which were before the Working Group in a conference room paper. She said that the contact group had achieved broad consensus on most issues but had yet to reach agreement on a number of provisions relating to HFCs.

47. The Working Group agreed to forward the draft decision, with certain provisions in square brackets to indicate a lack of consensus as set out in annex I to the present report, to the Twenty-Second Meeting of the Parties for further consideration.

V. Proposed amendments to the Montreal Protocol

A. Proposed amendments and draft decision on HFC-23

48. The representatives of Canada, Mexico and the United States jointly presented a proposal to amend the Montreal Protocol to include HFCs, which was described in document UNEP/OzL.Pro.WG.1/30/5. They noted that their intention was to discuss the proposed amendment and the draft decision on HFC-23 together. They explained that to rid the world of CFCs and HCFCs the parties to the Protocol had introduced HFCs. An unintended result was that by 2050 the global climate system could be burdened with 88,000 million tonnes of carbon dioxide equivalent. The parties, they suggested, had a moral responsibility to prevent that and to maximize the climate benefits gained from phasing out ozone-depleting substances. In addition to climate benefits the proposed amendment would avoid the cost of double substitution, namely, the cost of retooling to replace HFCs shortly after having retooled to replace HCFCs. To a great extent, the parties to the Montreal Protocol and the Kyoto Protocol were the same countries, with the same obligation to meet the expectations of their populations that no effort would be spared in combating climate change.

49. Under the proposed amendment HFCs would be controlled much as other ozone-depleting substances were. Baselines would be established, with different baselines for parties operating under paragraph 1 of Article 5 and parties not so operating, based on past consumption of both HFCs and HCFCs. Provisions on trade with non-parties, the implementation of licensing systems and reporting requirements would be included. As alternatives did not exist for all HFC applications, however, the proposal called for a phase-down of production and consumption rather than a phase-out. The proposal also called for specific controls on HFC-23, a potent greenhouse gas emitted as a by-product of HCFC-22, and would make by-product emissions of HFC-23 eligible for assistance under the Multilateral Fund provided that the emitting production line or facility was not already funded by another financial by-product control mechanism. The proponents acknowledged that the proposal was complex and would require careful consideration of the details of implementation for agreement to be reached.

50. The proponents had also put forward a draft decision on the phase-out of HFC-23 emitted as a by-product of HCFC-22 production. The representative of the United States said that HCFC-22 was a controlled substance under the Montreal Protocol but continued to be produced, including for feedstock uses, and that a number of facilities producing it had no HFC-23 by-product controls in place. The draft decision accordingly focused on HFC-23 by-product control and would ask the Executive Committee to take immediate action on three items: first, to update information on HCFC-22 production facilities; second, to develop estimates of incremental costs associated with the collection and destruction of HFC-23 by-product emissions; and third, to facilitate the development and implementation of HFC-23 by-product control projects. The adoption of the decision would enable by-product control provisions to be put in place rapidly in the event that the proposed amendment was adopted.

51. The representative of the Federated States of Micronesia also presented a proposed amendment to the Montreal Protocol, which was co-sponsored by the Marshall Islands and Mauritius. Like the other proposed amendment, the proposal would phase down the production and consumption of HFCs. He argued that the parties to the Montreal Protocol should not wait for action on HFCs to be taken under the Framework Convention on Climate Change and had a moral and legal duty to avert a climate catastrophe caused by their own actions. Under the proposal the Montreal Protocol would take responsibility for phasing down HFC production and consumption, as the Climate Change Convention already governed emissions of HFCs. Parties not operating under paragraph 1 of Article 5 would be obligated to phase down the production and consumption of HFCs first, while parties operating under that paragraph would do so later, within a suggested period of six years. Phase-down would be funded in a timely fashion by the Multilateral Fund, although projects currently funded by the Clean Development Mechanism would not be double-funded, and all incremental costs, including those related to safety and training, would be financed.

52. Following those introductions the Co-Chair opened the floor for questions, asking the proponents of the amendments to respond.

53. One representative asked whether a comparison had been done of the cost and time required to eliminate one kilogram of HFCs under the Montreal Protocol and the Kyoto Protocol, whether there was any coordination between the two protocols and what was anticipated in respect of time, costs, alternatives and technologies under each protocol. He asked how HFC elimination would be funded, given that parties operating under paragraph 1 of Article 5 imported most of their manufactured products, and suggested that the polluter pays principle was relevant. In response, the representative of the United States said that HFCs were in fact produced in many developing countries and that there were no known comparisons of the cost of handling HFCs under the two protocols; he noted, however, that under the Kyoto Protocol projects recorded a carbon market price for HFC-23. Noting that the Kyoto Protocol did not cover half the emissions of HFC-23, he said that the amendment would take an incremental cost approach to those emissions not covered by the Clean Development Mechanism. With regard to coordination, he said that the parties to the Framework Convention on Climate Change considered the HFC issue to be relatively minor and that it would therefore receive limited attention. Concerning costs, alternatives and timelines, he noted that some of those issues had been explained in a side event, but full answers were not yet available and further discussion would be necessary. The representative of the Federated States of Micronesia said that he hoped that the parties to the Framework Convention would at their next meeting give the Montreal Protocol a mandate to work on HFCs but it appeared that some parties did not wish to discuss the matter at that time.

54. Another representative said that the Montreal Protocol could not address all public concerns and asked why a separate amendment was necessary to phase out HFC-23 when HCFCs would be phased out by 2030. The representative of the United States responded that HFCs were not covered by the

accelerated phase-out of HCFCs and, since they could be phased out effectively starting immediately, there was no need to wait until 2030.

55. One representative suggested that dealing with HFCs through the Montreal Protocol might undermine the credibility of the Framework Convention on Climate Change and the Kyoto Protocol. He also questioned whether the Montreal Protocol had received a mandate from the Kyoto Protocol or the Framework Convention to take on the issue. In response, the representative of Canada said that there was a direct link to the Montreal Protocol as HFCs were being used as alternatives to ozone-depleting substances. The Montreal Protocol had a responsibility to address the issue as the substances were, in part, being introduced as a direct result of the phase-out of HCFCs under the Montreal Protocol.

56. Another representative said that it would be better to address HFCs through the Multilateral Fund, which could fund alternatives to HCFCs that were more environmentally sound than HFCs. The representative of the United States said that such an approach was already in place and that the Executive Committee had agreed, in April 2010, to increase financing by 25 per cent for non-HFC alternatives; that was not, however, a comprehensive solution and the problem posed by HFCs required a more considered approach. The representative of the Federated States of Micronesia said that the Multilateral Fund must cover the incremental costs and added that amending the Protocol would provide an incentive to industry to develop HFC alternatives.

57. One representative said that an amendment like those proposed might destabilize the balance between the Montreal Protocol and the Kyoto Protocol and would require further consultation with stakeholders at the national level and between parties operating under paragraph 1 of Article 5. He also suggested that the two proposals should be amalgamated given their similarities. The representative of Mexico confirmed that consideration was being given to amalgamating the two proposals.

58. One representative suggested that the successful record of the Montreal Protocol should not be diluted by tackling issues covered under other agreements where little progress was being made. Noting that businesses in his country were converting from HCFCs to HFCs, he asked whether they would receive timely assistance in moving away from HFCs. The representatives of Mexico and the United States said that the intention was to finance the transition away from HFCs but that more discussion on the details was needed. The representative of Canada said that, as with other substances controlled under the Montreal Protocol, financial assistance would be provided to meet the incremental costs of phasing out HFCs. He also said that taking on board HFCs would strengthen the Montreal Protocol rather than weaken it. Currently there was uncertainty about how long HFCs would be available as alternatives; adopting a phase-down schedule for HFCs would eliminate that uncertainty, allowing parties to plan better their phase-out of HCFCs and spurring the development of other alternatives. Where no other alternatives to HCFCs were available, however, HFCs could continue to be used, up to specified levels. The representative of the Federated States of Micronesia confirmed that any incremental costs relating to equipment, safety and training would need to be fully covered, or parties would be unable to comply with their commitments.

59. One representative suggested that the proposed amendment would have to take into account the principle of common but differentiated responsibilities. The representative of the United States responded that the principle was reflected in the differentiated phase-down regimes proposed for parties operating under paragraph 1 of Article 5 and parties not so operating.

60. Another representative questioned the propriety of subjecting to the Montreal Protocol substances that were covered under other instruments. The representative of the United States said that HFCs were not necessarily reduced under the Framework Convention on Climate Change but were rather among a number of gases on which parties were free to take action. He added that matters related to emissions and accounting would continue to be covered by the Framework Convention, while those related to consumption and production would be dealt with under the Montreal Protocol in partnership with the Framework Convention.

61. One representative questioned whether the proposals had been discussed with the Framework Convention secretariat. The representative of the United States said that, while no action had yet been taken, the Ad Hoc Working Group on Long-term Cooperative Action under the Framework Convention had on 17 May 2010 considered a proposal that, without prejudice to the scope of the Convention and related institutions, options be pursued for securing the adoption under the Montreal Protocol of measures that would progressively reduce the production of HFCs. The proposals had not been submitted for consideration by the parties to the Framework Convention as it was considered that the current meeting was the appropriate occasion for their discussion. The representative of Mexico noted that the Framework Convention secretariat was preparing, at the request of the Subsidiary Body on

Scientific, Technical and Technological Advice, a technical paper discussing new developments on HCFC-22 and HFC-23 under other intergovernmental processes.

62. One representative asked whether a breakdown of costs had been undertaken and asked how cooperation with the Kyoto Protocol was envisaged. The representative of Canada responded that costs had been considered but a detailed costing of phasing down under the two proposals had not been prepared. That would be a challenging task as the costs of alternatives could change dramatically over time. There were a number of uses for which alternatives were currently being developed but the cost of their commercialization was unknown. He noted that the Technology and Economic Assessment Panel usually undertook costing analyses during discussions on the replenishment of the Multilateral Fund and usually proposed two or three options, suggesting that that might be a means of estimating costs in the short term. The representative of the Federated States of Micronesia said that coordination between the protocols was welcome and that there was no conflict between them as the Montreal Protocol would only address consumption and production of HFCs.

63. One representative noted that the amendment was foreseen to enter into force by 2014 and would affect discussions on the terms of reference for the replenishment of the Multilateral Fund. He also highlighted the need for clarification on financial assistance for eliminating HFCs under the Montreal Protocol and the Kyoto Protocol. The representative of Canada said that traditionally the Technology and Economic Assessment Panel would take into account all decisions of the parties when developing the terms of reference for a replenishment and would do so in respect of any decision to phase down HFCs and reduce emissions of HFC-23. With regard to financial assistance, he noted that, to date, funding under the Framework Convention on Climate Change had been limited to Clean Development Mechanism projects to reduce emissions of HFC-23and did not extend to reduction of consumption or production of other HFCs. The Montreal Protocol, on the other hand, would cover the latter.

64. One representative said that HFCs should be dealt with under the Kyoto Protocol but suggested that synergies between the Montreal and Kyoto protocols could be strengthened. The representative of the United States said that further study on coordination between the protocols was important.

65. One representative queried whether an analysis had been done of the environmental benefits of the proposal. The representative of the United States described efforts that had been made to compare benefits from the current proposal to benefits from other actions. He said that action on production and consumption would be taken under the Montreal Protocol but given that the benefits from emission reduction would be climate benefits they would be recorded under the Framework Convention on Climate Change and the Kyoto Protocol.

66. One representative reiterated that the elimination of HFCs would require cost-effective and readily available alternatives, along with financial assistance for parties operating under paragraph 1 of Article 5. Expressing agreement, the representative of the United States said that the Technology and Economic Assessment Panel would be helpful in finding technical solutions, noting that it had a long history of providing information on sector-specific alternatives to ozone-depleting substances.

67. One representative suggested that the Kyoto Protocol was only considering HFCs in a minor way because the Montreal Protocol, with fewer parties, was aggressively seeking to bring the substance under its provisions and was thereby undermining the credibility of the Kyoto Protocol. The representative of the United States suggested that in fact the Montreal Protocol had more parties and that in any case it would not undermine the Kyoto Protocol. The representative of the Federated States of Micronesia noted that the Montreal Protocol was the only protocol to have achieved universal ratification.

68. Another representative questioned the legitimacy of discussing the issue under the Montreal Protocol, saying that it was global in scope and therefore required endorsement from all stakeholders at all levels, and said that he had no mandate to take a decision. Another representative echoed his remarks, adding that full information had to be available for consultations with capitals. The representative of the United States said that the parties to the Protocol could mandate the discussion of HFCs and provided all the legitimacy that was required. The representative of the Federated States of Micronesia expressed agreement that the endorsement of the parties would make the proposed action legitimate and said that there was no conflict with the Kyoto Protocol since the latter covered only emissions. The representative of Canada noted that as the Kyoto Protocol faced many other challenges it would in no way be diminished if HFCs were controlled under the Montreal Protocol. He also said that there was a need for coordination at the national and international levels between multilateral environmental agreements, suggesting that if countries, as parties to the Montreal Protocol, accepted the inclusion of HFCs under the Protocol then those same countries would accept it as parties to the

Framework Convention on Climate Change and the Kyoto Protocol. The representative of Mexico reaffirmed that the proposal only covered the reduction of HFCs.

69. Following the questions and answers there was a discussion of the merits of the proposals. Many representatives spoke, expressing a broad range of views. Several representatives said that HFCs were greenhouse gases rather than ozone-depleting substances and therefore came under the purview of the Framework Convention on Climate Change rather than the Montreal Protocol. One representative said that the situation was legally complex and that any draft decision would require approval by both the parties to the Montreal Protocol and the parties to the Kyoto Protocol. A number of representatives said that the Montreal Protocol had more urgent priorities to command its attention, with the 2013 target for freezing production and consumption of HCFCs rapidly approaching and the management and destruction of banks of ozone-depleting substances also requiring urgent action. Such activities clearly lay within the scope of the Montreal Protocol, and parties should not deviate from their mandate to deal with them.

70. Other representatives argued that the legal issues were not so clear-cut, as the rapid growth in the use of HFCs had arisen primarily from decisions taken by the parties to the Montreal Protocol to accelerate the phase-out of CFCs and HCFCs, giving rise to a pressing need to identify and introduce alternatives to those substances. It was the responsibility of the parties to follow up on all decisions made under the Montreal Protocol and to limit the adverse effects of those decisions. Others said that the issue presented an opportunity for the Kyoto Protocol and the Montreal Protocol to work together and explore synergies on a matter that was of relevance to both.

71. One representative said that while HFCs were covered by the Framework Convention on Climate Change and the Kyoto Protocol, the Montreal Protocol had the necessary tools, given its impressive track record of dealing with ozone-depleting substances, and was in a strong position to complement the work of the Framework Convention and the Kyoto Protocol on HFCs. He referred to the proposal under the Ad Hoc Working Group on Long-term Cooperative Action under the Framework Convention that called for action on HFCs under the Montreal Protocol and expressed readiness to engage in discussions on the elements of the amendment proposals. Several representatives of small island States supported the stance that strong action, led by the Montreal Protocol, should take precedence over legal technicalities, stressing the urgency of controlling greenhouse gases given the vulnerability of their countries to global warming and sea-level rise. Other representatives expressed concern that a large-scale phase-in of HFC technologies might occur unless urgent and timely action was taken. Representatives of non-governmental organizations also stressed the need for immediate measures to deal with HFCs – they maintained that alternatives were available and that approving the proposed amendments would liberate funding that would facilitate the phase-out of HCFCs.

72. Several representatives said that parties operating under paragraph 1 of Article 5 would be placed in difficulty by moves to phase down HFCs. They said that alternative technologies were not readily available and the costs of conversion were daunting, with adverse impacts on both producers and consumers. Also, many of those parties saw it as their main concern to carry on with their pressing work to phase out HCFCs. Premature phase-down of HFCs would jeopardize that goal, given that HFCs had been introduced, at some expense, as an alternative to HCFCs in certain uses.

73. One representative, supported by several others, said that progress in eliminating ozone-depleting substances had derived from the fact that substitutes were available, but some had themselves turned out to be environmentally damaging; there was therefore a need for caution before proceeding with new commitments that had not been fully evaluated. Several suggested that further study of the technical issues was required and that the Technology and Economic Assessment Panel should provide further data and analysis on legal, technical, financial, timing and safety issues. A number of representatives said that further consideration of the proposed amendments should await the outcome of the sixteenth session of the Conference of the Parties to the Framework Convention on Climate Change, which would take place in Mexico in November and December 2010, and further feedback from the Subsidiary Body on Scientific, Technical and Technological Advice and the Ad Hoc Working Group on Long-term Cooperative Action under the Convention.

74. A number of representatives suggested that the two proposals be merged for further consideration, as they had much in common. The proponents of the amendments agreed that intersessional discussions would be pursued.

75. Following the discussion, an informal, open-ended group was formed to discuss the proposed amendments and the draft decision on HFC-23. In accordance with standard procedures, the proposed amendments and the draft decision, as set out in annex I to the present report, would be forwarded for consideration by the Twenty-Second Meeting of the Parties.

B. Draft decision on the hydrochlorofluorocarbon guidelines approved by the Executive Committee of the Multilateral Fund

76. The representative of Brazil introduced a conference room paper containing a draft decision on HCFC guidelines that had been approved by the Executive Committee of the Multilateral Fund at its sixtieth meeting. The decision would provide for the Technology and Economic Assessment Panel to carry out an analysis of the technical and economic implications of those guidelines until 2015, specifically with regard to HFCs and which low-GWP substitutes, and in what quantity, could be financed. Such a study was important, he said, to avoid the mistake of choosing alternatives with high GWP and to provide incentives for choosing the right alternatives.

77. Several representatives expressed interest in the proposed draft decision but there was a general opinion that further discussion was required to appreciate its full implications. The Working Group agreed to refer the matter for further discussion to the contact group discussing the terms of reference for a study on the next replenishment of the Multilateral Fund and the terms of reference for an evaluation of the financial mechanism (as described in sections B and C of chapter IV above).

78. Following the contact group's deliberations its co-chair reported that the group had had a broad discussion of issues such as the classification of GWP and a time frame for analysing the availability of alternatives but that more time would be needed during the Twenty-Second Meeting of the Parties to review the draft decision in detail.

79. The Working Group agreed to forward the draft decision, as set out in annex I to the present report, to the Twenty-Second Meeting of the Parties for further consideration.

VI. Issues related to hydrochlorofluorocarbons

A. Response by the Technology and Economic Assessment Panel to the hydrochlorofluorocarbon issues highlighted in decision XXI/9

80. Under the sub-item, members of the Technology and Economic Assessment Panel gave a presentation on the Panel's report on the broad range of HCFC issues highlighted in decision XXI/9.

81. Mr. Kuijpers, one of the four co-chairs of the decision XXI/9 task force and Co-Chair of the Technology and Economic Assessment Panel, outlined decision XXI/9, focusing on the three subparagraphs of paragraph 2. He said that the Panel had established a task force for the preparation of the report requested in decision XXI/9. The report was based on a categorization and reorganization of the information previously provided in accordance with decision XX/8 and was aimed at informing the parties of the uses for which technologies with low or no GWP and other suitable technologies had been or would soon be commercialized, including, to the extent possible, the predicted amount of high-GWP alternatives to ozone-depleting substances that could potentially be replaced, as requested in paragraph 2 (c) of decision XXI/9. The task force had been co-chaired by Mr. Kuijpers, Mr. Dan Verdonik, Mr. Quintero and Ms. Shiqiu Zhang, and 12 chapter lead authors and 27 reviewing authors had participated. The Panel had reviewed the task force report at its April 2010 meeting in Madrid, following which there had been a final task force review and agreement by consensus.

82. He stressed that the Kyoto Protocol used the GWP values specified in the second assessment report of the Intergovernmental Panel on Climate Change (IPCC), and had not considered later revisions of GWP values provided by IPCC. The GWP values were based on a 100-year time horizon and the GWPs of very short-lived substances (with lifetimes of less than six months) were not addressed in the fourth IPCC assessment report because local effects dominated over global total mixing. The Kyoto Protocol had never defined the designations "high-GWP" and "low-GWP"; they were comparative in nature. The task force had investigated a classification for GWP values and the Panel therefore proposed the following values: "low-GWP" would imply a GWP value smaller than 300 (with a GWP smaller than 30 defined as ultra-low and a GWP smaller than 100 defined as very low); "moderate-GWP" would imply a value between 300 and 1,000; and "high-GWP" would imply a GWP value higher than 1,000 (with a GWP higher than 3,000 defined as very high and a GWP higher than 10,000 defined as ultra-high).

83. Mr. Steven Andersen, chapter lead author on the task force and Co-Chair of the Panel, explained that high-GWP or moderate-GWP substances or mixtures might be required when low-GWP toxic or flammable substances could not be applied in certain types of products or under certain circumstances. New low-GWP substances were being developed, and future changes in equipment design would determine which chemicals could be selected. He then discussed methods and metrics, stressing that the

ultimate choice of technologies to phase out HCFCs would be based on ozone depletion and on climate, health, safety, affordability and availability considerations (as mentioned in decision XIX/6), and that the lowest-GWP substance might not always be the best choice because the energy used in manufacturing and during operation was also important. He noted that life-cycle climate performance (LCCP) analysis was the most comprehensive method and that LCCP models needed more development to make them transparent and adaptable to local ambient conditions.

84. In the last part of his presentation he addressed two refrigeration sectors. He said that about 63 per cent of new domestic refrigerators employed HFC-134a and about 36 per cent hydrocarbons, mainly HC-600a (isobutane), and that it was predicted that within 10 years, under a business-as-usual scenario, at least 75 per cent of all new production would use hydrocarbons; the required changes in standards were under way and regulations could ease the transition. In that sector, no identified technology could compete on the basis of cost or efficiency with conventional vapour compression technology for mass production. Commercial refrigeration included three categories of systems: stand-alone equipment, condensing units and supermarket centralized systems. Solutions for replacing HCFC-22 depended on the specific applications in each category. He noted that most stand-alone equipment was based on HFC-134a technology, and that the energy efficiency of hydrocarbons was comparable. He said that condensing units had as the dominant HCFC-22 replacements HFC-134a and R-404A; that the condensing unit market was cost-driven; and that hydrocarbons, ammonia and carbon dioxide had been tested and installed in a number of supermarkets. Centralized systems used indirect loops, and the current HCFC-22 replacements were R-404A, HFC-134a, ammonia, hydrocarbons, carbon dioxide and low-GWP HFCs blended with HFC-32. An important current trend was the use of cascading systems with HFC-134a in the high-temperature loop and carbon dioxide in the low-temperature loop.

85. Mr. Roberto Peixoto, reviewing author on the task force and Co-Chair of the Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee, continued the presentation. He said that, in transport refrigeration, most equipment used high-GWP HFCs and that HCFC-22 was used mainly in ageing vessels and road transport in developing countries. In that sector, the development of systems with low-GWP chemicals was under way but faced technical challenges because of requirements regarding robustness, low weight, corrosion resistance and safety, and the most promising low-GWP substances were hydrocarbons and carbon dioxide. In large-size refrigeration, ammonia had long been used as the leading refrigerant, with significant regional variations, and in applications where the toxicity of ammonia was unacceptable carbon dioxide had been an alternative. High-GWP HFCs were not widely used in large-size refrigeration systems; any use of them had been restricted to low-charge systems. It was unlikely that the low-GWP HFCs developed for other applications would be used in that sector. In unitary air conditioning, nearly all air-cooled air conditioners manufactured before 2000 used HCFC-22, and the transition was complete or well advanced in developed countries. In those countries, high-GWP HFCs had hitherto been the dominant replacements, with R-410A the most widely used (with R-407C used in certain regions); hydrocarbons were applied in low-charge applications. In developing countries, short-term replacements would be R-407C and R-410A, with hydrocarbons used for lower-charge applications. He stressed that HFC-32 was a lower-GWP alternative to HCFC-22 than R-410A (with one third of the GWP of R-410A). He said that, as experience with flammability increased, HFC-32, rather than R-410A, was likely to become the new substitute for HCFC-22. Where the use of hydrocarbons was expected to increase, low-GWP HFCs might become replacements for the high-GWP HFC blends; lower vapour density would have an impact on equipment dimensions and costs, however. In that sector the use of carbon dioxide for lower ambient temperatures would increase.

86. He said that centrifugal chillers employed HFC-134a and HCFC-123 (which had a very low GWP); it was not currently known whether low-GWP options (such as low-GWP HFCs, e.g., HFC-1234yf) would be found to be suitable for chillers. Ammonia chillers were more common in the smaller sizes with different compressor types. Hydrocarbons were used in a limited number of smaller air-cooled chiller installations in Europe. Safety issues were a concern, particularly for indoor chiller installations. In regions where companies, Governments and the public supported hydrocarbon-based solutions, safety concerns had been largely overcome by engineering, technician training and changes in regulations. Carbon dioxide was an alternative to chillers that also produced hot water, and water had been used in a few cases. In the mobile air conditioning sector, HCFCs were used mainly in bus and train air conditioning, and the alternatives were HFC-134a and carbon dioxide. The replacement of HFC-134a in passenger cars would proceed; the original HFC-134a replacement options with GWP of less than 150 were carbon dioxide and HFC-152a, while the most important current alternative was HFC-1234yf; all those options had comparable energy efficiency. He stressed that the last option, HFC-1234yf, was the apparent preferred choice of emerging global car manufacturers.

87. Mr. Quintero, co-chair of the task force and Co-Chair of the Foams Technical Options Committee, said in his presentation that foams competed with other product types in many insulation and other applications; that mineral fibre continued to be the leading insulation type in most regions; that low-thermal-conductivity foams had gained market share (30–40 per cent in most regions); and that for polyurethane hydrocarbons were the main replacements for HCFC-141b as well as for high-GWP HFCs. High-GWP HFC foams were more expensive than hydrocarbon foams, and many low-GWP options were emerging and being applied. He highlighted the properties and possible applications of several low-GWP foam-blowing solutions (e.g., methyl formate and methylal). The demand for energy-saving measures was driving the growth of insulating extruded polystyrene foams; the preferred blowing agents for extruded polystyrene in countries operating under paragraph 1 of Article 5 had been HCFC-22 and HCFC-142b and in one developing country, Turkey, HFC-1234ze was being used in a pilot project. In countries not operating under paragraph 1 of Article 5, the range of alternatives included carbon dioxide and hydrocarbons in Europe and Japan, while the United States also used HFCs and mixtures of HFCs and carbon dioxide.

88. Mr. Verdonik, co-chair of the task force and Co-Chair of the Halons Technical Options Committee, said in his presentation that for halon 1301 systems the replacement HCFC Blend A (HCFC-22, HCFC-124, HCFC-123) had gained very minor market share and that replacements for Blend A were dry chemicals, water or foams, carbon dioxide, inert gases and fluoroketone 5-1-12. For halon 1211 portable extinguishers, HCFC Blend B (a mixture of HCFC-123, PFC-14 and argon) had achieved limited market share; no low-GWP chemicals were currently being commercialized to replace Blend B. An unsaturated hydrobromofluorocarbon was being tested. Regarding solvents, he said that HCFC solvents were HCFC-141b and HCFC-225ca/cb; HCFC-141b had been phased out in developed countries but its use might still be increasing in developing countries. The two HFC solvents currently available were HFC-43-10mee and HFC-c447ef. For a variety of applications, blends were made with HFC-43-10mee and several other chemicals, but HFC-c447ef electronic solvent applications remained a niche use. An important issue was that the costs of high-GWP solvents would limit their use. Regarding inhaled therapy, he noted that metered-dose inhalers, dry-powder inhalers and novel delivery systems played an important role in the treatment of asthma and chronic obstructive pulmonary diseases; that no single delivery system was universally acceptable; and that having a range of therapeutic options would be important. Based on current consumption and estimated growth rates for metered-dose inhalers, HFC-134a and HFC-227ea consumption was predicted to increase to 7,000–10,500 tonnes by 2015 (which implied an emission reduction of 13 tonnes of carbon dioxide equivalent annually if all inhalers were dry-powder inhalers).

89. He concluded by once more presenting the Technology and Economic Assessment Panel's proposed classification of global warming, and mentioned that each sector or subsector had a variety of low-GWP or moderate-GWP alternatives available or being developed and that some sectors or subsectors might also have not-in-kind alternatives that were not global warming substances. He reiterated that parties might wish to select alternatives with the lowest climate impact based upon life-cycle analyses, such as LCCP, and not solely on GWP, as energy use or other life-cycle emissions might contribute significantly to total carbon equivalent emissions.

B. Scoping study by the Technology and Economic Assessment Panel on alternatives to hydrochlorofluorocarbons in the refrigeration and air-conditioning sectors in parties operating under paragraph 1 of Article 5 with high ambient temperature conditions (decision XIX/8)

90. Under the sub-item, members of the Panel gave a presentation on new information on alternatives to HCFCs in the refrigeration and air-conditioning sectors in parties operating under paragraph 1 of Article 5 with high ambient temperature conditions.

91. Mr. Kuijpers reported on the work of the Technology and Economic Assessment Panel in response to decision XIX/8, by which the parties had requested the Panel to prepare a scoping study providing guidance on replacements for HCFC-22 used under high ambient temperatures. He then elaborated on the process of the drafting of the study, noting that a subcommittee of the Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee had been formed in 2008. Delays had been experienced in that year owing to problems in gathering accurate commercial product data from various countries and in 2009 owing to logistical difficulties, including difficulties in organizing visits to South African mines. The final report had been reviewed at the 2010 meeting of the Panel in Madrid.

92. Noting that a number of places in the world were experiencing record high temperatures, he said that a wide variety of refrigerants (HFCs, HFC-based blends and hydrocarbons) could replace HCFC-22

in very hot climates. Factors affecting the selection of alternative refrigerants included GWP, cooling capacity at elevated ambient temperatures, energy consumption, energy efficiency and related impacts on electricity supplies, and availability of the alternatives and suitable equipment. In air conditioning, the primary global replacement, especially for the dominant air-cooled designs, was the blend R-410A. One component of R-410A , HFC-125, had a comparatively low critical point temperature (66° C), which meant that it had a rapidly declining capacity and efficiency as condensing temperatures approached the critical temperature of the blend; the same effect occurred with the blend R-407C.

93. He then reported on analyses undertaken with the use of thermodynamic cycle models. For air conditioning, condensing temperatures had been varied between 35° C and 65° C. The high end of that range could occur at ambient temperatures between 45° C and 52° C if no precautions in design were taken. He stressed that while a 65° C condensing temperature would lead to substantial efficiency and capacity decreases it would only occur during part of the year; its impact on annual performance would therefore be less than if it occurred throughout the year. If equipment were designed to deal with the highest ambient temperatures then it would operate more efficiently at lower ambient temperatures; the net result would be that high ambient temperatures would have only moderate or negligible impacts on annual energy consumption. Additional system design features (such as night operation combined with cold storage) would have added positive effects. He then presented a table showing calculated efficiencies for six condensation temperatures and seven refrigerants, noting in particular the efficiencies of HCFC-22 and R-410A.

94. Mr. Peixoto then presented information on refrigerants for high ambient temperature air conditioning. He said that application engineers would need to oversize equipment to compensate for reduced capacity at the design ambient temperature and that in most cases equipment using R-410A or R-407C would need to be sized 5–10 per cent larger than HCFC-22 equipment to compensate for the lower capacity of those substances at ambient temperatures up to 50° C. The increased capital cost of over-sizing the equipment would be about 3–10 per cent for a 10 per cent increase in capacity. The natural refrigerant HC-290 could replace HCFC-22 in low-charge applications (i.e., window air conditioners and portable room air conditioners). When replacing HCFC-22 with HC-290 it was necessary to consider appropriate design changes to minimize the refrigerant charge of HC-290 and thereby comply with applicable codes and standards on refrigerant charges and flammability. HFC-32 and HFC-32 in blends were candidates for the longer-term replacement of R-410A. HFC-32 was moderately flammable, had a GWP one third that of R-410A and exhibited better high ambient temperature performance than R-410A; design changes required to convert from R-410A to HFC-32 were minor.

95. He then discussed refrigerants for high ambient temperature commercial refrigeration. The primary global replacement for commercial refrigeration was R-404A, a blend consisting of HFC-125 and HFC-143a, both of which had relatively low critical temperatures that caused rapidly declining capacity and efficiency as condensing temperatures approached the critical temperature of the blend. The suitability of R-404A, hydrocarbons, carbon dioxide and ammonia as candidate HCFC-22 alternatives for very hot climates had been examined for the study. For stand-alone equipment, under high ambient temperature conditions, one high-GWP refrigerant (HFC-134a) and three low-GWP refrigerants (HC-600a, HC-290 and possibly HFC-1234yf) could be used with current refrigeration technologies. For centralized systems, low-GWP toxic and flammable refrigerants could be used in indirect system conditions because there was no significant variation in the evaporation temperature. HFC blends with high GWP, such as R-404A or even R-422D or R-427A, could be used but for those three blends the refrigerating capacity could be lower by about 5 per cent and the efficiency by 5–10 per cent. Hydrocarbons, such as HC-290 and HC-1270, could be used at high ambient temperatures since they exhibited relatively low discharge temperatures compared to HCFC-22. Refrigerant quantities had to be limited for safety reasons, however. The new low-GWP short-lived HFC-1234yf, as well as other new low-GWP blends, could be expected to be commercialized during the next three years and might also be used in indirect systems or cascading systems with carbon dioxide either as a refrigerant (in the low stage) or as a heat transfer fluid.

96. Mr. Kuijpers then highlighted the issue of refrigerants for deep mines. He said that the technology for deep mines differed somewhat from that for high ambient temperature operation, noting that the ambient heat rejection (refrigerant condensing) temperatures generally were less extreme in mines. In addition, with low humidity, heat rejection was typically achieved through the use of water cooling towers rather than air-cooled condensers. He said that a study tour of deep mines had been made in South Africa in the second part of 2009 and that, during the tour, leading mining companies, the engineering firms supporting them, researchers and government contacts were consulted to discuss problems and solutions. He then elaborated on the use of refrigerants. Most newer mine chillers

installed over the previous decade used HFC-134a or ammonia (R-717); some older and small mines, however, used HCFC-22 equipment. Some newer installations used HCFC-123 to attain high efficiencies and some recent systems used water (R-718) as a refrigerant in a vacuum, with a vapour-compression flash cycle to produce ice slurries directly. Some proposed systems would use air in standard reverse Brayton cycles. He concluded with a summary of the main issues.

C. Discussion

97. The Working Group discussed items 6 (a) and (b) together. Following the presentations, members of the Panel responded to questions raised by representatives on the technical content of the presentations.

98. With regard to the report on decision XXI/9, several representatives raised questions related to the application of numerical values to the classification of substances according to their GWP. One representative asked why three categories were described in the presentation – low GWP, moderate GWP and high GWP – whereas the report described a much larger number of categories. The representative also noted that the figure of 300 used to delimit substances of low GWP was at variance with the figure of 150 used in European Union regulations, creating potential confusion. A member of the Panel responded that no one had ever before attempted systematically to assign numerical values to the various categories of GWP or set forth a rationale for the assignment of any particular values to those categories. Furthermore, the figure of 150 used by the European Union referred specifically to air-conditioning systems in motor vehicles and was therefore not directly comparable to the values chosen by the Panel. The report described more categories than the three mentioned in the presentation simply because each of the latter included a number of subcategories.

99. The same representative also asked why the Panel had said that hydrocarbons could be used in low-charge applications only in small chiller installations with appropriate security measures, given that large chillers of up to several kilowatts were using hydrocarbons in indirect systems. A member of the Panel responded that the Panel had made that general recommendation because smaller chillers, which used only a few hydrocarbons, including predominantly propane, were more likely to comply with safety regulations and standards globally.

100. In response to a question on the use of ammonia for commercial refrigeration in supermarkets, a member of the Panel said that further information would be included in the 2010 assessment report of the Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee.

101. A representative asked whether, given its GWP, HFC-32 could be used in some applications, for example, in unitary air-conditioning, and how it compared with propane in those applications. A member of the Panel said that HFC-32 had a moderate GWP of about 670 and was being developed and applied on a small scale as a replacement for HFC-22 in certain conditions. Propane had a slightly higher energy efficiency than HFC-32, but was more inflammable.

102. Another representative asked for comments from the Panel on the use of absorption coolers, with particular reference to costs and environmental impacts. A member of the Panel said that, as had been mentioned in the presentation, the dominant technology for the near future was the vapour compression cycle, although the absorption cycle had certain advantages, depending on the energy matrix of the country using it. For example, combining absorption chillers with electricity production in co-generation, using natural gas for turbines, could yield good performance for absorption cycles.

103. The same representative also asked about the choice of hydrocarbons for mobile air-conditioning units. A member of the Panel said that in the many years that the automobile industry had been investigating alternatives to HFC-134a no manufacturer had been able to make hydrocarbons energy efficient or safe. HFC-1234yf and HFC-152a were better choices on a global basis for energy efficiency and for the high temperatures and service conditions that existed in many countries. In response to another question, another member of the Panel said that HFC-152a was suitable for use in a vapour compression cycle, provided that flammability issues were addressed.

104. In response to a comment that the Panel's report lacked detail on the relative costs of low-GWP alternatives, a member of the Panel said the Panel had done its best to formulate the document in accordance with the mandate of decision XXI/9 within the time available and would be willing to consider some matters further if so requested by the parties.

105. With regard to the report on decision XIX/8, one representative asked about refrigeration in very hot, dry climates, expressing some concern at the statement in the presentation that equipment would need to be oversized at higher temperatures to compensate for the reduced capacity at the design ambient temperature, which would require increased expenditure, for example, on electricity. A member

of the Panel said that the main issue of the report had been to investigate alternatives to the current application of HCFC-22 in air conditioning. HFC blends currently being used in product manufacture could be applied in hot ambient conditions and, with some changes in design, products using them had the potential to achieve efficient performance with only a small increase in energy consumption. It was also worth bearing in mind that temperatures peaked at certain times of the year and that well-designed equipment would run appropriately at the highest temperatures and consume less energy at lower temperatures.

106. The representative of a non-governmental organization asked how the low-charge limit of 250 grams for air-conditioning units had been arrived at when many companies were constructing models with high energy efficiency well above 1,000 grams. A member of the Panel said that the 250-gram total was the average global value, although higher figures might apply to certain regions or countries. The Panel had not said that certain hydrocarbons did not perform efficiently compared to HFC blends.

107. A representative drew attention to a development in Southern Europe concerning a new technology based on solid fuel and salts and proposed to provide more information to the Panel.

108. With regard to general issues arising from the reports, in response to a question about the safety and costs of alternatives a member of the Panel said that whenever alternatives were developed issues of safety, energy efficiency and costs played a critical role. Given the complexity of factors, it was not possible to offer advice applicable to all types and sizes of equipment at all ambient temperatures. The situation was further complicated by the continuing development of new technologies and design options.

109. A representative asked whether technically feasible, commercially available alternatives to HFCs were more numerous than alternatives to CFCs had been 20 years earlier. A member of the Panel said that at the time when alternatives to CFCs were being sought, people were less accustomed to the idea of change, but many applications had relatively simple solutions. Currently, discussion was centred around more specialized applications for which a large number of alternatives had been developed and commercialized. A number of those alternatives had high GWP, but further developments were in progress. Another member of the Panel said that in 1990 there had been a greater sense of urgency about ozone layer protection and that some solutions, such as the replacement of CFC-12 with HFC-134a in automobiles, had been achieved within a relatively short time frame, which offered an instructive model for the current process of change.

110. The Working Group took note of the reports by the Technology and Economic Assessment Panel.

D. Treatment of polyols in calculating consumption of hydrochlorofluorocarbons

111. The Co-Chair introduced under the sub-item a conference room paper submitted by the representative of India containing a draft decision on affirmation of the status of HCFCs preblended in polyols as controlled substances under the Montreal Protocol.

112. Explaining the draft decision, the representative of India said that HCFCs were typically blended into polyols in the manufacture of polyurethane foams. Such preblended polyols were manufactured on a relatively large scale, customized for various applications and traded between countries. As the schedule for phasing out HCFCs had been accelerated, it was essential to decide whether ozone-depleting substances associated with preblended polyols were to be considered controlled substances under the Montreal Protocol. A clear answer to the question would be critical to compliance for many parties operating under paragraph 1 of Article 5 of the Protocol. Existing guidance from the Technology and Economic Assessment Panel and the Meeting of the Parties supported the idea that ozone-depleting substances preblended in polyols were controlled substances. That was to be reaffirmed by the Meeting of the Parties.

113. Several representatives expressed support for the proposal of India, stating that the practice that had been approved by the Multilateral Fund on the reporting of ozone-depleting substance data was that, where the data involved two or more substances, the quantities of each should be indicated separately.

114. Some other representatives, however, expressed the view that the proposal would deviate from the established practice in calculating baselines for parties operating under paragraph 1 of Article 5 and that careful consideration would be needed by all bodies, including the Ozone Secretariat and the Executive Committee of the Multilateral Fund. Changing that practice might increase consumption and call the phase-out schedule into question. Baselines would have to be recalculated and countries might have to modify their domestic regulations. The proposal had serious repercussions for parties operating

under paragraph 1 of Article 5 and new customs codes could be required to describe those who would be the final consumer of those substances. It was noted that the issue of polyols had arisen in connection with the eligibility for funding of HCFC-141b phase-out projects involving preblended polyols. The Executive Committee had deferred decision on that question and requested the Fund secretariat to prepare a technical paper for consideration at the next meeting of the Executive Committee. It was hoped that the Executive Committee would be able to resolve the issue at that meeting and it was suggested that further action should await the Executive Committee's decision. If such action was necessary it could be discussed by the Twenty-Second Meeting of the Parties.

115. The Working Group agreed to establish a contact group, to be co-chaired by Ms. Bianca Abreu (Brazil) and Mr. Mikkel Sorensen (Denmark), to discuss the issue further and to attempt to reach agreement on the draft decision.

116. Following the deliberations of the contact group its co-chair reported that the group had agreed that the draft decision should be forwarded, with the entire text enclosed in square brackets to indicate lack of consensus, to the Twenty-Second Meeting of the Parties for further discussion. He also explained that some members of the contact group had proposed that the Working Group ask the Executive Committee to consider, at its sixty-first meeting, ways to respond to the concerns of the parties with regard to the funding of polyol-related projects. In addition, he explained that some members of the contact group had proposed that the Technology and Economic Assessment Panel be asked to clarify the definition of "fully preblended polyol" and its relation to the definition of "controlled substance" and that the proponent of the proposed draft decision be asked to clarify the concept of the production of polyols. Answers to those questions would help inform debate on the issue by the Twenty-Second Meeting of the Parties.

117. The Working Group agreed to forward the draft decision, enclosed in square brackets as set out in annex I to the present report, to the Twenty-Second Meeting of the Parties for further discussion.

VII. Issues related to exemptions from Article 2 of the Montreal Protocol

A. Nominations for essential-use exemptions for 2011 and 2012

118. The Co-Chair, recalling the presentation made by the Technology and Economic Assessment Panel on the essential-use exemptions for 2011 and 2012 (see chapter III of the present report), introduced the sub-item.

119. In the ensuing discussion, one representative said that all parties operating under paragraph 1 of Article 5 should be able to obtain metered-dose inhalers on a fair basis and that exemptions should therefore be granted to enable their export. To that end, further consultations with exporting countries should be conducted. Another said that the trend in nominations was positive and encouraging and praised those parties that had decided not to submit essential-use nominations in the current year. She noted, however, that the Medical Technical Options Committee had had difficulty in gathering adequate information on whether CFCs were essential for use in metered-dose inhalers in various importing countries and expressed the hope that work could continue bilaterally and intersessionally to improve the provision of information on that point.

120. Another representative said that nominating parties had provided more information than in previous rounds on the availability of alternatives on their markets. He expressed satisfaction that Egypt, the Syrian Arab Republic and the United States no longer required CFCs for metered-dose inhalers and hoped that that signalled the completion of those parties' transition away from CFCs in the metered-dose inhaler sector. He expressed concern, however, that the Russian Federation continued to request exemptions for the use of CFC-113 in its aerospace programme and asked when alternatives would be introduced and CFC-113 use might cease. Another noted that most parties had requested exemptions for lower amounts of CFCs than they had done in their previous nominations and applauded the efforts of the Executive Committee to facilitate the transition to the use of non-ozone-depleting substances.

121. A number of representatives commented on the recommendations of the Medical Technical Options Committee on their countries' essential-use nominations. The representative of the Russian Federation, for example, agreed to the reduction of its essential-use nomination to 212 tonnes and the representative of India reported that the Committee had agreed to reconsider its recommendation on his country's nomination.

122. The representative of Bangladesh explained his country's essential-use nomination, saying that environmental pollution had sharply increased morbidity and mortality rates, with rising numbers of patients requiring the use of metered-dose inhalers in recent years such that the country continued to need CFCs for use in inhalers. It was hoped, however, that manufacturers in the country would be able to use substitutes for CFCs by 2011.

123. The representative of the United States said that, although the country was still in the process of transition to non-CFC products and might in the future need to request further extensions, progress in the development of alternatives to CFCs had meant that no exemption was required for the current year.

124. The representative of Pakistan said that, as his country had imported 10 tonnes of CFCs from China, a refusal to grant an essential-use exemption to his country would adversely affect many patients.

125. The Co-Chair suggested that parties should hold bilateral discussions with the Medical Technical Options Committee to analyse the Committee's proposals further and submit the results of those discussions to the Twenty-Second Meeting of the Parties.

B. Results of the mission by the Technology and Economic Assessment Panel and its Medical Technical Options Committee to the Russian Federation to review that country's transition to chlorofluorocarbon-free metered-dose inhalers (decision XXI/4)

126. Introducing the item, the Co-Chair recalled that in paragraph 8 of decision XXI/4 the parties had requested the Technology and Economic Assessment Panel to review the transition of the Russian Federation to the use of CFC-free metered-dose inhalers. He summarized the findings of a review mission that had taken place in February 2010.

127. The representative of the Russian Federation then gave an overview of the current situation. To promote implementation of a project to help Russian producers of metered-dose inhalers make the transition to alternative substances, his Government had established a working group of stakeholders including representatives of government entities, producers of inhalers and importers of CFCs. He reported on progress in moving towards the design and production of new inhaler models and their regulation and expressed the hope that speedy implementation would continue. With the support of UNIDO, his Government hoped to complete the transition to the use of ozone-friendly substances in metered-dose inhalers by the end of 2012.

128. One representative said that his Government wished to encourage the Russian Federation in its efforts and looked forward to hearing more about the transition to CFC-free inhalers. Another noted the conclusion of the Panel that the main obstacle to a rapid transition was a lack of necessary funding to enable the two companies currently producing inhalers in the Russian Federation to convert their operations. He requested that the implementing agencies comment on the issue.

129. The representative of UNIDO said that his organization had recently informed the Global Environment Facility (GEF) secretariat that it would submit a proposal for a financing project. Discussions were under way with the two manufacturers about their co-financing of the project, which was a GEF requirement. He provided further clarifications regarding the project.

130. The Working Group took note of the Panel's report and of the efforts by the Russian Federation to address the issue of CFC-free metered-dose inhalers.

C. Nominations for critical-use exemptions for 2011 and 2012

131. Mr. Ian Porter and Ms. Marcotte, co-chairs of the Methyl Bromide Technical Options Committee, gave a presentation on critical-use nominations on behalf of the other co-chairs of the Committee, Mr. Besri and Ms. Pizano, summarizing the findings set out in the report of the Technology and Economic Assessment Panel on interim recommendations for 2010 critical-use nominations for methyl bromide and related matters.

132. Introducing the issue, Mr. Porter provided information on trends in critical-use exemptions since 2005 in parties not operating under paragraph 1 of Article 5. He noted that the total volume of methyl bromide consumption approved or recommended for critical uses had declined from 16,050 tonnes in 2005 to 3,954 tonnes in 2010 and that nominations for 2011 and 2012 in the current round had continued to fall, albeit at varying rates. Interim recommendations for all controlled uses for all parties in 2010 were 232.531 tonnes for 2011 (in addition to the 2,928 tonnes approved by the Twenty-First Meeting of the Parties) and 1,261.304 tonnes for 2012. The Committee had not accounted for existing

methyl bromide stocks, which stood at 3,132.4 tonnes at the end of 2009, compared to 10,592.679 tonnes reported in 2005.

133. He then presented the interim recommendations for nominations received for pre-plant soil use of methyl bromide in 2011 and 2012. The Committee had received 27 nominations for such use in total for the current round: 9 for 2010 and 18 for 2011. In addition, a supplementary request had been received from Australia for 5.95 tonnes for strawberry runners for 2011, which had subsequently been recommended for approval. Of the nine parties submitting nominations since 2005, only five, Australia, Canada, Israel, Japan and the United States, were continuing to submit nominations, which related to nine horticultural industry sectors.

134. He reported that Israel had submitted 10 nominations in the current round and had advised that it would not be submitting nominations in future rounds. He also reported that Japan had submitted six nominations in the current round and had advised that it would not be submitting nominations for soil uses in future rounds.

135. The Committee had made interim recommendations of 230.447 tonnes for soil uses for 2011 (in addition to the 2,031.382 tonnes approved by the Twenty-First Meeting of the Parties) and 1,164.452 tonnes for 2012. It had not recommended 8 tonnes for 2010 and 107 tonnes for 2011.

136. He explained that for 2012, Australia (29.790 tonnes) and Canada (5.261 tonnes) had nominated the same amount as for 2011 for strawberry runners and that future reductions in nominations depended on registration of MI/Pic, Pic100 or plug plants in substrates. Israel and Japan had reduced nominated amounts by 20 per cent and 4 per cent respectively. The United States had made significant reductions in many sectors (48 per cent in total for pre-plant uses). Further reductions in some sectors would be difficult if new alternatives, particularly methyl iodide/chloropicrin and dimethyl disulphide, were not registered.

137. Substantial reductions were being made in several key sectors, including tomatoes and orchard replant in the United States owing to the registration and adoption of methyl iodide and a three-way fumigant system.

138. In conclusion, he highlighted several important issues concerning future phase-out for pre-plant soil uses. The largest remaining nomination, for strawberry fruit in the United States, was becoming more difficult to find alternatives for owing to internal regulations, and future reductions appeared to be contingent on the registration of methyl iodide. The party had been urged to consider submitting an action plan for possible further reductions. The United States continued to reclassify some pre-plant soil uses that listed non-quarantine pests as targets as quarantine and pre-shipment uses that other parties considered subject to phase-out (e.g., forest nurseries, caladiums, roses). Concern was expressed that those uses were not for quarantine pests and therefore might not qualify for the quarantine and pre-shipment exemption. Parties were urged to decide under which circumstances pre-plant soil use for propagative material qualified for the quarantine and pre-shipment exemption.

139. Ms. Marcotte reported on the adoption of alternatives to methyl bromide for quarantine and pre-shipment uses in respect of structures and commodities. Eight nominations for such uses had been submitted in the current round of nominations: four for food processing in Canada and the United States and four for commodities in Australia, Japan and the United States. Those nominations totalled 185.704 tonnes but the Committee was able to recommend only 101.023 tonnes.

140. She noted several concerns, suggesting that progress had stalled for the majority of post-harvest quarantine and pre-shipment uses, as many parties had not reduced the amounts that they had nominated in the current round. The Structures and Commodities Subcommittee was concerned that without an increased research focus, regulatory approvals of alternatives and a commitment to requiring the use of the alternatives that were available, nominations might well persist at current levels for several years or longer. Concerns about cost and the environmental impact of sulfuryl fluoride were slowing the adoption of that key alternative and the high GWP of sulfuryl fluoride could contribute to the continued use of methyl bromide. Several regulatory issues appeared to be delaying the adoption of alternatives for several applications. The Committee urged parties to encourage investment in heat treatment, which was effective in many applications and did not require registration. Finally, she noted that the Structures and Commodities Subcommittee had called for trials of alternatives in food processing facilities and that detailed substantiation of such trials should be included in critical-use nominations.

141. In the ensuing discussion, one representative acknowledged that significant progress had been made in phasing out methyl bromide, which had resulted in fewer nominations, although the rate of decrease was slowing in some cases. He welcomed, in particular, Israel’s indication that it would not be submitting further applications after the current round, Japan’s action plan to phase out soil uses by

2013 and the substantial progress made by the United States in reducing methyl bromide nominations for pre-plant soil use. He expressed concern, however, that many applicants either had provided insufficient information or had not made the necessary efforts to find and adopt alternatives, as required by decision IX/6. Furthermore, the United States had requested methyl bromide for the same end use under both the critical-use exemption and the quarantine and pre-shipment exemption, and he announced his intention to bring up the matter in the context of the proposal for a draft decision on quarantine and pre-shipment for submission to the Twenty-Second Meeting of the Parties, in November 2010, to be discussed under agenda item 7 (d).

142. In response to a question on how the Panel would address gaps and deficiencies in information provided by parties when submitting nominations, a member of the Panel explained that it had inserted additional wording with a view to achieving greater transparency and that, although it had previously used data from other areas, in the current and future rounds of reporting, insufficient data would prevent it from doing so.

143. Responding to a question on the Panel's approach to updating its assessments, a Panel member explained that the Panel took into account new developments before making final recommendations and reported on new registrations in its twice-yearly reports.

144. In response to a question on the levels of nominations, a member of the Panel said that all countries were reducing their critical-use nominations.

145. In response to several requests for the Panel to give an opinion on when parties would cease to make requests for critical-use nominations, a member of the Panel said that each party would make its own decision on the date of final phase-out of methyl bromide and that the Panel could only determine when phase-out was likely to take place in a particular party if that party supplied the Panel with a phase-out action plan.

D. Technology and Economic Assessment Panel-led report on quarantine and pre-shipment issues (decision XXI/10)

146. Introducing the item, the Co-Chair recalled that the Panel's interim report on quarantine and pre-shipment applications of methyl bromide could be found on pages 89–157 of the Panel's 2010 progress report. The report had been prepared in response to decision XXI/10, which had requested the Panel to provide a review of available information on the technical and economic feasibility of alternatives and the estimated availability for quarantine and pre-shipment uses of methyl bromide for sawn timber and wood packaging material, grains and similar foodstuffs and pre-plant soils and logs; to report on the current availability and market penetration rate of alternatives to those uses; to provide an update of table 9.1 of the 2009 task force report; and to provide a description of a draft methodology that the Panel would use for the assessment of the technical and economical feasibility of alternatives.

147. Ms. Pizano, as chair of the Quarantine and Pre-shipment Subcommittee, made a presentation on issues related to quarantine and pre-shipment consumption of methyl bromide, recalling that in decision XXI/10 the Committee had been requested to prepare a report on such issues for the current meeting. She began by presenting information on the global consumption of methyl bromide for quarantine and pre-shipment uses, noting that overall consumption had fallen in the previous two years, with consumption in parties operating under paragraph 1 of Article 5 of the Protocol increasing and that in parties not so operating decreasing. Consumption in the United States had fallen significantly, to less than one quarter of 2006 consumption, and was as a result less than 1,000 tonnes, comparable to that of other parties not operating under paragraph 1 of Article 5. The European Union was expected to report zero consumption from 1 January 2011, as all methyl bromide uses, including quarantine and pre-shipment uses, were being phased out. Thirteen parties operating under paragraph 1 of Article 5 had reported consumption in excess of 100 tonnes. Consumption in China was very high compared to all other such parties and, while it varied from year to year, was increasing overall. The remaining parties operating under paragraph 1 of Article 5 had reported consumption of less than 800 tonnes per year. Analysis of regional consumption patterns revealed that consumption was increasing in Asia and, at a much lower rate, in Africa and Latin America.

148. She recalled the tasks set for the Panel in decision XXI/10: identifying the availability, market penetration and regulatory requirements and drivers for technically and economically feasible alternatives for the largest categories of quarantine and pre-shipment uses of methyl bromide, i.e., sawn timber and wood packaging material, grains and similar foodstuffs and pre-plant soil and logs; providing estimates of the amount of methyl bromide that could be replaced for those uses; and devising a draft methodology that the Panel could use, if requested by the parties, to assess the impact of any future restriction on the quarantine and pre-shipment use of methyl bromide. She explained that, when

evaluating the suitability of alternatives, different factors were accounted for such as their technical feasibility, e.g., whether they could control pests to an appropriate level of protection, whether they were logistically acceptable or reduced the marketability of the commodities to which they were applied; whether they were economically feasible, in terms of their effect on net return from the commodities to which they were applied; whether they caused significant market disruption; and other factors such as whether they were authorized by relevant regulatory bodies and were registered where necessary. She outlined examples of alternatives for the four major use categories, highlighting in each case their technical and economic feasibility and their current market penetration, and noted that detailed examples of alternatives and how they were evaluated were discussed in pages 96–120 of volume 2 of the 2010 progress report.

149. She then discussed the subcommittee's estimate of how much methyl bromide currently used for quarantine and pre-shipment purposes in the four most important categories could be replaced with currently available alternatives, both in parties operating under paragraph 1 of Article 5 and parties not so operating. According to the subcommittee's calculations, between 31 and 47 per cent of methyl bromide used in the four use categories could be replaced. That amount represented 27 per cent of all replaceable uses of methyl bromide.

150. She then noted that one party had classified the use of methyl bromide for pre-plant soil fumigation as a quarantine and pre-shipment use. The use was for propagation material shipped across a county, state or country border, and was required as a condition of official certification of plant health for the propagation material. The party reported that for some sectors almost 1,500 tonnes of methyl bromide had been so used in 2005 on a wide range of propagation material such as strawberry runners, ornamental nursery plants and forest nurseries. A further review by the subcommittee of official party information suggested that the use could currently exceed that amount. The Committee noted that that use of methyl bromide by the party targeted endemic, non-quarantine pests rather than quarantine pests. Other parties had replaced methyl bromide for propagation material with alternatives through the critical-use nomination process and alternatives were available and registered in the party for use in specific locations and under specific conditions. As a result, the Committee estimated that 50 per cent of the uses were replaceable. The Committee would, however, reassess its estimate if the party provided further data in time for the final report on critical use nominations.

151. She then turned to the draft methodology requested by the parties for assessing the impact of a restriction on the quantities of methyl bromide consumed for quarantine and pre-shipment uses, explaining that the Committee had considered a number of general principles in its analysis of the issue. They included, for example, the idea that phytosanitary treatments facilitated trade while minimizing the risk of introducing unwanted pests that could cause significant economic loss and environmental damage; that methyl bromide used for quarantine and pre-shipment was applied on entry by relatively few parties to facilitate trade with many other parties; that trade flows were important and not easily replaced once disrupted; that bilateral agreements between parties were needed for some pests and could take many years to conclude; and that the potential to replace methyl bromide depended on pest commodity circumstances, regulations, economics, product marketability and other important factors.

152. Specific steps that would need to be taken when considering such a methodology would include differentiating between the amount of methyl bromide for quarantine and pre-shipment used on imports and exports; initially focusing analysis on the parties with highest consumption of methyl bromide for quarantine and pre-shipment purposes; obtaining updated quarantine and pre-shipment use data; considering regulations or measures that required the use of methyl bromide for quarantine and pre-shipment purposes, and the potential to change them; focusing on methyl bromide used for quarantine, as methyl bromide was considered easier to replace in respect of pre-shipment uses; examining economic feasibility in terms of net returns of an alternative under proposed conditions of use; and considering methods in some countries that had been used to phase out methyl bromide for quarantine and pre-shipment, including examples of successes and failures.

153. Responding to the report, one representative acknowledged the need to investigate the use of methyl bromide for quarantine and pre-shipment uses as that chemical was instrumental in protecting biodiversity and facilitating trade and other interests. He had several questions on the report that would require detailed responses and suggested that those questions be put to the Panel in writing. Another representative agreed with that proposal, but suggested that in the interests of transparency all questions and answers should be made available to all parties. The Panel agreed to accept questions in writing and to respond to all parties.

154. Another representative agreed that the use of methyl bromide for quarantine and pre-shipment purposes facilitated trade and protected countries from invasions of exotic pests that could cause significant economic damage. The quarantine and pre-shipment task force had reported that the level of use of methyl bromide for quarantine and pre-shipment purposes had remained constant. With regard to sectors in which methyl bromide was used for quarantine and pre-shipment purposes, the subcommittee had acknowledged that its figures in the current year had been based on estimates, since only 24 out of 196 parties had reported on the issue. He urged parties to contribute data that would describe how methyl bromide was used to protect countries from invasive species.

155. The representative of the European Union introduced a conference room paper containing a draft decision on quarantine and pre-shipment for submission to the Twenty-Second Meeting of the Parties. During discussion by the Twenty-First Meeting of the Parties of a draft decision on the same subject submitted by the European Union many parties had indicated that they needed more time before considering restrictions on quarantine and pre-shipment uses. The European Union had therefore submitted the present proposal at the current meeting to follow up on the proposal submitted to the Twenty-First Meeting of the Parties. The information provided in the report of the Panel for 2010 could contribute to closing a remaining loophole in the Montreal Protocol by addressing quarantine and pre-shipment uses of methyl bromide, which were the last substantial emissive uses of ozone-depleting substances not controlled by the Protocol.

156. Under the draft decision, parties would be requested to review their phytosanitary and other trade-relevant standards requiring the use of methyl bromide with a view to allowing the use of alternative treatments or procedures that provided an appropriate level of protection; they would also be requested to refrain from classifying uses of methyl bromide as quarantine and pre-shipment uses when such a classification was not consistent with the definitions of quarantine and pre-shipment applications agreed upon by the parties in decisions VII/5 and XI/12. The Technology and Economic Assessment Panel and its Methyl Bromide Technical Options Committee would be requested to provide the Open-ended Working Group, at its thirty-first meeting, with an assessment of the technical and economic feasibility of alternatives for methyl bromide treatments in the four main categories of use, the impact of the implementation of those alternatives, and the impact of restricting the quantities of methyl bromide production and consumption for all quarantine and pre-shipment uses. The Ozone Secretariat would be requested to review the completeness and consistency of the Article 7 data reports and other data provided by parties in response to past decisions from 2005 to date and to request parties to provide any data found to be missing from those reports.

157. The representative of the European Union noted that the Panel had reported that one party had classified some soil uses as quarantine uses and said that he shared the view of the Panel that those classifications were not consistent with the definition of quarantine and pre-shipment applications that had been agreed upon by the parties. That issue needed to be resolved so that the exemption was consistently applied by all parties. He also requested that members of the Methyl Bromide Technical Options Committee participate in any contact group set up to discuss the issue.

158. Responding to the proposal, two representatives said that they needed time to consult their capitals and other domestic stakeholders before commenting. One representative said that it was important for parties to engage more fully with their phytosanitary experts and that the Montreal Protocol needed more linkage with the International Plant Protection Convention, under which a great deal of expertise existed about the conditions under which methyl bromide use was required.

159. One representative said that his country did not use any methyl bromide for quarantine or pre-shipment purposes and that many alternatives existed that were practical and did not hinder trade or harm the environment. He therefore urged parties to be proactive in considering the proposal of the European Union.

160. The representative of the United States reported that his Government had posted on its Environmental Protection Agency website, for the use of applicators, commodity owners, shippers and their agents, a summary of the alternatives to many quarantine and pre-shipment uses of methyl bromide compiled by the quarantine and pre-shipment task force and submitted to the Open-ended Working Group in October 2009.

161. In response to a concern expressed about the lack of information on quarantine and pre-shipment applications of methyl bromide for the treatment of dates, a member of the Panel said that the Panel had been asked to review four categories of items, among which dates had not been specifically mentioned unless it was assumed that dates were categorized as fruits and vegetables. The Panel would be pleased to elaborate on particular categories, however, if the parties requested it to do so.

162. Some representatives emphasized the importance of establishing demonstration projects to identify alternatives to methyl bromide for use in quarantine and pre-shipment and requested that the Executive Committee consider establishing such projects.

163. One representative said that, since restrictions on the use of methyl bromide could have implications for vital sanitation and hinder trade between countries, the exemption for methyl bromide uses needed to be retained. He expressed the hope that the Multilateral Fund could provide financial and technical support for research and development of alternatives in developing countries and encouraged parties to focus their efforts on developing alternatives and recovering and recycling methyl bromide, with the assistance of the information gathered and disseminated by the Panel.

164. The Working Group agreed to establish a contact group, to be co-chaired by Ms. Tri Widayati (Indonesia) and Ms. Robyn Washbourne (New Zealand), to discuss the issue further, with the proposed draft decision as the basis of discussion.

165. Following the contact group's deliberations its co-chair reported that the group had had an initial discussion of the terms of the draft decision proposed by the European Union and that a number of specific suggestions had resulted in the preparation of a revised version of the draft. There was general agreement among the members of the contact group that it was desirable to reduce methyl bromide emissions where alternatives were available and concerns about matters such as biosecurity, biosafety and trade could be addressed. Some, however, highlighted what they said was the complexity of the issue and the need to move cautiously, staying within the limits of current knowledge. While the discussions in the contact group had been fruitful there was as yet no consensus and the entire draft decision accordingly remained in square brackets. A number of parties had expressed an intention to continue discussions on the issue during the intersessional period.

166. The working group agreed to forward the revised draft decision, enclosed in its entirety in square brackets as set out in annex I to the present report, to the Twenty-Second Meeting of the Parties for further consideration.

E. Laboratory and analytical uses of ozone-depleting substances (decision XXI/6)

167. Introducing the item, the Co-Chair said that the Technology and Economic Assessment Panel had produced an updated list of laboratory and analytical uses of ozone-depleting substances, including ozone-depleting substances for which there were no known alternatives. In producing the list the Panel had recommended the elimination of 15 procedures from the list, with three being retained. The Panel was working on a response to paragraphs 5 and 6 of decision XXI/6 and requested parties operating under paragraph 1 of Article 5 to submit any information that might be useful in that regard.

168. One representative asked whether decision XXI/6 could be reviewed and the relevant deadlines extended for a reasonable period of time to allow countries to detect any uses in hitherto unidentified areas and take necessary measures.

169. Another representative said that exemptions were necessary for critical and laboratory uses, noting that some ozone-depleting substances were still used in her country for such purposes, including to monitor progress in achieving environmental goals – for example, to analyse the extent of oil contamination in water. Her country's laboratories had not mastered the use of some alternative technologies used in developed countries and lacked standards for their use. Parties operating under paragraph 1 of Article 5 currently enjoyed full exemption regarding laboratory and analytical uses of ozone-depleting substances, and it was important to maintain that exemption. Her country had submitted relevant information to the Panel and hoped to continue consultations and exchanges of information with it so that at the Twenty-Second Meeting of the Parties a decision regarding exemptions for such parties could be adopted.

170. Another representative said that there was a method for evaluating oil contamination of water that did not require the use of carbon tetrachloride and that his Government hoped that the relevant exemption would eventually be phased out.

171. A third representative said that in its 2010 progress report the Panel had been very thorough in identifying alternatives to ozone-depleting substances. He urged parties to look closely at the report and consider encouraging their industries and laboratories to start implementing the recommended standards and methods, bearing in mind that many of the standards were global standards or had been recommended by well-regarded standard-setting bodies. His Government wished to see the number of listed uses reduced but was aware that as countries started to investigate domestic uses they might uncover additional ones, as his country had recently done. Thus, he suggested, the table might be modified to reflect changes in uses rather than eliminated.

172. One representative said that his country had launched an initiative on ozone-depleting substances to produce an overview of how laboratories were using them and of the hundreds of standards that still reflected their use. The goal was to achieve the incorporation of alternative substances into the standards promulgated by national standard-setting bodies. He thanked the Chemicals Technical Options Committee for its efforts to further the adoption of alternatives to ozone-depleting substances.

173. In response to a question regarding progress by the Secretariat in entering into discussions with international standard-setting bodies, as called for in paragraph 4 of decision XXI/6, to encourage them to identify methods based on ozone-depleting substances and to expedite the inclusion of alternative methods, techniques and substances in their standard methods, the representative of the Secretariat said that letters to such bodies had been sent on 7 April 2010 but no replies received to date. He invited parties having ties with such bodies to facilitate the communication.

174. One representative encouraged all parties that had not yet submitted reports under decision XXI/6 to do so, saying that the Panel's progress report revealed that alternative substances and methods were available for most of the uses in question.

175. In concluding discussion of the item, the Co-Chair said that it was advisable for interested parties to contact the Panel individually about any issues that needed to be resolved before the Twenty-Second Meeting of the Parties.

F. Issues relating to the use of ozone-depleting substances as process agents (decision XXI/3)

176. Introducing the item, the Co-Chair said that, following the procedure called for in decision XVII/6, the Technology and Economic Assessment Panel in its 2010 progress report had recommended deleting from table A of decision X/14 three process agent uses that had been discontinued by the European Union. Regarding table B of decision X/14, the Panel had noted that the make-up limit for the European Union had been slightly exceeded in 2008 but was being addressed. The Panel had also suggested that parties no longer using ozone-depleting substances as process agents should be removed from table B. As at 4 May 2010, 13 parties had submitted information on the status of their process agent use pursuant to the decision taken in 2009 clarifying that parties not using ozone-depleting substances as process agents had a one-time obligation to report that fact to the Secretariat.

177. In the ensuing discussion, the representative of the European Union said that the European Union supported regular updates of the list of permitted process agent uses and clarified that the issue of carbon tetrachloride emissions in the European Union was being investigated to ensure that the quantities were reflected correctly in its reporting. He added that five of the listed process agent uses had ceased in the European Union and that if no other party had such uses they could be removed from table A of decision X/14.

178. The representative of Canada said that his Government was holding discussions with representatives of other countries during the current meeting regarding a possible draft decision on process agents, and he invited interested parties to contact his delegation. More consultations were planned for the intersessional period with the goal of achieving consensus on a draft decision to be presented at the Twenty-Second Meeting of the Parties. Issues to be addressed included adding parties to table B of decision X/14.

179. In concluding the item, the Co-Chair said that it was clear that much work was being conducted on process agents and that he looked forward to the outcome of continuing discussions and a draft decision in time for the Twenty-Second Meeting of the Parties.

VIII. Environmentally sound management of banks of ozone-depleting substances

A. Outcomes of the seminar on identifying and mobilizing funds for the destruction of ozone-depleting substances (decision XXI/2)

180. The co-chairs of a seminar on identifying and mobilizing funds for the destruction of ozone-depleting substances, which, pursuant to decision XXI/2, had taken place on 14 June 2010, immediately before the current session, gave a presentation on the seminar's outcomes. A summary of

the seminar prepared by the co-chairs was before the Working Group in document UNEP/OzL.Pro.WG.1/30/6.

181. Following the presentation many representatives commended the Secretariat on the preparation and organization of the seminar, saying that the information and case studies presented had been substantive, varied in content and informative.

182. One representative commented on the urgency of the time frame highlighted by the seminar, saying that action was required during the period leading up to 2020 to prevent large releases of ozone-depleting substances from stockpiles and that alternative sources of dependable financing were needed immediately, with the Multilateral Fund playing a pivotal role. Apart from the Multilateral Fund and GEF, current financing sources were limited and the voluntary carbon market was not sufficiently reliable. Parties should be encouraged to provide incentives to industries and other stakeholders and stimulate the recovery and destruction of ozone-depleting substances, particularly HCFCs.

183. Several other representatives supported the suggestion that the Multilateral Fund should assist countries through funding the destruction of banks of ozone-depleting substances. One representative said that adequate funding was vital to the development of national strategies for such destruction. Another said that it was unlikely that there was sufficient demand in the voluntary carbon market to address banks of ozone-depleting substances and that there was a risk of double counting. Another, however, said that there was a wealth of funding opportunities and that financial institutions, once adequately informed, would be eager to finance the cost-effective opportunities available for mitigating climate change impacts.

184. One representative said that the needs of low-volume-consuming countries had not been adequately considered in the seminar and that further study of options for ensuring the effective destruction of banks of ozone-depleting substances in such countries was needed. Several representatives said that they favoured a regional approach to the funding and logistical problems faced by small countries in dealing with banks.

185. Another representative expressed support for a life-cycle approach to the management of ozone-depleting substances, while acknowledging the financial challenges of collecting and destroying them, and said that pilot projects under the Multilateral Fund would be useful in generating information and identifying financing opportunities. He added that an increasing range of credit methodologies was becoming available on the voluntary carbon market and that countries should seek access to as wide a range of financing as possible.

186. The Working Group took note of the summary set out in document UNEP/OzL.Pro.WG.1/30/6.

B. Review by the Technology and Economic Assessment Panel of technologies for the destruction of ozone-depleting substances (decision XXI/2)

187. Introducing the sub-item, the Co-chair said that by decision XXI/2 the Technology and Economic Assessment Panel had been asked to report on the commercial and technical availability of technologies for the destruction of ozone-depleting substances, including technologies that, in its 2002 report on destruction technologies, the Panel had identified as having high potential. In that report, the Panel had identified at least 176 destruction facilities, operating in 27 countries, that employed a broader range of technologies than the 12 that had been recommended by the Panel to date. The Panel and its Chemicals Technical Options Committee had evaluated those additional destruction technologies against the performance criteria used by the countries employing them and against the criteria set out in the 2002 task force report. He presented a slide summarizing the emerging technologies reviewed by the Chemicals Technical Options Committee.

188. In the ensuing discussion, one representative requested clarification on how a task force to review new destruction technologies would be formed and whether Governments could suggest national specialists to participate.

189. One representative suggested that two of the emerging destruction technologies proposed (destruction of concentrated sources by a porous reactor, proposed by Germany, and transformation of fluorocarbons to fluorinated vinyl monomers, proposed by Australia) were feedstock processes rather than destruction technologies. The Panel was asked whether plasma arc destruction processes in Sweden had been evaluated and, if so, why information on that had not been provided. Further output from the evaluation of those emerging technologies was requested. It was also agreed that it would be useful for the Panel to review the list of approved destruction processes and to make recommendations to the Working Group at its thirty-first meeting.

190. In response the representative of the Panel said that all emerging destruction technologies were being investigated by contacting proposed nominators to obtain more information to evaluate the technologies. That also applied to plasma arc technologies to destroy methyl bromide. A report with the results of the evaluation of that technology would be submitted to the Working Group at its thirty-first meeting. He said that the Panel would organize a new task force that would include Panel members and, if needed, members who could provide expertise that might not be available within the Panel.

191. A number of representatives then introduced conference room papers containing draft decisions.

192. The representative of the European Union expressed support for integrated waste management strategies, including producer responsibility schemes for producers of ozone-depleting substances. He said that the European Union had reservations about the Multilateral Fund or other global institutions engaging institutionally in the voluntary market to raise additional funds. Voluntary carbon markets would not, he said, be sufficient to address the bulk of banks of ozone-depleting substances. He introduced a proposed draft decision on the environmentally sound management of banks of ozone-depleting substances, summarizing the operative paragraphs. The draft decision would encourage parties to address banks of ozone-depleting substances under GEF by seeking synergies with broader strategies for the management of hazardous chemical substances, including persistent organic pollutants, and to pursue extended responsibility schemes; would request the Panel to evaluate the performance and commercial and technical availability of the destruction technologies adopted by parties, making recommendations to the Working Group at its thirty-first meeting, and to include information from destruction projects financed through sources other than the Multilateral Fund in its report to the Working Group called for under paragraph 7 of decision XXI/2; and would invite parties to continue to explore options for the long-term management of banks of ozone-depleting substances.

193. The representative of Australia introduced a conference room paper proposing a draft decision on the revision of the list of approved destruction technologies. He said that the time was ripe to request the Panel to review the many new destruction technologies available and to make recommendations to parties as to whether they met destruction and removal standards. He suggested that the technology for the destruction and removal of methyl bromide might be sufficiently mature for the Panel to include in approved recommendations.

194. The representative of Nigeria introduced a conference room paper proposing a draft decision on the development of criteria for the evaluation of destruction facilities for end-of-life management of ozone-depleting substances. He said that developing such criteria would engender confidence in ozone-depleting substance destruction capacity. The Panel had developed a code of practice in its guidance but had stopped short of preparing a checklist of criteria to be met. He said that the matter was urgent because parties operating under paragraph 1 of Article 5 and parties not so operating were developing strategies to manage banks of ozone-depleting substances and suggested that the Working Group could consider the results of the review at its thirty-first meeting.

195. The representative of Mauritius introduced a conference room paper containing a draft decision on the environmentally sound management of banks of ozone-depleting substances. He said that the question of low-volume producing countries had not been adequately addressed in respect of ozone-depleting substance disposal and financial options and was a matter of concern to approximately 120 countries. Noting the global concern to mitigate climate change, he recalled that ozone-depleting substances were potent greenhouse gases. Given that the issue was being discussed under other divisions of the United Nations Environment Programme (UNEP), he suggested that the UNEP Division of Technology, Industry and Economics should be requested, with other implementing agencies and in line with the findings of the pilot project in Nepal, to undertake a study to ensure destruction with optimum costs and benefits and to aggregate small quantities of ozone-depleting substances in low-volume countries to facilitate the effective and sound destruction of ozone-depleting substances. He suggested that financing might be made available not only from the Executive Committee but also from GEF. The Division of Technology, Industry and Economics could report on such an analysis at the thirty-first meeting of the Open-ended Working Group.

196. Following the presentations and discussion the Working Group agreed to establish a contact group, to be co-chaired by Ms. Annie Gabriel (Australia) and Mr. Javier Ernesto Camargo Cubillos (Colombia), to discuss the matter further and to attempt to reach agreement on the terms of a draft decision.

197. Following the deliberations of the contact group its co-chair reported that the group had discussed the issues raised by the draft decisions in two groups: those relating to the environmentally sound management of banks of ozone-depleting substances, in the draft decisions submitted by the European Union and Mauritius, and those relating to destruction technologies, in the draft decisions

submitted by Australia, the European Union and Nigeria. She said that the group had made progress on both sets of issues but that considerable further work was needed, particularly in respect of the issues relating to destruction technologies. The group had agreed that the draft decisions should all be forwarded to the Twenty-Second Meeting of the Parties for further discussion but expected that parties would also discuss two additional draft decisions that the group had prepared and discussed, one relating to each set of issues.

198. The Working Group agreed to forward the draft decisions submitted by Australia, the European Union, Mauritius and Nigeria, together with the two additional draft decisions of the contact group, as set out in annex I to the present report, to the Twenty-Second Meeting of the Parties for further consideration.

IX. Treatment of stockpiled ozone-depleting substances relative to compliance (decision XVIII/17 and paragraph 131 of the report of the Twenty-First Meeting of the Parties)

199. Introducing the item, the Co-Chair recalled that the Eighteenth Meeting of the Parties had considered cases in which parties had reported that excess production or consumption of ozone-depleting substances had occurred as a consequence of stockpiling ozone-depleting substances for exempted uses in future years. At the twenty-ninth meeting of the Working Group the European Union had proposed a draft decision on the issue, but consensus on it had not been reached.

200. The representative of the European Union introduced a conference room paper containing a draft decision on the treatment of stockpiled ozone-depleting substances. He said that the Secretariat had presented 29 cases from 12 parties that accounted for more than 10,000 tonnes of ozone-depleting substances and that the draft decision would enable parties to identify in a transparent manner excess production and consumption that had been stockpiled in a given year and its final destination in the following year. The Implementation Committee would then not need to address approved cases. He suggested that the Secretariat simplify and update data presentation tools related to Article 7 of the Montreal Protocol to permit the identification of quantities of stockpiled ozone-depleting substances and their final destination and to have an improved and simpler system of data presentation. In his view the draft decision achieved the objectives agreed upon at the previous meeting of the Working Group and provided a balanced, pragmatic and transparent solution.

201. One representative said that, while there was some imprecision in the Protocol and that some technical and legal issues might require treaty interpretation, that imprecision had existed and been interpreted by the parties for 20 years, during which they had phased out 97 per cent of the volume of ozone-depleting substances. Data had been reported year after year, the secretariat had compiled information for the parties and the Implementation Committee, and the concerned parties had clearly explained their actions. In his view the practice that had existed for 20 years should be left to the parties to apply. Furthermore, it was not clear what problem the proposal was intended to solve. With regard to parties operating under paragraph 1 of Article 5 that produced ozone-depleting substances, some stockpiling issues had been raised in the Executive Committee and had been resolved. In his view the issue of stockpiling was no longer relevant for compliance and did not merit further attention by the Implementation Committee. He suggested working with the representative of the European Union to allay any concerns regarding the matter. Another representative proposed to join those discussions.

202. Another representative, while supporting the proposed draft decision, requested clarification of its application to countries operating under paragraph 1 of Article 5 and those not so operating. As the Medical Technical Options Committee had reported, some stockpiles of pharmaceutical ozone-depleting substances still existed. He asked how such stockpiles would be addressed through the proposed draft decision. In countries producing ozone-depleting substances, such substances intended for feedstock use could not be used in certain years owing to economic or export situations, he said, and he asked how those substances would be treated.

203. The Working Group agreed that interested parties would discuss the issue informally during the period leading up to the Twenty-Second Meeting of the Parties. The draft decision, as set out in annex I to the present report, would be forwarded for consideration by the Twenty-Second Meeting of the Parties.

X. Additional issues arising from the 2010 progress report of the Technology and Economic Assessment Panel

A. Halon use in airframes

204. Under the sub-item, the Co-Chair of the Technology and Economic Assessment Panel first took up the request by the parties in decision XXI/7 to be kept informed of issues related to the consideration of halon uses in new airframes. He said that members of the Halon Technical Options Committee and the Secretariat had participated in discussions with ICAO and relevant stakeholders and that ICAO would soon consider a related decision as described in the Panel's 2010 progress report and in document UNEP/OzL.Pro.WG.1/30/2/Add.1. Several representatives urged all parties to ensure that their representatives to ICAO supported the amended halons resolution when it was discussed at the thirty-seventh session of the ICAO Assembly in September 2010 as it was important to ensure that the mandate for the replacement of halons came into effect at the earliest opportunity.

205. The Working Group took note of the information provided and requested the Panel and the Secretariat to continue working with ICAO.

B. New co-chair of the Technology and Economic Assessment Panel

206. Introducing the sub-item, the Co-Chair noted that Mr. Pons Pons would step down as Co-Chair of the Technology and Economic Assessment Panel at the end of 2010. The Panel had recommended that the parties consider appointing Ms. Pizano to replace him. Ms. Pizano had been a co-chair of the Methyl Bromide Technical Options Committee for a number of years and was quite familiar with the work of the Panel. A final decision would be taken at the Twenty-Second Meeting of the Parties.

207. The representative of Colombia introduced a conference room paper containing a draft decision on the endorsement of a new co-chair of the Panel. He expressed appreciation for the work of Mr. Pons Pons as Co-Chair of the Panel and acknowledged the important role that he had played, in particular in relation to countries operating under paragraph 1 of Article 5. He confirmed that the Panel had proposed Ms. Pizano as a replacement for Mr. Pons Pons and praised her work on the Methyl Bromide Technical Options Committee and her experience and competence. Many other representatives supported the nomination.

208. One representative expressed appreciation for the manner in which the Panel had nominated a replacement for its co-chair – by specifying the requirements of the post and seeking a candidate with the expertise appropriate to those requirements.

209. Another representative said that disclosure of interest forms had not been reproduced in the Panel's current report and encouraged the Panel to include them in future reports. A representative of the Panel noted that disclosure of interest forms were posted on the Ozone Secretariat website, which had the advantage of being updated regularly. Representatives urged that disclosure of interest forms, whether on the website or in the Panel's reports, should include historical information on disclosures of interest, clearly identifying the meetings to which they related, and information on financing for meetings.

210. The Working Group agreed to forward the draft decision, as set out in annex I to the present report, to the Twenty-Second Meeting of the Parties for further consideration.

C. New co-chair of the Environmental Effects Assessment Panel

211. The representative of the United Kingdom introduced a conference room paper containing a draft decision on the endorsement of a candidate for the position of co-chair of the Environmental Effects Assessment Panel. The draft decision would express appreciation to Mr. Jan C. van der Leun, who had served as co-chair of that panel since its inception, for his service, and endorse the selection of Mr. Nigel D. Paul. The Working Group agreed to forward the draft decision to the Twenty-Second Meeting of the Parties for its consideration.

XI. Other matters

A. Statements by the representatives of Argentina and the United Kingdom

212. The representative of Argentina made the following statement pertaining to the status of the Falkland Islands (Malvinas):[1]

"In respect of the presentation at a plenary session of this meeting, during the discussion of the proposals by the United States of America, Mexico, Canada and the Federated States of Micronesia, of a Power Point slide showing a map of the world on which the Malvinas Islands appeared in a different colour from that of the continental territory of Argentina, the delegation of Argentina states as follows:

"The Argentine Government recalls that the Malvinas Islands, South Georgias and the South Sandwich Islands and their surrounding maritime areas are integral parts of the national territory of the Argentine Republic and that, being illegitimately occupied by the United Kingdom of Great Britain and Northern Ireland, are the object of a dispute over sovereignty between the two countries, which has been recognized by various international organizations.

"In that regard, the United Nations General Assembly has adopted resolutions 2065(XX), 3160(XXVIII), 31/49, 37/9, 38/12, 39/6, 40/21, 41/40, 42/19 and 43/25, in which it has recognized the existence of a dispute over sovereignty referred to in the 'Question of the Malvinas Islands' and has urged the Governments of the Argentine Republic and the United Kingdom of Great Britain and Northern Ireland to resume negotiations aimed at finding in the shortest possible time a peaceful and lasting resolution of the dispute. For its part, the United Nations Special Committee on Decolonization has repeatedly spoken to the same effect, most recently in a resolution adopted on 18 June 2009. The General Assembly of the Organization of American States likewise adopted, on 8 June 2010, a new declaration on the issue of similar tenor.

"The Argentine Republic therefore objects to and rejects any suggestion that the Malvinas, South Georgias or the South Sandwich Islands are entities distinct from the Argentine Republic."

213. Following that statement, the representative of the United Kingdom made the statement set out below in response:

"I would like to make a very brief statement in response to the comments made about the Falkland Islands by the distinguished delegate from Argentina at the close of yesterday's plenary session.

"The United Kingdom has no doubt about its sovereignty over the Falkland Islands and the surrounding maritime areas.

"The principle of self-determination, enshrined in the United Nations Charter, underlies our position on the sovereignty of the Falkland Islands. Our view is that there can be no negotiations on the sovereignty of the Falkland Islands unless and until such time as the Falkland Islanders so wish. The Islanders regularly make it clear that they have no wish either to lose British sovereignty or to become independent.

"Finally, I would like to refer to United Nations General Assembly resolution 31/49, which refers to a dispute over the sovereignty of the Falkland Islands. The United Kingdom does not recognize the existence of a dispute and voted against resolution 31/49 in 1976.

"Thank you very much, Mr. Co-Chair. That concludes my comments."

B. Situation of Haiti

214. The representative of Grenada introduced a conference room paper containing a draft decision on the situation of Haiti. He said that the aftermath of the earthquake of 12 January 2010 had had far-reaching social and economic effects. Over one million people had lost their homes and many still lived in camps and makeshift shelters. Haiti had always worked hard to remain in compliance with its obligations under the Montreal Protocol but now faced a tremendous challenge in that regard. The national ozone unit had been damaged and assistance was needed in various areas. He requested that due consideration be given to the situation of Haiti and that the parties determine how they could assist Haiti and act accordingly. Following a number of suggestions and informal consultations among interested parties a revised draft decision was prepared.

1 A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

215. The Working Group agreed to forward the revised draft decision, as set out in annex I to the present report, to the Twenty-Second Meeting of the Parties for its consideration.

C. Upgrading of the post of Executive Secretary of the Ozone Secretariat

216. The representative of Grenada noted that, although the Montreal Protocol had achieved unparalleled success, the heads of the secretariats of several other multilateral environmental agreements were designated at a level higher than was the post of Executive Secretary of the Ozone Secretariat. Accordingly, he suggested that the parties consider elevating the post of the Executive Secretary of the Ozone Secretariat to the level of Assistant Secretary-General to harmonize the position with that of other heads of high-profile multilateral environmental agreement secretariats. Adding that the matter should be considered more fully at a Meeting of the Parties, he suggested that the Secretariat be requested to provide information on the resulting budgetary implications. At his suggestion the Working Group agreed that the Secretariat should submit with the budget documents for the Twenty-Second Meeting of the Parties information on the administrative process needed to effect such a change and its financial implications.

XII. Adoption of the report

217. The present report was adopted on the afternoon of Friday, 18 June 2010, on the basis of the draft report contained in documents UNEP/OzL.Pro/WG.1/30/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.

XIII. Closure of the meeting

218. Following the customary exchange of courtesies, the thirtieth meeting of the Open-ended Working Group of the Parties to the Montreal Protocol was declared closed at 6.45 p.m. on Friday, 18 June 2010.

Annex I

Draft decisions

The Working Group agreed to forward to the Twenty-Second Meeting of the Parties the following draft decisions.

A. Decision XXII/[ ]: Terms of reference for an evaluation of the financial mechanism of the Montreal Protocol

The Meeting of the Parties decides:

1. To approve the terms of reference for an evaluation of the financial mechanism of the Montreal Protocol contained in annex --- to the present report;

2. To set up a steering panel of [six] members to supervise the evaluation process and to select a consultant or consultants to carry out the evaluation, to act as a point of contact for the consultant or consultants during the course of the evaluation and to ensure that the terms of reference are implemented in the most appropriate manner possible;

3. To select the following [six] members to serve as the steering panel from among the parties to the Montreal Protocol: [-----, -----, -----, -----, ----- and -----]. The appointed panel has equal representation of individuals selected by parties operating under paragraph 1 of Article 5 of the Montreal Protocol and parties not so operating;

4. To request the Ozone Secretariat to finalize the procedure for the selection of the qualified external and independent consultant or consultants. On the basis of submitted proposals, the Secretariat shall prepare a shortlist of qualified bidders and facilitate review of relevant proposals by the steering panel;

5. To instruct the steering panel to organize its meetings with the assistance of the Ozone Secretariat with dates and venues selected, as far as possible, to coincide with other ozone meetings, thereby reducing related costs;

6. To approve the provision of up to [$---,---] in the 2011 budget of the Trust Fund for the Montreal Protocol to fund the evaluation, and to deduct the same amount from other resources of the Trust Fund;

7. To ensure that the final report and recommendations of the consultant or consultants are made available to parties for consideration at the Twenty-Fourth Meeting of the Parties;

Annex to decision XXII/[ ]

Terms of reference for an evaluation of the financial mechanism of the Montreal Protocol

A. Preamble

1. The achievements of the financial mechanism of the Montreal Protocol have often been recognized by the international community, and there is no doubt that the mechanism is both a cornerstone of the Protocol and an outstanding example of multilateral cooperation. Indeed, by the end of 2008 the Multilateral Fund had approved projects to phase out the consumption and production of about 478,000 ozone-depleting-potential (ODP) tonnes of ozone-depleting substances in developing countries, and over 85 per cent of this amount had already been phased out. As a result of those activities, nearly all parties operating under paragraph 1 of Article 5 of the Protocol are in compliance with their obligations under the Protocol, while most of their consumption and production of ozone-depleting substances, except for HCFCs, has been eliminated.

2. The financial mechanism was established by Article 10 of the Montreal Protocol to provide financial and technical cooperation to parties operating under paragraph 1 of Article 5 to enable their compliance with the Protocol's control measures. The Fourth Meeting of the Parties to the Montreal Protocol recognized the need to review periodically the operation of the financial mechanism to ensure maximum effectiveness in pursuing the goals of the Montreal Protocol. Since its inception in 1991, the mechanism, which includes the Multilateral Fund, an Executive Committee, a Secretariat and implementing and bilateral agencies, has been evaluated twice by the parties, in 1994–1995 and 2003–2004.

3. The year 2010 is a landmark year in the history of both the Montreal Protocol and the financial mechanism, as virtually all remaining production and consumption of CFCs, halons and carbon tetrachloride is to be phased out by 1 January 2010. In the light of this major milestone, it is particularly timely for the parties to the Protocol to take a retrospective look at the achievements of the financial mechanism, the challenges that it has faced, the manner in which they have been addressed and the lessons that have been learned, with a view to ensuring that the mechanism is well placed to address the challenges of the future effectively. Those challenges include phasing out HCFCs and the remaining consumption of methyl bromide, implementing ozone-depleting substance destruction pilot projects and, in the future, may also include a phase-down of HFCs, should the international community decide to include HFCs under the Montreal Protocol.

B. Purpose

4. In the light of the above, and considering that it has been more than five years since the last evaluation was conducted, the [Twenty-Second Meeting of the Parties] decided that it was appropriate to evaluate and review the Financial Mechanism with a view to ensuring its effective functioning in meeting the needs of parties operating under paragraph 1 of Article 5 and parties not so operating in accordance with Article 10 of the Protocol. The study should be based on the present terms of reference, carried out by an independent consultant and completed by May 2012, in time for consideration by the Open-ended Working Group of the Parties to the Montreal Protocol at its thirty-second meeting.

C. Scope

5. In carrying out the study, the consultant should consider the results, policy framework, organizational structure and lessons learned associated with the financial mechanism as follows:

(a) Results of the financial mechanism:

(i) Extent to which both investment and non-investment projects approved under the Multilateral Fund have contributed to phasing out ozone-depleting substances in parties operating under paragraph 1 of Article 5 in accordance with Montreal Protocol compliance targets;

(ii) Total reductions of ozone-depleting substances in ODP-tonnes and metric tonnes resulting from Multilateral Fund activities;

(iii) [Total reductions [and introduction of] greenhouse gases in carbon dioxide equivalent terms resulting from Multilateral Fund activities and production capacity installed];

(iv) Comparison of planned ozone-depleting substance phase-out and ozone-depleting substance phase-out achieved;

(v) Comparison of planned cost-effectiveness of projects and cost-effectiveness achieved;

(vi) [Comparison of approved incremental costs and actual [incremental] costs of selected samples of completed projects];

(vii) Comparison of planned project implementation time and implementation time achieved;

(viii) [Identification of any incidental results of Multilateral Fund activities, including environmental co-benefits, not directly related to the reduction of ozone-depleting substances [or greenhouse gases]];

(ix) Efficacy of provided capacity-building and institutional strengthening and compliance assistance;

(x) [Comparison of substitutes and alternatives funded by the Multilateral Fund in respect of their environmental impacts mentioned in paragraph 11 of decision XIX/6;]

(b) Policies and procedures:

(i) Effectiveness and efficiency of procedures and practices to develop and approve projects under the Multilateral Fund;

(ii) Coherence and effectiveness of the project review process;

(iii) Adequacy of planning and implementation process of projects and activities to ensure compliance;

(iv) Effectiveness and efficiency of monitoring and reporting procedures and practices;

(v) Adequacy of internal evaluation and verification mechanisms to monitor and confirm results, including an analysis of existing databases;

(vi) Extent to which policies and procedures are adapted or improved based on experiences and relevant circumstances;

(c) Organizational structure:

(i) Adequacy and effectiveness of [the division of labour between] the Executive Committee, the Secretariat, the evaluation function, the Treasurer and the implementing and bilateral agencies;

(ii) Adequacy and effectiveness of interaction between the Executive Committee of the Multilateral Fund and the Meeting of the Parties and related subsidiary bodies;

(iii) Review of the role and guidance provided by parties operating under paragraph 1 of Article 5 in the project development and implementation process;

(iv) Adequacy and effectiveness of timing between meetings, submission deadlines and reporting deadlines;

(d) Multilateral and bilateral implementing agencies:

(i) Examination of accountability mechanisms applicable to the agencies;

(ii) Identification of any bottlenecks, gaps and overlaps in the operation of the agencies;

(iii) Adequacy of the administrative cost regime;

(e) Other issues:

(i) Review of the distribution of funding among regions where parties operating under paragraph 1 of Article 5 are located, as well as between low-volume consuming countries and non-low-volume consuming countries;

(ii) Identification of the countries of origin of the technology and the related inputs (chemicals, spare parts, etc.) provided through a representative sample of investment projects, and consideration of the possible dependency of beneficiary enterprises on those countries for the continued operation of such technology;

(iii) Review of local and international consultant and technology costs in a representative sample of investment and non-investment projects and respective shares of those costs in relation to total project costs;

(iv) Proportion of administrative costs including Secretariat and implementing agency costs in terms of total resources;

(v) Experience and effectiveness of the transfer of technology;

(f) Lessons learned:

(i) Lessons learned in view of the future challenges of the Montreal Protocol and the Multilateral Fund;

(ii) Lessons learned for other international environmental institutions and agreements.

[D. Form and presentation of the study

6. The study shall be presented using a practical, easy-to-use and easy-to-read layout, and should include a comprehensive summary for policymakers [of about 30 pages] and a detailed index followed by the body of the study and its annexes.]

E. Conclusions and recommendations

7. In carrying out the study, the consultant(s) will identify the strengths, weaknesses, opportunities and threats associated with the financial mechanism and, where relevant, make recommendations suggesting possible improvements.

F. Sources of information

8. The Multilateral Fund Secretariat, the Ozone Secretariat, the Executive Committee, the implementing and bilateral agencies, the Treasurer, ozone offices, recipient countries and companies are invited to cooperate with the consultant(s) and to provide all necessary information. The evaluation should take into account the relevant decisions of the Meetings of the Parties and the Executive Committee.

9. The consultant(s) should widely consult relevant persons and institutions and other relevant sources of information deemed useful.

G. Time frame and milestones

10. The following table presents a tentative time frame and milestones for the study:

November 2010	Approval of the terms of reference by the Meeting of the Parties
	Selection of a steering panel by the Meeting of the Parties
January 2011	Finalization of the procedure for the selection of qualified external and independent consultant(s)
March 2011	Analysis of bids by the Ozone Secretariat and recommendations to steering panel
	Independent consultant selected by the panel
April 2011	Contract awarded
	Consultant(s) meet(s) with the steering panel to discuss study modalities and details
October/November 2011	Mid-term review: preliminary draft report submitted to and reviewed by the steering panel
February 2012	Final draft report submitted to and reviewed by steering panel
May 2012	Final draft report submitted to the Open-ended Working Group at its thirty-second meeting
September 2012	Final report submitted to the Twenty-Fourth Meeting of the Parties

B. Decision XXII/[ ]: Terms of reference for the study on the 2012–2014 replenishment of the Multilateral Fund for the Implementation of the Montreal Protocol

The Meeting of the Parties decides:

Recalling decisions on previous terms of reference for studies on the replenishment of the Multilateral Fund for the Implementation of the Montreal Protocol,

Recalling also decisions on previous replenishments of the Multilateral Fund,

1. To request the Technology and Economic Assessment Panel to prepare a report for submission to the Twenty-Third Meeting of the Parties, and to present it through the Open-ended Working Group at its thirty-first meeting, to enable the Twenty-Third Meeting of the Parties to take a decision on the appropriate level of the 2012–2014 replenishment of the Multilateral Fund;

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

(a) All control measures and relevant decisions agreed upon by the parties to the Montreal Protocol and the Executive Committee, in particular those related to the special needs of low-volume and very-low-volume consuming countries, and decisions agreed upon by the Twenty-Second Meeting of the Parties and the Executive Committee at its sixty-first and sixty-second meetings insofar as those decisions will necessitate expenditure by the Multilateral Fund during the period 2012–2014;

(b) The need to allocate resources to enable all parties operating under paragraph 1 of Article 5 of the Montreal Protocol to maintain compliance with Articles 2A–2E, 2G and 2I of the Protocol;

(c) The need to allocate resources to enable all parties operating under paragraph 1 of Article 5 to meet 2013 and 2015 compliance obligations in respect of Articles 2F and 2H of the Protocol;

(d) Rules and guidelines agreed upon by the Executive Committee at all meetings, up to and including its sixty-second meeting, for determining eligibility for the funding of investment projects, non-investment projects, including institutional strengthening, measures to combat illegal trade and sectoral or national phase-out plans, including hydrochlorofluorocarbon phase-out management plans, measures to manage banks of ozone-depleting substances and ozone-depleting substance destruction projects [and considering a potential compliance scenario for hydrofluorocarbons];

(e) The impact that the international market, ozone-depleting substance control measures and country phase-out activities are likely to have on the supply of and demand for ozone-depleting substances, the corresponding effects on the price of ozone-depleting substances and the resulting incremental costs of investment projects during the period under review;

3. That, in preparing the report referred to above, the Panel should consult widely with all relevant persons and institutions and other relevant sources of information deemed useful;

4. That the Panel shall strive to complete the report referred to above in time to enable it to be distributed to all parties two months before the thirty-first meeting of the Open-ended Working Group;

5. That the Panel should provide indicative figures for the periods 2015–2017 and 2018–2020 to support a stable and sufficient level of funding [that would be updated prior to figures for those periods being finalized];

6. [That the Panel should provide indicative figures for resources that would be needed to enable all parties operating under paragraph 1 of Article 5 to meet potential compliance obligations in the amendment proposals submitted in 2010 to be considered by the Twenty-Second Meeting of the Parties];

7. [That the panel should provide indicative figures for additional funding for the promotion of alternatives to hydrochlorofluorocarbons with low global-warming potential, taking into account health and safety requirements];

C. [Decision XXII/[ ]: Phase-out of HFC-23 emitted as a by-product of HCFC-22 production

The Meeting of the Parties decides:

Recalling decision X/16, which recognizes the importance of implementing the Montreal Protocol and takes note of hydrofluorocarbons and perfluorocarbons as replacements for ozone-depleting substances that have potentially substantial impacts on the climate system,

Noting with appreciation the special report of the Technology and Economic Assessment Panel and the Intergovernmental Panel on Climate Change, "Safeguarding the Ozone Layer and the Global Climate System: Issues Related to Hydrofluorocarbons and Perfluorocarbons",

Recalling decision XVIII/12, by which the Ozone Secretariat was requested to facilitate consultations between the Technology and Economic Assessment Panel and relevant organizations aimed at drawing on the work already carried out under those organizations, including work relating to HCFC-22,

Recalling also the report prepared by the Technology and Economic Assessment Panel pursuant to decision XVIII/12, in particular the chapter on the role of the Clean Development Mechanism with respect to HFC-23 by-product emissions resulting from the production of HCFC-22,

Mindful that Parties not operating under paragraph 1 of Article 5 of the Montreal Protocol are obligated to freeze production of hydrochlorofluorocarbons by 2004 and phase out consumption by 2030 and that Parties operating under paragraph 1 of Article 5 are obligated to freeze production of hydrochlorofluorocarbons by 2016 and phase out consumption by 2040,

Recognizing the unique relationship of HFC-23 to the controlled substance HCFC-22, given that the production of HCFC-22 results in emissions of HFC-23 as a by-product and that the production of HCFC-22 for feedstock uses is expected to continue beyond the phase-out of production for controlled uses under the Montreal Protocol,

Recognizing also the opportunity to facilitate an environmentally responsible approach to managing the production of HCFC-22 for both controlled and feedstock uses,

Acknowledging that emissions of HFC-23 are covered by the Kyoto Protocol to the United Nations Framework Convention on Climate Change and that actions taken under the present decision are not intended to affect that coverage,

Emphasizing the potential implications of projects in HCFC-22 production facilities funded through the Kyoto Protocol's Clean Development Mechanism and that the value of Clean Development Mechanism credits may exceed 50 times the cost of mitigating HFC-23 emissions;

Recognizing the need for immediate action to prevent uncontrolled HFC-23 by-product emissions from harming the climate system, particularly in the light of the control measure that will take effect on 1 January 2014 in accordance with the amendment by which the Meeting of the Parties subjected hydrofluorocarbons to the Montreal Protocol,

1. To request the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol to review and update information presented in the report by the Executive Committee of the Multilateral Fund[2] on HCFC-22 production facilities located in parties operating under paragraph 1 of Article 5, including information on the location of such facilities, their production capacity, the production capacity of each individual production line and whether it is the subject of an existing project under the Clean Development Mechanism to limit or destroy HFC-23 and the end date of any such project;

2. To request the Executive Committee also to present the findings of the study referred to in the preceding paragraph at the thirty-first meeting of the Open-ended Working Group;

3. To request the Executive Committee further to develop estimates of the incremental costs, including capital costs and operational costs, associated with the collection and destruction of HFC-23 by-product emissions from HCFC-22 production in facilities located in parties operating under paragraph 1 of Article 5;

2 UNEP/OzL.Pro/ExCom/57/62.

4. To request the Executive Committee to formulate guidelines for funding projects to collect and destroy by-product emissions of HFC-23 during the production of HCFC-22, including production for feedstock, by the sixty-fourth meeting of the Executive Committee;

5. To request the Executive Committee also, as a matter of urgency, to facilitate the formulation and implementation of projects to eliminate by-product emissions of HFC-23 during the production of HCFC-22 for facilities or production lines that are not collecting emissions reduction credits under the Clean Development Mechanism;

6. To request the Technology and Economic Assessment Panel, in consultation with the Scientific Assessment Panel, to conduct a study of the potential costs and environmental benefits of HFC-23 by-product control measures in the production of HCFC-22, by facility or production line, excluding the costs and benefits associated with existing Clean Development Mechanism projects when relevant, and to prepare a report in time to distribute it 60 days before the thirty-first meeting of the Open-ended Working Group, to assist the Parties in further considering the issues relating to HFC-23 emitted as a by-product of the HCFC-22 production;]

D. Decision XXII/[ ]: Hydrochlorofluorocarbon guidelines approved by the Executive Committee of the Multilateral Fund

The Meeting of the Parties decides:

1. To request the Technology and Economic Assessment Panel to assess:

(a) The extent to which the funding guidelines on hydrochlorofluorocarbons adopted by the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol at its sixtieth meeting would allow for the selection and financing of low-global-warming-potential alternatives to hydrochlorofluorocarbons in parties operating under paragraph 1 of Article 5 of the Protocol, using the classification of global-warming potentials presented by the Panel in its 2010 progress report;

(b) Quantities and types of hydrofluorocarbons that are likely to be phased in as alternatives to hydrochlorofluorocarbons, and in which sectors, because of a lack of low-global-warming-potential alternatives or insufficient funding for adopting low-global-warming-potential alternatives, taking into account environmental, health and safety requirements;

2. To request the Panel to submit a report on the results of its analysis to the Open-ended Working Group for consideration at its thirty-first meeting;

E. Decision XXII/[ ]: Affirmation of the status of hydrochlorofluorocarbons preblended in polyols as controlled substances under the Montreal Protocol

The Meeting of the Parties decides:

[Noting that significant quantities of hydrochlorofluorocarbons are preblended into polyols as mixtures, which are thereafter used for manufacturing polyurethane foams,

Acknowledging that clarification of the status of preblended polyols as a mixture containing controlled substances is urgently needed in view of the importance of accurately establishing the baselines for hydrochlorofluorocarbons in parties operating under paragraph 1 of Article 5 of the Montreal Protocol and the importance of the phase-out of hydrochlorofluorocarbons in the polyurethane foams sector for compliance with the adjusted phase-out schedule for hydrochlorofluorocarbons in accordance with decision XIX/6,

Recalling the definition of controlled substances in paragraph 4 of Article 1 of the Montreal Protocol and previous decisions of the Meeting of the Parties related to the definition and classification of controlled substances, namely, decisions I/12 A, XII/10 and XIV/7;

Taking into account the Technology and Economic Assessment Panel's technical guidance on the terminology for polyurethanes and polyurethane foams,

1. To affirm that hydrochlorofluorocarbons that are preblended or premixed in polyols shall be considered to be controlled substances as defined in paragraph 4 of Article 1 of the Montreal Protocol and thus shall be subject to the phase-out schedules for hydrochlorofluorocarbons agreed to by the parties;

2. To urge the parties to record and report accurately their production, consumption, imports and exports of hydrochlorofluorocarbons preblended in polyols in accordance with Article 7 of the Montreal Protocol from 2009 onwards and, to the extent possible, from earlier years;

3. To request the Ozone Secretariat to adjust the reporting formats for data reported under Article 7 of the Montreal Protocol to permit data pertaining to hydrochlorofluorocarbons preblended in polyols to be accurately and separately collected and recorded;

4. To advise the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol to consider hydrochlorofluorocarbons preblended in polyols to be on a par with hydrochlorofluorocarbons in any other form for the purposes of phase-out and eligibility for associated technical and financial assistance for parties operating under paragraph 1 of Article 5;]

F. Decision XXII/[ ]: Quarantine and pre-shipment uses

The Meeting of the Parties decides:

[*Noting* that, according to the assessment of the Technology and Economic Assessment Panel's Methyl Bromide Technical Options Committee, a reduction [of 18–27 per cent] of the global consumption of methyl bromide for quarantine and pre-shipment uses could be achieved by replacing [approximately 1,937–2,942 tonnes of] methyl bromide used in the four main categories of such uses with currently available technologies,

Recalling decision X/11, requesting parties to submit to the Ozone Secretariat a list of regulations that mandate the use of methyl bromide for quarantine and pre-shipment treatments, and decision XI/13, requesting parties to review their national regulations with a view to removing any requirement that methyl bromide be used for quarantine and pre-shipment applications where technically and economically feasible alternatives exist,

Noting the Technology and Economic Assessment Panel's conclusion that the parties' definitions of quarantine and pre-shipment applications [in decisions VII/5 and XI/12] are not being applied consistently in some areas, resulting in a significant volume of methyl bromide used for pre-plant soil treatment being inappropriately classified as being used for quarantine purposes

Reminding parties of their obligation to report annual data on the consumption of methyl bromide for quarantine and pre-shipment uses under Article 7 of the Protocol and to establish and implement a system for licensing trade in methyl bromide, including methyl bromide used for quarantine and pre-shipment purposes, under Article 4 [, as recalled in decision XXI/10],

Reminding also parties of their outstanding tasks agreed upon in decisions XX/6 and XXI/10, notably the establishment and submission of national strategies to reduce the use of methyl bromide for phytosanitary measures and/or reduce emissions,

1. To request [both importing and exporting] parties to review their national sanitary, phytosanitary, environmental and stored product regulations that mandate the use of methyl bromide with a view to allowing the use of alternative treatments or procedures that provide an appropriate level of phytosanitary protection, consistent with the standards and guidelines promulgated under the International Plant Protection Convention [, taking into account alternatives that have been identified by the Technology and Economic Assessment Panel,] [and to avoid imposing any obligation to treat consignments with methyl bromide both before shipment and upon arrival];

[2. To urge parties to classify as quarantine and pre-shipment uses of methyl bromide only those uses that are consistent with the definitions of quarantine and pre-shipment applications agreed upon by the parties in decisions VII/5 and XI/12;]

[3. To request the Technology and Economic Assessment Panel and its Methyl Bromide Technical Options Committee, in consultation with other relevant experts and the secretariat of the International Plant Protection Convention, to provide for consideration by the Open-ended Working Group at its thirty-first meeting a report that includes:

(a) An assessment, as referred to in paragraph 3 (4) of decision XXI/10, applying the methodology provided [by the Technology and Economic Assessment Panel and its Methyl Bromide Technical Options Committee] [in the annex to the present decision] of:

(i) The technical and economical feasibility of alternatives to methyl bromide treatments of sawn timber and wood packaging material, grains and similar foodstuffs and logs and alternatives to pre-plant soil uses qualifying as quarantine measures;

(ii) The impact of the implementation of the alternatives referred to in the preceding subparagraph;

(iii) The impact of restricting the quantity of methyl bromide production and consumption for all quarantine and pre-shipment uses;

(b) [*to be completed to address concerns of other parties*];]

[4. To request all parties to gather the best possible data about the sectors in which methyl bromide is used for quarantine and pre-shipment purposes and to provide that data to the Ozone Secretariat by January 2012;]

[5. To request the Ozone Secretariat to review, in view of their completeness and consistency, the Article 7 reports and other data provided by parties in response to past decisions of the Meeting of the Parties on methyl bromide production, consumption and uses for quarantine and pre-shipment applications for the years 2005 and later, and to request relevant parties to provide additional data or clarifications where appropriate;]]

G. Decision XXII/[ ]: Environmentally sound management of banks of ozone-depleting substances

The Meeting of the Parties decides:

Stressing that there is an opportunity in the short term for ozone and climate benefits in addressing the management and destruction of banks of ozone-depleting substances, which will end in 2020;

Recalling that decision XXI/2 requests the Technology and Economic Assessment Panel, based on results of destruction projects and other available information, to suggest to the Open-ended Working Group at its thirty-first meeting components designed to help parties of diverse size and with diverse wastes to develop national and/or regional strategic approaches to address the environmentally sound disposal of the banks of ozone-depleting substances that are present in their countries and/or regions;

Recalling also that decision XXI/2 also requests the Technology and Economic Assessment Panel to review the destruction technologies identified in its 2002 report as having a high potential, and any other technologies, and to report on those technologies and their commercial and technical availability;

Noting that, beyond the pilot destruction projects funded by the Multilateral Fund for the Implementation of the Montreal Protocol, there are possibilities for funding the management and destruction of banks of ozone-depleting substances from private and public sources such as the Global Environment Facility and voluntary carbon markets and that, in particular, the fifth replenishment of the Global Environment Facility will provide further opportunities for funding the management and destruction of banks of ozone-depleting substances;

1. To encourage parties to address banks of ozone-depleting substances under the Global Environment Facility by seeking synergies with broader strategies for the management of hazardous chemical substances, including persistent organic pollutants, through activities such as national inventories of the size, type and location of banks of ozone-depleting substances and the development of legislative frameworks and strategies for sound waste management, from collection to destruction, seeking synergies whenever possible with the management of other hazardous chemical substances;

2. In the context of action called for under paragraph 1 above, to encourage parties and relevant stakeholders to pursue extended responsibility schemes, in which producers and importers of products or substances become responsible for their management at the end of their lives, and to consider other options for providing incentives for the collection and destruction of banks of ozone-depleting substances;

3. To request the Technology and Economic Assessment Panel to review the list of destruction technologies adopted by parties, taking into account the emerging technologies identified in its 2010 progress report and any other developments in the sector, to provide an evaluation of their performance and commercial and technical availability, and to make appropriate recommendations to the Open-ended Working Group at its thirty-first meeting;

4. To request the Technology and Economic Assessment Panel to take into account that in addition to pilot destruction projects funded by the Multilateral Fund other projects for managing banks of ozone-depleting substances have been financed by other private and public sources, such as the

Global Environment Facility and voluntary carbon markets, and to include information from those projects in its report to the Open-ended Working Group called for under paragraph 7 of decision XXI/2;

5. To invite parties and agencies to continue to explore additional options for the long-term management of banks of ozone-depleting substances, including the availability of and synergies with climate and chemicals funding;

H. Decision XXII/[ ]: Revision of the list of approved destruction technologies

The Meeting of the Parties decides:

Recalling decision XV/9 on the approval of destruction technologies and annex II to the report of the Fifteenth Meeting of the Parties, which lists approved destruction processes by source and destruction method,

Recalling also that paragraph (c) of decision VII/5 and paragraph 7 of decision XI/13 urge parties to adopt recovery and recycling technologies for quarantine and pre-shipment uses of methyl bromide, to the extent technically and economically feasible, until alternatives are available,

Recalling further that paragraph 6 of decision XX/6 requested the Technology and Economic Assessment Panel, in its report on opportunities for reductions in methyl bromide use or emissions for quarantine and pre-shipment purposes, to provide to the Meeting of the Parties a list of available methyl bromide recapture technologies for consideration by the parties,

Noting that the Technology and Economic Assessment Panel was able to provide a list of examples of commercial recapture units in operation in several countries in their report to the Twenty-First Meeting of the Parties,

Noting also that the Technology and Economic Assessment Panel has reported on a number of emerging technologies for the destruction of ozone-depleting substances that complement those reported on previously,

1. To request the Technology and Economic Assessment Panel and the relevant technical options committees, in consultation with other relevant experts, to recommend, for consideration at the thirty-first meeting of the Open-ended Working Group:

(a) The appropriate destruction and recovery efficiency for methyl bromide and any other substance already listed in annex II to the report of the Fifteenth Meeting of the Parties;

(b) Any further destruction technologies that have the destruction and recovery efficiency recommended by the Panel pursuant to the preceding subparagraph or previously recommended by the Panel;

2. To invite interested persons to submit to the Secretariat by 1 February 2011 data relevant to the recommendation to be made by the Technology and Economic Assessment Panel pursuant to paragraph 1 above;

I. Decision XXII/[ ]: Development of criteria for the evaluation of destruction facilities for end-of-life management of ozone-depleting substances

The Meeting of the Parties decides:

Recalling the work of the Technology and Economic Assessment Panel and its associated task forces in assessing existing and emerging destruction technologies and in making recommendations for the list of approved destruction technologies, as last requested in decision XVI/15,

Noting with appreciation the organization and content of the seminar on the environmentally sound management of banks of ozone-depleting substances held pursuant to decision XXI/2,

Acknowledging that one of the significant themes of the seminar was the need to ensure the appropriate destruction of ozone-depleting substances recovered from products and equipment at the end of their lives and that consistent criteria for the handling and destruction of ozone-depleting substances would contribute to increased confidence in destruction capabilities in a number of regions of the world, including in parties operating under paragraph 1 of Article 5 of the Montreal Protocol,

1. To request the Technology and Economic Assessment Panel to convene a task force of appropriately informed and experienced members with the ability to address the development of criteria for the handling and destruction of ozone-depleting substances at relevant destruction facilities using processes already included in the list of approved destruction processes;

2. To request the task force to review and report on those destruction technologies that are not already included in the current list of approved destruction processes and that are emerging to address the specific challenges posed by end-of-life recovery and destruction;

3. Also to request the task force to make recommendations to the parties, as appropriate, on the emerging technologies referred to in paragraph 2 above for future inclusion in the list of approved destruction processes;

4. Further to request the task force to identify and report on the criteria that should be applied when assessing the appropriateness of using identified destruction facilities for the handling and destruction of ozone-depleting substances;

5. To request the task force to provide guidance on whether the criteria referred to in the preceding paragraph should be included in section 3.1 of the Montreal Protocol handbook or elsewhere;

6. Also to request the task force to provide its report for the thirty-first meeting of the Open-ended Working Group;

J. Decision XXII/[ ]: Environmentally sound management of banks of ozone-depleting substances

The Meeting of the Parties decides:

1. To request the United Nations Environment Programme Division of Technology, Industry and Economics, in line with the findings of the pilot project in Nepal, to undertake a study with regard to banks of ozone-depleting substances in low-volume-consuming countries so as:

(a) To ensure destruction with optimum cost benefits;

(b) To aggregate small quantities of ozone-depleting substances found in low-volume-consuming countries to facilitate effective and sound destruction;

2. To request the Division of Technology, Industry and Economics also to report to the Working Group at its thirty-first meeting on the results of its analysis, after due consultation with relevant networking countries;

K. Decision XXII/[ ]: Destruction technologies with regard to ozone-depleting substances

The Meeting of the Parties decides:

[*Recalling* the work of the Technology and Economic Assessment Panel and its associated task forces in assessing existing and emerging destruction technologies and in making recommendations for the list of approved destruction technologies, as last requested in decision XVI/15,

Noting with appreciation the organization and content of the seminar on the environmentally sound management of banks of ozone-depleting substances held pursuant to decision XXI/2,

Acknowledging that one of the significant themes of the seminar was the need to ensure the appropriate destruction of ozone-depleting substances recovered from products and equipment at the end of their lives and that consistent criteria for the handling and destruction of ozone-depleting substances would contribute to increased confidence in destruction capabilities in a number of regions of the world, including in parties operating under paragraph 1 of Article 5 of the Montreal Protocol,]

[*Recalling* decision XV/9 on the approval of destruction technologies and annex II to the report of the Fifteenth Meeting of the Parties, which lists approved destruction processes by source and destruction method,

Recalling that, by paragraph (c) of decision VII/5 and paragraph 7 of decision XI/13, parties are urged to adopt recovery and recycling technologies for quarantine and pre-shipment uses of methyl bromide, to the extent technically and economically feasible, until alternatives are available,

Also recalling that, by paragraph 6 of decision XX/6, the Technology and Economic Assessment Panel is requested, in its report on opportunities for reductions in methyl bromide use or emissions for quarantine and pre-shipment purposes, to provide to the Meeting of the Parties a list of available methyl bromide recapture technologies for consideration by the Parties,

Noting that the Technology and Economic Assessment Panel was able to provide a list of examples of commercial recapture units in operation in several countries in its report to the Twenty-First Meeting of the Parties,

Also noting that the Technology and Economic Assessment Panel has reported on a number of emerging technologies for the destruction of ozone-depleting substances that complement those reported on previously,][3]

1. To request the Technology and Economic Assessment Panel and the relevant technical options committees, in consultation with other relevant experts, to evaluate and recommend, for consideration at the thirty-first meeting of the Open-ended Working Group:

(a) The appropriate destruction and [recovery] [removal] efficiency for methyl bromide and to update the destruction and [recovery] [removal] efficiency if requested for any other substance already listed in annex II to the report of the Fifteenth Meeting of the Parties;

(b) The emerging technologies identified in its 2010 progress report and any other developments in the sector, including any technologies which would meet the recommended [recovery] [removal] efficiency for methyl bromide identified in paragraph 1 (a) above;

(c) Criteria that should be applied when assessing the appropriateness of using identified destruction facilities for the handling and destruction of ozone-depleting substances, with a view to their possible inclusion in the Montreal Protocol handbook;

2. To invite interested persons to submit to the Secretariat by 1 February 2011 data relevant to the recommendation to be made by the Technology and Economic Assessment Panel pursuant to paragraph 1 above;

L. Decision XXII/[ ]: Environmentally sound management of banks of ozone-depleting substances

The Meeting of the Parties decides:

[*Stressing* that there is an opportunity in the short term for ozone and climate benefits in addressing the management and destruction of banks of ozone-depleting substances, which will end in 2020;

Recalling that decision XXI/2 requests the Technology and Economic Assessment Panel, based on results of destruction projects and other available information, to suggest to the Open-ended Working Group, at its thirty-first meeting, components designed to help parties of diverse size and with diverse wastes to develop national and/or regional strategic approaches to address the environmentally sound disposal of the banks of ozone-depleting substances that are present in their countries and/or regions;

Noting that, beyond the pilot destruction projects funded by the Multilateral Fund for the Implementation of the Montreal Protocol, there are possibilities for funding the management and destruction of banks of ozone-depleting substances from private and public sources such as the Global Environment Facility and voluntary carbon markets and that, in particular, the fifth replenishment of the Global Environment Facility will provide further opportunities for funding the management and destruction of banks of ozone-depleting substances;

[1. To [request the Executive Committee of the Multilateral Fund to continue its efforts on further cost-effective projects on the destruction of banks of ozone-depleting substances during its next replenishment] [request the Executive Committee of the Multilateral Fund to provide parties operating under paragraph 1 of Article 5 with the necessary funding from the Multilateral Fund fully to manage banks of ozone-depleting substances], through activities such as national inventories of the size, type and location of banks of ozone-depleting substances and the development of legislative frameworks and strategies for sound waste management, from collection to destruction;]

[2. To [encourage parties to [address] [seek] [explore] opportunities to obtain funding for the [collection and] [management of] banks of ozone-depleting substances under the Global Environment Facility [and other agencies] by seeking synergies [with energy-efficient programmes] and activities with broader strategies for the management of hazardous chemical substances, including persistent organic pollutants] [request the Executive Committee of the Multilateral Fund to provide parties operating under paragraph 1 of Article 5 with the necessary funding from the Multilateral Fund

3 Submission by Australia.

fully to manage banks of ozone-depleting substances], through activities such as national inventories of the size, type and location of banks of ozone-depleting substances and the development of legislative frameworks and strategies for sound waste management, from collection to destruction; without excluding the possibility of requesting the Executive Committee of the Multilateral Fund to continue its efforts on further cost-effective projects on the destruction of banks of ozone-depleting substances during its next replenishment;]

3. To encourage parties and relevant stakeholders, in the context of action called for under paragraph 1 above, to consider extended responsibility schemes in which producers and importers of products or substances become responsible for their management at the end of their lives, and to consider other options for providing incentives for the collection and destruction of banks of ozone-depleting substances;

4. To [encourage] [parties] [enterprises] to consider accessing the voluntary carbon market for the destruction of ozone-depleting substances and share their experiences with others [especially regarding the high transport costs for ozone-depleting substance banks to reach destruction facilities];

5. To encourage [parties to work with the] voluntary carbon markets [to change existing requirements to allow the destruction of ozone-depleting substance banks internationally] [further to consider the crediting of destruction of ozone-depleting substances done internationally];

6. To encourage parties to consider measures for the destruction of [banks of hydrochlorofluorocarbons] [contaminated hydrochlorofluorocarbons that cannot be reused] in preparing their hydrochlorofluorocarbon phase-out management plans [with an understanding that the measures could be designed to complement the hydrochlorofluorocarbon phase-out management plans without further resources from the Multilateral Fund];

7. [To request the Executive Committee of the Multilateral Fund to consider the funding of cost-effective destruction projects during the next replenishment period;]

8. [To request the Executive Committee of the Multilateral Fund to develop criteria by its sixty-sixth meeting on components and elements that should be part of national strategies on the disposal of ozone-depleting substances in Parties operating under paragraph 1 of Article 5 of the Montreal Protocol, and levels of funding required to build such strategies] [without prejudging the source of funding for those strategies];

9. To request the Technology and Economic Assessment Panel to take into account that in addition to pilot destruction projects funded by the Multilateral Fund other projects for managing banks of ozone-depleting substances have been financed by other private and public sources, such as the Global Environment Facility and voluntary carbon markets, and to include information from these projects, including on how to gain access to the voluntary carbon markets, in its report to the Open-ended Working Group called for under paragraph 7 of decision XXI/2;

[9 bis To request the Technology and Economic Assessment Panel to monitor and [periodically] report [to the Open-ended Working Group at its thirty-first meeting] on developments in the voluntary carbon markets [and assess their stability, predictability] [and their environmental integrity] and capacity to offer a sustainable flow of resources to new ozone-depleting substance destruction projects;]

10. [To request the [United Nations Environment Programme] [Executive Committee of the Multilateral Fund], in line with the findings of the pilot project in Nepal, to undertake a study with regard to banks of ozone-depleting substances in low-volume-consuming countries so as to:

(a) Ensure destruction with optimum cost benefits;

(b) Aggregate small quantities of ozone-depleting substances found in low-volume-consuming countries to facilitate effective and sound destruction;]

11. [Also to request the [United Nations Environment Programme] [Executive Committee of the Multilateral Fund] to report to the Open-Ended Working Group at its thirty-first meeting on the results of its analysis, after due consultations with relevant networking countries;]

12. To invite Parties and agencies to continue to explore additional options for the long-term management of banks of ozone-depleting substances, including the availability of and synergies with climate and chemical funding;]

M. Decision XXII/[ ]: Treatment of stockpiled ozone-depleting substances

The Meeting of the Parties decides:

Recalling that in decision XVIII/17 the Secretariat was requested to maintain a consolidated record of the cases in which parties had explained that their excess production and consumption of ozone-depleting substances in a given year were a consequence of the production or import of ozone-depleting substances in that year that had been stockpiled for some specified purposes in a future year,

Recalling that the Secretariat was also requested to incorporate that record in the documentation prepared for each meeting of the Implementation Committee under the Non-Compliance Procedure for the Montreal Protocol, for information purposes only, as well as in the Secretariat's report on data submitted by the Parties in accordance with Article 7 of the Protocol,

Noting that the Secretariat has reported 29 cases since 1999 involving 12 Parties that have exceeded the allowed level of production or consumption of a particular ozone-depleting substance in a given year and explained that their excess production or consumption resulted from one of the scenarios mentioned above,

1. To request parties, when reporting data under Article 7 of the Protocol, to identify any excess production and consumption that is a consequence of the production in the reporting year of ozone-depleting substances stockpiled:

(a) For domestic destruction or export for destruction in a future year;

(b) For domestic feedstock use or export for that use in a future year;

(c) For export to meet basic domestic needs of developing countries in a future year;

2. To request parties having reported cases covered in paragraph 1 above to identify for each case, when reporting data under Article 7 of the Protocol, the final use of the stockpiled ozone-depleting substances and when it took place;

3. To remind all parties to report all production of ozone-depleting substances, whether intended or unintended, to enable the calculation of their production and consumption according to Article 3 of the Protocol;

4. To request the Secretariat, in consultation with the Implementation Committee, to update and review the forms and tools for reporting data under Article 7 of the Protocol for consideration by the Twenty-Third Meeting of the Parties to enable the Meeting of the Parties:

(a) To establish a reporting framework to account for limited stockpiles related to the cases listed in paragraph 1 above;

(b) To ensure that the resulting reporting framework allows such stockpiles to be tracked and reconciled with their intended uses in the following years;

(c) To simplify and update the reporting tools taking into account all possible uses of the substances and possible suggestions by the Parties;

5. To request the Secretariat to report to the Implementation Committee for its consideration any case:

(a) Of excess production or consumption that is not covered by the scenarios listed in paragraph 1 above;

(b) In which the final use of stockpiled ozone-depleting substances has not been reported in the year following the year in which it was reported as stockpiled production;

(c) In which stockpiled ozone-depleting substances have not been used for one of the uses listed in paragraph 1 above in the year following the year in which they were reported as having been stockpiled;

N. Decision XXII/[ ]: Endorsement of a new Co-Chair of the Technology and Economic Assessment Panel

The Meeting of the Parties decides:

1. To thank Mr. José Pons Pons (Bolivarian Republic of Venezuela) for his long and outstanding efforts on behalf of the Montreal Protocol as Co-Chair of the Technology and Economic Assessment Panel;

2. To endorse the selection of Ms. Marta Pizano (Colombia) as a new Co-Chair of the Technology and Economic Assessment Panel;

O. Decision XXII/[ ]: Endorsement of a new co-chair of the Environmental Effects Assessment Panel

The Meeting of the Parties decides:

1. To thank Mr. Jan C. van der Leun (Netherlands), who has served as Co-Chair of the Environmental Effects Assessment Panel since its inception, for his long and outstanding efforts on behalf of the Montreal Protocol;

2. To endorse Mr. Nigel D. Paul (United Kingdom of Great Britain and Northern Ireland) as the new Co-Chair of the Environmental Effects Assessment Panel;

P. Decision XXII/[ ]: Situation of Haiti

The Meeting of the Parties decides:

Noting with appreciation the efforts and commitment made by the Government of Haiti to sustain compliance with the Montreal Protocol,

Recognizing the extraordinary difficulties now faced by Haiti as a result of the devastating 7.2 magnitude earthquake that occurred on 12 January 2010, which has had adverse effects on the economic and social welfare of the people of Haiti,

Understanding Haiti's commitment to meeting its obligations in respect of phasing out ozone-depleting substances under the Montreal Protocol and its amendments,

1. To urge all parties to assist Haiti by controlling the export of ozone-depleting substances and technologies dependent on ozone-depleting substances to Haiti through the control of trade in accordance with decision X/9 of the Tenth Meeting of the Parties and other relevant decisions;

2. To request the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol, when considering project proposals for Haiti, to take into account the special situation of Haiti and the special difficulties that it may pose in respect of the phase-out of ozone-depleting substances, including in particular the accelerated phase-out of hydrochlorofluorocarbons, in accordance with the requirements of the Montreal Protocol;

3. Also to request the Executive Committee to ensure that appropriate assistance is provided to Haiti in the areas of institutional strengthening, capacity-building, data collection and monitoring and control of trade in ozone-depleting substances, along with any other assistance that may be deemed necessary;

4. Further to request the Executive Committee to ensure that appropriate assistance is provided for the development of a strategy to achieve the reorganization of Haiti's national ozone unit and in the continuation of its efforts to report to the Ozone Secretariat data on consumption of ozone-depleting substances in accordance with the requirements of the Montreal Protocol;

5. That all determinations made by the Implementation Committee under the Non-Compliance Procedure for the Montreal Protocol should be considered in the light of the difficulties faced by Haiti as a result of the earthquake.