



## SUMMARY OF THE THIRTY-THIRD MEETING OF THE OPEN-ENDED WORKING GROUP OF THE PARTIES TO THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE LAYER: 24-28 JUNE 2013

The thirty-third meeting of the Open-ended Working Group (OEWG 33) of the parties to the Montreal Protocol on Substances that Deplete the Ozone Layer convened in Bangkok, Thailand from 24-28 June 2013. Over 400 delegates representing governments, UN agencies, Montreal Protocol expert panels and committees, non-governmental organizations and industry attended the meeting.

At OEWG 33, delegates considered issues related to: the 2013 Progress Report of the Technology and Economic Assessment Panel (TEAP); exemptions under Articles 2A-2I of the Montreal Protocol; nominations for critical-use exemptions for 2014-2015; the handbook on critical-use nominations for methyl bromide; quarantine and pre-shipment uses of methyl bromide; uses of controlled substances as process agents; the TEAP report on additional information on ozone-depleting substances (ODS); information on ODS transition policy measures; organizational issues related to the TEAP; controlled substances used on ships; the review by the Scientific Assessment Panel (SAP) of RC-316c; issues related to funding; the implications of the outcome document of the United Nations Conference on Sustainable Development (UNCSD, or Rio+20) for small island developing states (SIDS); and two proposed amendments to the Montreal Protocol. Contact and discussion groups convened throughout the week on: SIDS; TEAP organizational issues; nominations to the TEAP; issues related to hydrofluorocarbons (HFCs) management; the terms of reference for the 2015-2017 replenishment of the Multilateral Fund (MLF); and additional funding for the MLF for the implementation of the Protocol to maximize the climate benefit of the accelerated phase-out of hydrochlorofluorocarbons (HCFCs).

Significant accomplishments of the week included discussion on the organization of the TEAP, and initiation of formal discussions on the financial, legal and technical issues associated with HFC management.

## A BRIEF HISTORY OF THE OZONE REGIME

Concerns that the Earth's stratospheric ozone layer could be at risk from chlorofluorocarbons (CFCs) and other anthropogenic substances first arose in the early 1970s. At that time, scientists warned that the release of these substances into the atmosphere could deplete the ozone layer, hindering its ability to prevent harmful ultraviolet (UV) rays from reaching the Earth. This would adversely affect ocean ecosystems, agricultural productivity and animal populations and harm humans through higher rates of skin cancers, cataracts and weakened immune systems. In response to this growing concern, the United Nations Environment Programme (UNEP) convened a conference in March 1977 that adopted a World Plan of Action

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on the Ozone Layer and established a Coordinating Committee to guide future international action on ozone protection.

**VIENNA CONVENTION:** In May 1981, the UNEP Governing Council launched negotiations on an international agreement to protect the ozone layer and, in March 1985, the Vienna Convention for the Protection of the Ozone Layer was adopted. The Convention called for cooperation on monitoring, research and data exchange, but did not impose obligations to reduce the use of ozone depleting substances. The Convention now has 197 parties, which represents universal ratification.

**MONTREAL PROTOCOL:** In September 1987, efforts to negotiate binding obligations to reduce the use of ODS led to the adoption of the Montreal Protocol on Substances that Deplete the Ozone Layer. The Protocol introduced control measures for some CFCs and halons for developed countries (non-Article 5 parties). Developing countries (Article 5 parties) were granted a grace period allowing them to increase their ODS use before taking on commitments. The Protocol currently has 197 parties.

Since 1987, several amendments and adjustments to the Protocol have been adopted, adding new obligations and additional ODS, and adjusting existing control schedules. Amendments require ratification by a defined number of parties before they enter into force, while adjustments enter into force automatically.

**LONDON AMENDMENT AND ADJUSTMENTS:** Delegates to the second Meeting of the Parties (MOP 2), which took place in London, UK, in 1990, tightened control schedules and agreed to add ten more CFCs to the list of ODS, as well as carbon tetrachloride (CTC) and methyl chloroform. To date, 197 parties have ratified the London Amendment. MOP 2 also established the Multilateral Fund (MLF), which meets the incremental costs incurred by Article 5 parties in implementing the Protocol's control measures and finances clearinghouse functions, including technical assistance, information, training and the costs of the MLF Secretariat. The Fund is replenished every three years and has received pledges of over US\$2.8 billion since its inception.

**COPENHAGEN AMENDMENT AND ADJUSTMENTS:** At MOP 4, held in Copenhagen, Denmark, in 1992, delegates tightened existing control schedules and added controls on methyl bromide, hydrobromofluorocarbons and hydrochlorofluorocarbons (HCFCs). MOP 4 also agreed to enact non-compliance procedures and to establish an Implementation Committee (ImpCom). The ImpCom examines cases of possible non-compliance by parties, and makes recommendations to the MOP aimed at securing full compliance. To date, 197 parties have ratified the Copenhagen Amendment.

**MONTREAL AMENDMENT AND ADJUSTMENTS:** At MOP 9, held in Montreal, Canada, in 1997, delegates agreed to a new licensing system for the import and export of ODS, in addition to tightening existing control schedules. They also agreed to ban trade in methyl bromide with non-parties to the Copenhagen Amendment. To date, 194 parties have ratified the Montreal Amendment.

**BEIJING AMENDMENT AND ADJUSTMENTS:** At MOP 11, held in Beijing, China, in 1999, delegates agreed to controls on bromochloromethane, additional controls on HCFCs, and to reporting on methyl bromide for quarantine and pre-shipment (QPS) applications. At present, 188 parties have ratified the Beijing Amendment.

**MOP 15 AND FIRST EXTRAORDINARY MOP:** MOP 15, held in Nairobi, Kenya, in 2003, resulted in decisions on issues including the implications of the entry into force of the Beijing Amendment. However, disagreements surfaced over exemptions allowing the use of methyl bromide beyond 2004 for critical uses where no technically or economically feasible alternatives were available. Delegates could not reach agreement and took the unprecedented step of calling for an "extraordinary" MOP. The first Extraordinary Meeting of the Parties to the Montreal Protocol (ExMOP 1) took place in March 2004, in Montreal, Canada. Parties agreed to critical-use exemptions (CUEs) for methyl bromide for 2005, with the introduction of a "double-cap" concept distinguishing between old and new production of methyl bromide as central to this compromise. Parties agreed to a cap on new production of 30% of parties' 1991 baseline levels, meaning that where the capped amount was insufficient for approved critical uses in 2005, parties were required to use existing stockpiles.

**MOP 16 AND EX-MOP 2:** MOP 16 took place in Prague, Czech Republic, in 2004. Work on methyl bromide exemptions for 2006 was not completed and parties decided to hold a second ExMOP. ExMOP 2 was held in July 2005, in Montreal, Canada. Parties agreed to supplementary levels of CUEs for 2006. Under this decision, parties also agreed that: CUEs allocated domestically that exceed levels permitted by the MOP must be drawn from existing stocks; methyl bromide stocks must be reported; and parties must "endeavor" to allocate CUEs to the particular use categories specified in the decision.

**COP 7/MOP 17:** MOP 17 was held jointly with the seventh Conference of the Parties to the Vienna Convention (COP 7) in Dakar, Senegal, in December 2005. Parties approved essential-use exemptions for 2006 and 2007, supplemental CUEs for 2006 and CUEs for 2007, and production and consumption of methyl bromide in non-Article 5 parties for laboratory and analytical critical uses. Other decisions included a US\$470.4 million replenishment of the MLF for 2006-2008, and agreement on terms of reference for a feasibility study on developing a monitoring system for the transboundary movement of controlled ODS.

**MOP 18:** MOP 18 took place in New Delhi, India, from 30 October - 3 November 2006. Parties adopted decisions on, *inter alia*: future work following the Ozone Secretariat's workshop on the Special Report of the Intergovernmental Panel on Climate Change (IPCC) and the Technical and Economic Assessment Panel (TEAP); difficulties faced by some Article 5 parties manufacturing CFC-based metered dose inhalers (MDIs); treatment of stockpiled ODS relative to compliance; and a feasibility study on developing a system for monitoring the transboundary movement of ODS.

**MOP 19:** MOP 19 took place in Montreal, Canada, in September 2007. Delegates adopted decisions on: an accelerated phase-out of HCFCs; critical-use nominations for methyl bromide; and monitoring transboundary movements of, and illegal trade in, ODS. Parties also adopted an adjustment accelerating the phase out of HCFCs.

**COP 8/MOP 20:** MOP 20 was held jointly with COP 8 of the Vienna Convention in Doha, Qatar in November 2008. Parties agreed to replenish the MLF with US\$490 million for 2009-2011 and adopted other decisions concerning, *inter alia*: the environmentally sound disposal of ODS; approval of 2009 and 2010 CUEs for methyl bromide; and compliance and reporting issues.

**MOP 21:** MOP 21 took place in Port Ghalib, Egypt, in November 2009 and adopted decisions on: alternatives to HCFCs; institutional strengthening; essential uses; environmentally sound management of ODS banks; methyl bromide; and data and compliance issues. This was the first meeting at which delegates considered, but did not agree to, a proposal to amend the Montreal Protocol to include hydrofluorocarbons (HFCs) submitted by the Federated States of Micronesia (FSM) and Mauritius.

**MOP 22:** MOP 22 took place in Bangkok, Thailand, in November 2010 and adopted decisions on, *inter alia*: the terms of reference for the TEAP study on the MLF replenishment and for the evaluation of the financial mechanism; and assessment of technologies for ODS destruction. Delegates considered, but did not agree to, two proposals to amend the Montreal Protocol to address HFCs, one submitted by the US, Mexico and Canada and another submitted by FSM.

**COP 9/MOP 23:** COP 9/MOP 23 took place in Bali, Indonesia in November 2011 and adopted decisions on, *inter alia*, a US\$450 million replenishment of the MLF for the 2012-2014 period; issues related to exemptions; updating the nomination process and recusal guidelines for the TEAP; the treatment of ODS to service ships; and additional information on alternatives. Delegates considered, but did not agree to, two proposed amendments to the Montreal Protocol to address HFCs, one submitted by the US, Mexico and Canada and the other submitted by FSM.

**MOP 24:** MOP 24 took place in Geneva, Switzerland, in November 2012 and adopted decisions on, *inter alia*, the review by the Scientific Assessment Panel of RC-316c; procedural issues related to the TEAP and its subsidiary bodies; budget; and data and compliance issues. MOP 24 did not reach agreement on a draft decision on clean production of HCFC-22 through by-product emission control or on draft decisions to amend the Montreal Protocol to include HFCs.

**CURRENT ODS CONTROL SCHEDULES:** Under the amendments and adjustments to the Montreal Protocol, non-Article 5 parties were required to phase out production and consumption of: halons by 1994; CFCs, CTC, hydrobromochlorofluorocarbons and methyl chloroform by 1996; bromochloromethane by 2002; and methyl bromide by 2005. Article 5 parties were required to phase out production and consumption of: hydrobromochlorofluorocarbons by 1996;

bromochloromethane by 2002; and CFCs, halons and CTC by 2010. Article 5 parties must still phase out production and consumption of methyl chloroform and methyl bromide by 2015. Under the accelerated phase-out of HCFCs adopted at MOP 19, HCFC production and consumption by non-Article 5 parties was frozen in 2004 and is to be phased out by 2020, while in Article 5 parties, HCFC production and consumption is to be frozen by 2013 and phased out by 2030 (with interim targets prior to those dates, starting in 2015 for Article 5 parties). There are exemptions to these phase-outs to allow for certain uses that lack feasible alternatives.

## OEWG 33 REPORT

The thirty-third session of the Open-ended Working Group of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer (OEWG 33) opened on Monday, 24 June 2013. Marco González, Executive Secretary, Ozone Secretariat, welcomed delegates to OEWG 33, describing the Montreal Protocol as a model for international cooperation and an efficient instrument for protecting the atmosphere. González noted the Secretariat's involvement in broader UN discussions on the post-2015 development agenda and in embedding the contributions of the Montreal Protocol in the sustainable development goals (SDGs). He paid tribute to the late Joseph Farman, whose research established evidence of the hole in the ozone layer.

OEWG 33 Co-Chair Patrick McInerney (Australia) introduced the provisional agenda (UNEP/OzL.Pro.WG.1/33/1). He said the Secretariat had not received any proposals for adjustments to the Montreal Protocol and this item would be removed from the agenda. Uruguay requested inclusion of an item on the climate impact indicator of the MLF and said it would submit a conference room paper (CRP) to the Secretariat. Delegates agreed to consider Uruguay's suggestion under other matters and adopted the agenda as amended.

During OEWG 33, delegates convened daily in plenary and in contact, formal and informal discussion groups. This summary report is organized according to the order of the agenda. Delegates used UNEP/OzL.Pro.WG.1/33/2 as the basis for the discussion of agenda items, unless otherwise noted.

## 2013 PROGRESS REPORT OF THE TEAP

On Monday in plenary, the evaluation group presented Volume 1 of 3 of the TEAP's 2013 Progress Report. Medical Technical Options Committee (MTOC) Co-Chair Helen Tope (Australia) presented MTOC's report on essential-use nominations for metered-dose inhalers (MDIs) submitted by China and the Russian Federation. Tope noted that China's nominations for 2014 and 2015 are expected to be its last for a final campaign production and that its MDI chlorofluorocarbon (CFC) phase-out might be managed completely from stockpiles, while the Russian Federation's CFCs will be supplied from China's production and global stockpiles.

Chemicals Technical Options Committee (CTOC) Co-Chair Ian Rae (Australia) noted that the Russian Federation no longer considers RC-316c as a substitute for CFC-113, due to its high

ozone-depletion potential (ODP) and global warming potential (GWP) and said uses of process agents are declining.

Foams Technical Options Committee (FTOC) Co-Chair Miguel Quintero (Colombia) said hydrocarbons continue to be the dominant technology for replacement of HCFC-141b and that new product development focuses on unsaturated hydrofluorocarbons (HFC)/ hydrochlorofluorocarbons (HCFCs).

Halons Technical Options Committee (HTOC) Co-Chair Daniel Verdonik (US) expressed the Committee's concern that some clean agent portable extinguishers sold in South America and Asia may not extinguish some fires, and said parties may wish to consider requiring fire extinguishers to be "listed" by internationally recognized laboratories.

Methyl Bromide Technical Options Committee (MBTOC) Co-Chair Mohamed Besri (Morocco) noted that global methyl bromide consumption from 1991 to 2011 has fallen from 64,420 tonnes to 5,187 tonnes. Ian Porter (Australia), MBTOC Co-Chair, outlined critical-use nominations (CUNs) from Australia, Canada and the US for use of methyl bromide for strawberry runners or fruits. MBTOC Co-Chair Michelle Marcotte (Canada) summarized MBTOC's work on structures and commodities, noting CUNs from the US for dry-cure pork and fresh dates. Marta Pizano (Colombia), Chair of MBTOC's subcommittee on Quarantine and Pre-Shipment (QPS) issues, highlighted an upward trend in global consumption of methyl bromide since 2000 and said QPS consumption has remained stable.

Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee (RTOC) Co-Chair Roberto Peixoto (Brazil) said the emphasis in commercialized refrigeration is on low or very low GWP alternatives and energy efficiency. On air conditioners (AC), he said R-407c use is decreasing and lower GWP alternatives are being evaluated. Peixoto said HFC-1234yf was the preferred alternative for mobile AC, but noted a test by Daimler, disputed within the industry, which found HFC-1234yf, was flammable when leaking in engine compartments.

During the discussion on the TEAP progress report, the Russian Federation described difficulties that arose in producing MDI equipment and requested approval of its nomination. Woodcock responded that the MTOC has sought to balance phase-out with patient safety and previously recommended the Russian Federation to consider broadening its imports of CFC-free inhalers.

The European Union (EU) asked for clarification on missing data and criteria used by CTOC to define a process as a process agent use. CTOC Co-Chair Rae explained that the limitations result from fewer data entries in the UNEP database, particularly after phase-out of an agent, and from consolidation of data for confidentiality. He said criteria have been implicitly accepted through usage over time.

On feedstocks, the EU queried the definition and the emissions measurements. CTOC Co-Chair Rae explained the definition was included to indicate the TEAP was building on current concerns. He said the TEAP is confident about its 0.5% guideline on emissions.

Libya asked for clarification on the International Civil Aviation Organization's (ICAO) halon use. The TEAP said it is

working with ICAO to find alternatives but noted there could be a halon shortage if ICAO did not move ahead with a phase-out.

### **ISSUES RELATED TO EXEMPTIONS UNDER ARTICLE 2A-2I OF THE MONTREAL PROTOCOL**

#### **NOMINATIONS FOR ESSENTIAL-USE EXEMPTIONS**

**FOR 2014 AND 2015:** On Monday in plenary, OEWG 33 Co-Chair Javier Camargo (Colombia) introduced this issue, highlighting nominations by China and the Russian Federation for essential-use exemptions for CFCs in MDIs and by the Russian Federation for use in aerospace applications.

Noting its steady progress on reducing CFCs in its MDIs, China requested approval of the nomination. The Russian Federation explained delays in converting two plants under its Global Environmental Facility (GEF)/UN Industrial Development Organization (UNIDO) project, expressing certainty that in 2014 it will have all necessary equipment, licenses and permits. He appealed to parties to allow the nomination.

Lauding the progress made by China and the Russian Federation on limiting essential-use exemptions, the EU, with the US, called for further discussion on the Russian nomination of CFCs for MDIs. Mexico requested information on why some countries struggle to eliminate CFCs for essential uses. India, supported by the Russian Federation, drew attention to nominations by other countries that were "unquestioned." Co-Chair Camargo invited interested parties to draft a decision on this issue for consideration at MOP 25.

The Russian Federation introduced a draft decision on an essential-use exemption for CFC-113 in aerospace applications in the Russian Federation (UNEP/OzL.Pro.WG.1/33/CRP.1), noting that CFC-113 is to be phased out by 2016.

On Thursday in plenary, China introduced the draft decision (UNEP/OzL.Pro.WG.1/33/CRP.9), noting that the draft updates the 2014 CFC exemption for MDIs and invites the MTOC to continue updating the information for MOP 25. The Russian Federation added that the group discussed its GEF/UNIDO project and expressed hope that MOP 25 would support its proposed exemption for CFC-113.

Canada noted that when there is a difference between the party and MTOC request, both should be included in brackets in the draft decision.

**Outcome:** OEWG 33 agreed to forward the draft decision on a CFC exemption for MDI (CRP.9), with the proposed exemptions in brackets, to MOP 25 for consideration.

OEWG 33 also agreed to forward the draft decision on an essential-use exemption for CFC-113 in aerospace applications (CRP.1) to MOP 25 for consideration.

#### **NOMINATIONS FOR CRITICAL-USE EXEMPTIONS**

**FOR 2014 AND 2015:** On Monday in plenary, Co-Chair Camargo introduced this issue, noting the CUNs submitted by the US, Canada and Australia.

Canada expressed concern about the TEAP's recommendation on strawberry runners, noting her country had provided the MBTOC with information concerning soil viability in the region concerned, and, with Australia, called for bilateral discussions

with the MBTOC to clarify the issue. The US informed delegates of progress made since OEWG 32, noting that the number of its nominations has decreased but that regulatory uncertainty about alternatives is challenging. Emphasizing the “unique circumstances” of strawberry farmers created by both state and national legislation, he called for further discussion of the CUN for strawberry runners.

The EU expressed concern about the number of nominations, emphasizing that some Article 2 countries have successfully phased out CFC use in the same sectors. Mexico suggested replication of best practices on the elimination of CFC use in fruit and vegetable treatment.

**Outcome:** Co-Chair Camargo requested interested parties to conduct bilateral talks with the MBTOC to resolve outstanding issues and requested the MBTOC to submit a revised report to MOP 25.

**HANDBOOK ON CRITICAL-USE NOMINATIONS FOR METHYL BROMIDE:** Co-Chair Camargo reminded delegates of the request from MOP 24 to the TEAP to revise its modified version of the handbook and said the new version is available. The US, supported by Australia, proposed issuing a “tracked-changes” version to facilitate parties’ review.

On Thursday in plenary, Co-Chair Camargo announced that a “tracked changes” version of the handbook was available on the Protocol’s website.

**QPS USE OF METHYL BROMIDE:** Co-Chair Camargo noted that a number of parties submitted data after the deadline. Japan urged parties who had not yet submitted data to do so in order to increase the reliability of the next year’s assessment. The EU expressed reservations about QPS uses and called on parties to respect reporting requirements.

**USES OF CONTROLLED SUBSTANCES AS PROCESS AGENTS:** On Monday in plenary, Co-Chair Camargo introduced this issue, noting that MOP 24 requested the TEAP to provide more information on 14 substances with effects on climate and atmosphere. He reported that the Panel concluded there was insufficient information for three substances and that another three could be deleted from the list. He also said the Panel had confirmed that, in the case of the US, CTC is not used in feedstocks. The EU called for ODS in feedstocks to be phased out over time and proposed a sunset clause for any decision on this issue.

On Tuesday, Co-Chair Camargo invited the MLF Secretariat to present the Executive Committee’s (ExCom’s) report on progress made in reducing emissions of controlled substances from process-agent uses (UNEP/OzL.Pro.WG.1/33/5). The MLF Secretariat outlined the report, noting that no new plants using process-agents have been commissioned and all activities related to process agents have been provisionally completed. In response to a query from the EU, CTOC Co-Chair Rae confirmed that CTOC will consider the ExCom report during preparation of its 2014 progress report.

India requested clarification on whether CTC is a controlled substance or a feedstock and asked if the US is in compliance with regard to use of this substance. The US clarified that it does not use CTC in vinyl chloride monomer (VCM)

production. CTOC Co-Chair Rae explained that the processes of VCM production in the US and India differ and the TEAP’s recommendations were based on detailed evaluations of the processes in both India and the US.

India requested further clarification about whether CTC use in India should be categorized as a feedstock or a process-agent. CTOC Co-Chair Rae offered to continue discussions bilaterally with India.

On Friday in plenary, India reported on his discussions with the US and the TEAP. He questioned, *inter alia*, the TEAP assessment and requested the TEAP to re-examine the issue and report to MOP 25. The US said, *inter alia*: CTC is produced as a by-product of the VCM process; most US companies destroy the CTC; and at least one US enterprise uses the CTC by-product to manufacture hydrochloric acid, which is accounted for under US regulations.

Co-Chair Camargo suggested further bilateral conversations in the intersessional period before MOP 25. India responded that the issue could not be addressed through bilateral discussions, questioned the US use of CTC for hydrochloric acid production, and requested the TEAP to analyze this use. Co-Chair Camargo then closed the discussion.

#### **TEAP REPORT ON ADDITIONAL INFORMATION ON ODS ALTERNATIVES**

On Monday in plenary, Co-Chair McInerney introduced the report (contained in the TEAP 2013 Progress Report and UNEP/OzL.Pro.WG.1/33/2/Add.2) by the TEAP on alternatives to ODS, noting that MOP 24 had requested this information and that the report would be considered at MOP 25.

Paul Ashford (UK), Flexible and Rigid Foams TOC (FTOC) Co-Chair, gave an overview of the report, describing the Task Force’s interpretation of the operative language in the decision, including a description of all alternatives to ODS that are commercially viable, technically proven and environmentally sound, and decision language referencing “alternatives under development.” He noted submissions from the EU and the US on refrigeration and AC. On foams, he said the size of an enterprise influences the types of technologies that can be considered as alternatives.

On fire suppressants, HTOC Co-Chair Verdonik said establishing a baseline on what emissions were, or could have been, avoided was a problem because each fire suppressant application is a unique application with an individual design, rendering broad-based assumptions inappropriate.

On refrigeration and AC, RTOC Co-Chair Lambert Kuijpers (Netherlands) noted that emissions of 252 megatonnes of CO<sub>2</sub> equivalent from refrigerants in domestic appliances could have been avoided. He also said transitioning from HCFC-22 to HFCs or low-GWP alternatives yields a savings in negative environmental impact per year, noting that this savings depends on levels of consumption in both Article 5 and non-Article 5 countries.

On solvents, CTOC Co-Chair Keiichi Ohnishi (Japan) said HFCs and hydrofluoroethers (HFEs) have zero ODP and varying GWP values but their relatively high cost limits

their use. He added that hydrofluoroolefins (HFOs) and hydrochlorofluoroolefins (HCFOs) are becoming available to replace HCFCs for solvent use.

Iraq highlighted domestic pressure from companies seeking alternatives to HCFCs. India requested information on: low-GWP technologies used by non-Article 5 parties; commercial availability and market penetration of such technologies; and low-GWP technologies for the AC sector. RTOC Co-Chair Kuijpers explained that: the TEAP considered a number of low-GWP HFCs and HCFCs, as well as blends; the level of market penetration varies among refrigeration and AC subsectors; and there is no “replacement of choice” for HCFC-22.

Burkina Faso expressed concern about availability of alternatives and their implications for climate, ozone and power. FTOC Co-Chair Ashford said the objective is to move toward low-GWP and ozone-benign solutions.

Noting the TEAP would require guidance to complete its report, Co-Chair McInerney invited comments. Kenya emphasized that alternatives to ODS should be available and affordable. India expressed concern about the lack of a definition of low-GWP. The Environmental Investigation Agency (EIA) said the report fails to include information on the full range of low-GWP alternatives, and emphasized the need for information on low-GWP alternatives to HFCs, and for applications in the refrigeration sector. Brazil suggested considering global temperature potential instead of GWP.

Switzerland noted that the effect of degradation of some unsaturated HFCs renders them extremely stable and persistent, and said this characteristic should be considered if HFCs are developed in significant quantities. The EU emphasized the need to understand the full environmental risks and life cycle emissions of HFCs and queried whether the TEAP used the same methodologies in different sectors.

Japan recommended prioritizing human rights and safety in the criteria for assessing alternatives. Singapore expressed concern about how the report addresses flammability.

Canada requested additional discussion on international standards that create barriers to use of certain alternatives.

The US, supported by the EU, Japan and Australia, suggested an informal discussion between the TEAP and interested parties. Co-Chair McInerney referred further discussion on guidance for the TEAP to an informal group. On Wednesday, the TEAP Task Force reported that it had received sufficient guidance from the informal group to complete its work by MOP 25.

On Tuesday morning, Canada introduced a draft decision (UNEP/OzL.Pro.WG.1/33/CRP.2) submitted by Canada, Mexico, Morocco, Switzerland and the US. He explained the draft contains proposals related to information on: ODS alternatives; policy measures for ODS transition; and additional MLF funding to maximize the climate benefits of the accelerated phase-out of HCFCs. He summarized the draft decision, stating that it requests the TEAP to assess the technical and economic considerations involved in implementing: a phase-down of HFCs, taking into account, *inter alia*, their relative environmental impacts and costs; and HFC-23 by-product control measures related to the

production of HCFC-22 in production lines not covered by a Clean Development Mechanism (CDM) project. The draft decision also invites parties to provide information on reporting systems, policies and initiatives related to promoting the transition from ODS to alternatives that minimize other impacts on the environment. It further requests the MLF ExCom to consider: whether additional demonstration projects to validate emerging low-GWP alternatives and technologies and by-product emissions technologies would be useful in assisting Article 5 parties to minimize the climate impact of the HCFC phase-out; and the cost implications of avoiding transition to high-GWP alternatives and technologies in Stage Two HCFC phase-out management plans (HPMPs). Mexico underscored that the draft resulted from requests for information on the technical and cost-related aspects of a transition to low-GWP alternatives.

The EU, Japan, Norway and the US welcomed further discussion in a contact group. South Africa, supported by India and Argentina, opposed a contact group, stressing that the decision covers items that had not yet been addressed in plenary. South Africa, supported by Brazil and India, suggested discussion occur after consideration of the agenda item on proposed amendments to the Protocol.

India said the title of the CRP (Report by the TEAP on information alternatives to ODS) had little to do with its content. Brazil, supported by Kuwait, India, South Africa and Argentina, said the CRP does not build on information already provided by the TEAP and emphasized that the TEAP does not have the mandate to consider issues already under discussion in the climate change regime. He further underscored that the proposal touches on issues related to the proposed amendments to the Protocol and noted that neither the TEAP nor the ExCom could consider issues of such a political nature. The US recalled that the request to the ExCom resulted from requests from parties who have already undertaken Stage One HPMPs, and, with Canada, clarified that the draft title was a Secretariat error.

Co-Chair Camargo proposed, and delegates agreed, to return to this CRP after consideration of other relevant items on the agenda.

On Thursday in plenary, Co-Chair McInerney reopened discussion on CRP.2. Noting that discussions on HFC management were ongoing, Co-Chair McInerney called for suggestions on the way forward. Canada suggested either forwarding the discussion on this issue to MOP 25 or establishing a group at OEWG 33 to hear relevant views on the work of the TEAP.

**Outcome:** OEWG 33 agreed to send the draft decision to MOP 25 for further consideration.

### **INFORMATION ON ODS TRANSITION POLICY MEASURES**

On Monday in plenary, Co-Chair Camargo introduced this issue (UNEP/OzL.Pro.WG.1/33/2/Add.2, Annex I, Section A), noting that MOP 24 had deferred deliberation of this issue to OEWG 33. The US recalled that the purpose of the decision is for the Secretariat to compile information on: reporting systems; policies; and global, regional and national initiatives

that promote environmentally-sound destruction of ODS. He suggested this matter be considered by the informal group on additional information on ODS alternatives, but as a separate item.

Brazil welcomed the establishment of an informal group and called for further exploration of the implications of the policy measures, particularly if they relate to climate change. Japan offered to share information on low GWP alternatives. Co-Chair Camargo suggested delegates revisit this matter in plenary after informal discussions on CRP.2 had taken place.

**Outcome:** This item was included in UNEP/OzL.Pro.WG.1/33/CRP.2, which was forwarded to MOP 25 for further consideration.

**ORGANIZATIONAL ISSUES RELATED TO THE TEAP  
TEAP REPORT ON OPERATIONAL AND**

**ORGANIZATIONAL ISSUES:** On Tuesday in plenary, Co-Chair Camargo invited the TEAP to present a report on its operating procedures. Bella Marañon (US), Co-Chair of the Decision XXIV/8 Task Force, reminded delegates that the Task Force was responsible for reviewing the TEAP's operating procedures, including its: processes for nominating experts; guidelines for disclosures of interests; and conflicts of interest. Noting that over 150 people are currently members of Technical Options Committees (TOCs), Co-Chair Marañon said regional balance has been achieved in some but not all TOCs and that gender balance has never been achieved. She then reviewed the mission, general scope of work, expertise and expected workload of the TOCs and proposed staggering re-nomination processes to avoid the risk of discontinuity.

The US expressed concern that the RTOC, the largest TOC, experienced challenges in achieving balance between: Article 5 and non-Article 5 countries; gender; and geographic regions.

Australia proposed consideration of several issues, including: moving from three to two co-chairs in all TOCs; decreasing TOC membership to 20 members or less; and increasing correspondence-based work, particularly by TOCs that do not regularly report to parties on essential- or critical-use exemptions. She also suggested combining the CTOC and MTOC and, noting parties' reliance on the RTOC, proposed splitting the RTOC into two TOCs. Canada supported Australia's proposals and welcomed further discussion.

Switzerland noted that the Montreal Protocol is entering a new era in the consideration of new substances; cautioned against a rapid reorganization of the TEAP and its TOCs; and underscored the need for more expertise on low-GWP alternatives across all the TOCs.

Co-Chair McInerney invited interested parties to liaise with Australia to prepare a draft decision on this issue, to be considered during either OEWG 33 or MOP 25.

On Wednesday in plenary, Australia introduced a draft decision (UNEP/OzL.Pro.WG.1/33/CRP.7). She explained it requests the TEAP to: continue implementing its revised terms of reference (ToR); further review its TOC member nomination

process; consider combining the MTOC and the CTOC and replacing the RTOC with a Refrigeration TOC and an AC TOC; and prepare technology and regulatory updates every two years.

Switzerland said provision of technical updates for parties should be prioritized. Noting substantial revisions made to the TEAP and TOC ToR in 2012, the EU questioned whether it was an appropriate time for additional questions and revisions.

Japan and the US supported splitting the RTOC, with the US highlighting the TOCs' large workload. Switzerland, the EU, Canada, Japan, the US, China and Brazil proposed further discussion, which continued informally.

On Friday morning, Australia reported that the informal group agreed on a revised draft decision (UNEP/OzL.Pro.WG.1/33/CRP.7/Rev.1), explaining that the draft decision, *inter alia*, encourages the TEAP to continue implementing its revised ToR and requests the TEAP to provide a 2014 progress report on its: TOC nominations; proposed TOC configurations; and options for streamlining technology updates.

**Outcome:** OEWG 33 agreed to forward the draft decision to MOP 25 for consideration.

**STATUS OF THE MEMBERSHIP OF THE PANEL AND**

**ITS TOCS:** On Tuesday morning, the Secretariat announced Morocco's re-nomination of Mohamed Besri as MBTOC Co-Chair. Australia lauded the work of MBTOC Co-Chair Marcotte and CTOC Co-Chair Rae, who are withdrawing from the TEAP at the end of 2013, and announced the re-nominations of Helen Tope and Ian Porter. The Russian Federation re-nominated Sergey Kopylov as HTOC Co-Chair. Brazil re-nominated Roberto Peixoto as RTOC Co-Chair. Co-Chair McInerney requested the Secretariat to prepare a CRP.

On Thursday in plenary, the Russian Federation and Australia provided an update on appointments included in the draft decision (UNEP/OzL.Pro.WG.1/33/CRP.10). China expressed interest in adding a nomination. Several parties expressed interest in liaising with the proponents of CRP.10 and delegates agreed to hold informal discussions.

Colombia explained the nominations in its draft decision (UNEP/OzL.Pro.WG.1/33/CRP.11), which re-nominates Miguel Quintero and Marta Pizano to the TEAP. The US suggested merging CRP.10 and CRP.11, including any additional nominations, and recommended the CRPs take into consideration the TEAP ToR, particularly on minimizing the number of individuals who Co-Chair both the TEAP and a TOC.

On Friday morning, Switzerland said the group agreed on the need to coordinate TEAP nominations and to avoid having the same individual serve as a TOC and TEAP co-chair. On behalf of the group, he requested that the Ozone Secretariat merge the two draft decisions (UNEP/OzL.Pro.WG.1/33/CRP.10 and UNEP/OzL.Pro.WG.1/33/CRP.11). Co-Chair McInerney proposed, and delegates agreed, to request the Secretariat to combine the two draft decisions and include any party nomination between now and MOP 25.

**Outcome:** OEWG 33 agreed to forward the combined draft decision to MOP 25 for its consideration.

## **CONTROLLED SUBSTANCES ON SHIPS, INCLUDING PRIOR INFORMED CONSENT**

On Monday in plenary, Co-Chair Camargo introduced this agenda item (TEAP 2013 Progress Report Vol. 1), reminding delegates that MOP 24: was unable to reach agreement on using the Prior Informed Consent (PIC) procedure with respect to ODS on ships; agreed to revisit the issue at OEWG 33; and requested the TEAP to provide updated information on transport refrigeration in the maritime sector.

The EU proposed, and delegates agreed, to take note of the report, delaying a decision in order to allow parties to provide additional information to the TEAP for inclusion in its next progress report.

## **REVIEW BY THE SCIENTIFIC ASSESSMENT PANEL OF RC-316C**

On Monday in plenary, Co-Chair McInerney introduced the agenda item and informed delegates that the next quadrennial assessment will include RC-316c. Scientific Assessment Panel (SAP) Co-Chair A. R. Ravishankara (US) presented the SAP's report on RC-316c, which has a Z-isomer and an E-isomer. He concluded the isomers' ODP and GWP are slightly less than but very similar to CFC-11 and CFC-12, which means RC-316c has high ODP and GWP.

## **ISSUES RELATED TO FUNDING**

**CLEAN PRODUCTION OF HCFC-22 THROUGH BY-PRODUCT EMISSION CONTROL:** On Tuesday in plenary, Co-Chair Camargo introduced this issue (UNEP/OzL.Pro.WG.1/33/2, Annex I, Section B). Canada informed delegates that they were preparing a CRP merging: additional information on alternatives to ODS; ODS transition policy measures; and cleaner production of HCFC-22. He welcomed input from interested parties.

**Outcome:** This item was included in CRP.2 and was forwarded to MOP 25.

**ADDITIONAL FUNDING FOR MAXIMIZING THE CLIMATE BENEFIT OF THE ACCELERATED PHASE-OUT OF HCFCs:** On Tuesday in plenary, Co-Chair McInerney introduced this issue (UNEP/OzL.Pro.WG.1/33/2, Annex I, Section C), noting that there had been extensive discussion on this issue at both OEWG 32 and MOP 24. As co-convenor of the MOP 24 contact group on this issue, Canada recalled delegates' agreement to base discussion on the original Swiss proposal and requested that an OEWG 33 group continue working along the same lines. Brazil, Norway and the EU welcomed a contact group, and a group, co-convened by Philippe Chemouny (Canada) and Agustín Sanchez Guevara (Mexico), was established.

On Wednesday in plenary, Co-Convenor Chemouny reported that the contact group had met on Tuesday to exchange general views. The group reconvened on Wednesday afternoon and, working on the basis of a co-conveners' text, discussed: possible sources of funding to maximize the climate benefit of accelerating HCFC phase-out, with some favoring voluntary funds and others preferring contributions from any interested

party and not only non-Article 5 countries; and the nature of the funding, including whether to refer to it as new, additional and/or unconditional.

Participants also discussed how the funds would be used, including options for: maximizing environmental benefits other than ozone layer protection, particularly with respect to the climate, from MLF activities beyond and outside current funding eligibility under the MLF's ToR and policies; maximizing climate benefits from MLF activities beyond and outside current funding eligibility under the MLF's ToR and policies; activities that maximize climate benefits, including but not limited to activities in HPMPs that exceed eligible funding under the HCFC guidelines, and for activities that are currently not eligible under the MLF's ToR and policies; and maximizing climate benefits from projects that do not meet cost-effectiveness thresholds under ExCom guidelines.

On Friday in plenary, Contact Group Co-Convenor Guevara reported that the contact group had met on Thursday and Friday and considered a series of options for highlighting the scope of the additional funding that would be requested, but had not yet reached agreement.

**Outcome:** OEWG 33 agreed to forward the draft (UNEP/OzL.Pro.WG.1/33/CRP.12), with brackets, to MOP 25 for further consideration.

**FUNDING OF PRODUCTION FACILITIES FOR HCFCs:** On Tuesday in plenary, Co-Chair Camargo introduced this item (UNEP/OzL.Pro.WG.1/33/2, Annex I, Section D). India informed delegates it would submit a revised CRP.

On Wednesday in plenary, India introduced the draft proposal (UNEP/OzL.Pro.WG.1/33/CRP.8). He said it requests the MLF ExCom to, *inter alia*: finalize and approve the funding of HCFC production facilities and initiate the technical audit for production facilities for parties with swing plants; and consider proactive regulatory action to restrict HCFC production by Article 5 parties when finalizing funding. Argentina said the document provides a way forward on the pending issue of phasing out HCFC-22 production. A contact group, co-chaired by Rajendra Kumar Foolmaun (Mauritius) and Alice Gaustad (Norway), was established to further consider the proposal.

In plenary on Friday, Co-Chair Gaustad reported that the group had met on Thursday, discussed the eligibility of funding swing plants and made limited progress on the CRP's text.

**Outcome:** OEWG 33 agreed to forward CRP.8 to MOP 25 for further consideration.

**TERMS OF REFERENCE FOR THE STUDY ON THE 2015-2017 REPLENISHMENT OF THE MULTILATERAL FUND FOR IMPLEMENTATION OF THE MONTREAL PROTOCOL:** On Tuesday in plenary, Co-Chair McInerney introduced this item (UNEP/OzL.Pro.WG.1/33/2, Annex II).

Australia said it had submitted a proposal (UNEP/OzL.Pro.WG.1/33/CRP.3) on behalf of Australia, Canada and Norway that reflects previous discussions and adds two new elements to the MLF's ExCom. China recommended considering, *inter alia*, maintaining momentum between Phases One and Two and focusing on small and medium enterprises, which lack technical capacity and experience high unit phase-out costs. Delegates

agreed to continue discussion in a contact group, co-chaired by Alain Wilmart (Belgium) and Marissa Gowrie (Trinidad and Tobago).

On Friday, Co-Chair Gowrie reported that parties were unable to reach consensus on the draft decision (UNEP/OzL.Pro.WG.1/33/CRP.3/Rev.1), and that it includes square brackets.

**Outcome:** OEWG 33 agreed to forward the text to MOP 25 for further consideration.

### **IMPLICATIONS OF THE OUTCOME DOCUMENT OF THE UNCSG FOR SMALL ISLAND DEVELOPING STATES**

On Tuesday in plenary, Co-Chair Camargo introduced this item (UNEP/OzL.Pro.WG.1/33/2, Annex I, Section E).

Saint Lucia, supported by Grenada, requested that parties recognize the unique and particular vulnerabilities of small island developing states (SIDS) and consider these vulnerabilities when discussing SIDS' Montreal Protocol obligations and transitions to ozone-friendly alternatives. She further requested the Secretariat to liaise with the organizers of the 2014 Third International Conference on SIDS, with the aim of including an agenda item on the unique vulnerability of SIDS to ozone depletion on the Conference's agenda. Trinidad and Tobago noted challenges faced by SIDS in phasing out HCFCs and requested support to phase-out ODS.

On Wednesday morning, Co-Chair Camargo drew attention to UNEP/OzL.Pro.WG.1/33/CRP.5, submitted jointly by Saint Lucia, Grenada, and Trinidad and Tobago, and requested one of the proponents to present it to plenary. Saint Lucia, supported by Samoa and the Federated States of Micronesia (FSM), requested the formation of a contact group to discuss CRP.5. Grenada, supported by Mauritius, said the CRP is simple and suggested addressing issues bilaterally. The EU and Australia, supported by the US, requested clarification and suggested informal discussion. Supporting informal discussions, Japan queried the authority of the OEWG to discuss the International Conference on SIDS.

The US emphasized that issues faced by SIDS can be addressed through existing mechanisms. Trinidad and Tobago reiterated the need to develop a mechanism to address specific challenges faced by SIDS in meeting their obligations under the Protocol and supported informal discussions.

India requested explanation of the CRP's content. Saint Lucia responded that the CRP, *inter alia*, requests the Protocol to recognize the particular vulnerabilities of SIDS.

Noting these interventions, Co-Chair Camargo suggested informal consultations to clarify and revise the draft decision. Expressing concern about transparency, Cuba supported a formal discussion or contact group and said it could support the CRP with some amendments. Co-Chair Camargo emphasized the importance of transparency and suggested establishing a contact group.

India asked the proponents to identify the Rio+20 recommendations addressed by the CRP and said a contact group should not be formed before parties understand a proposal. Trinidad and Tobago clarified that the CRP would address only the Rio+20 outcomes that relate to SIDS.

Co-Chair Camargo again suggested establishing a contact group for additional discussion. India called for a procedural clarification, stating that the Co-Chairs had "overruled" the decisions of parties regarding the establishment of discussion and contact groups, and objected to establishing contact groups for issues not covered by the Protocol. Kuwait expressed concern about establishing "a contact group for every issue." Iran called for every proposal to have a clear objective. After clarification by Co-Chair Camargo on the establishment of contact groups to address parties' concerns, the Secretariat explained that, unlike informal discussion groups, contact groups report back to plenary.

China, with Brazil, supported consensus-based decision making on all issues, including procedural issues. Co-Chair Camargo suggested that further discussions on procedural concerns be conducted bilaterally. A contact group on SIDS, co-chaired by Azra Rogović Grubić (Bosnia and Herzegovina) and Amb. Martin Kimani (Kenya), was then established.

On Friday, SIDS Contact Group Co-Chair Grubić reported to plenary that the group had met on Thursday to consider revised text produced by a small drafting group (UNEP/OzL.Pro.WG.1/33/CRP.5/Rev.1). She noted that the CRP title had been changed to "Third International Conference on SIDS and implementation of the Montreal Protocol" to better reflect the content of the operational paragraphs. Noting the discomfort of one party, she suggested the revised CRP be forwarded to MOP 25 for further consideration. Brazil noted that the intersessional period would allow time for necessary domestic consultations.

**Outcome:** OEWG 33 agreed to forward the draft decision (UNEP/OzL.Pro.WG.1/33/CRP.5/Rev.1) to MOP 25 for further consideration.

### **PROPOSED AMENDMENTS TO THE MONTREAL PROTOCOL**

On Wednesday in plenary, Co-Chair McInerney introduced the item and invited the proponents to present their proposed amendments to the Protocol.

Introducing the North American proposal (UNEP/OzL.Pro.WG.1/33/3 and CRP.4), submitted jointly with Canada and Mexico, the US explained its intention to phase down HFC production and consumption. He said it would, *inter alia*: result in more than 90 gigatonnes of carbon dioxide equivalent benefits; and preserve the legacy and draw on the expertise of the Protocol. He noted the proposal includes a draft decision with: key parameters; substantive obligations; baselines; and a phase-down schedule for Article 5 and non-Article 5 parties. Canada stressed the amendment is an opportunity to shape the Protocol's future achievements and noted that alternative technologies have now emerged. Mexico said the Protocol represents the most efficient way to phase-down HFCs, highlighting the Protocol's financial mechanism and technical expertise.

Introducing its proposal (UNEP/OzL.Pro.WG.1/33/4), submitted jointly with Morocco and the Maldives, FSM recalled that the Rio+20 outcome document calls for phasing-down HFCs. He said the proposed amendment to phase-down HFCs: will prevent rapid proliferation of HFCs that

jeopardize climate benefits achieved under the Protocol as well as expected greenhouse gas (GHG) benefits; includes advance action provisions for developing countries to take advantage of available low-GWP alternatives; and does not remove HFCs from the UN Framework Convention on Climate Change (UNFCCC) or the Kyoto Protocol's "basket" of gases. Describing the amendment as the "logical continuation of the HCFC phase-down," Morocco said the proposal is, *inter alia*, equitable and based on the principle of common but differentiated responsibilities.

The US, supported by Canada, Mexico, FSM, Morocco, the Maldives, Senegal, Nigeria, the Dominican Republic, the Russian Federation, Australia, the EU, Kenya, Japan, New Zealand and Switzerland, called for a contact group to discuss the proposals. Colombia supported "setting up a contact group if there is a consensus on this." Bahrain suggested establishing an informal group.

Burkina Faso requested clarification on whether the amendments address only pure substances or also blends. The US and FSM said their proposals consider both.

Benin, Iraq, Kuwait, Bahrain and the United Arab Emirates (UAE) emphasized the need to address the concerns of countries with high ambient temperatures. Kuwait did not support addressing HFCs under the Protocol, calling on parties to "push for" this issue under the UNFCCC. Benin and Iraq stressed the need to ensure that alternatives are affordable and viable. Iran called for detailed discussion on alternative technologies.

India queried how the proponents proposed to address the availability of alternative technologies; noted that the Rio+20 outcome document did not specify that HFCs should be addressed under the Protocol; and cautioned about overstepping the Protocol's mandate by addressing issues that are covered under the UNFCCC.

Norway emphasized that actions taken under the Protocol have unintentionally caused adverse effects on the climate system and, with Mozambique, said it is the Protocol's responsibility to address this issue. The Maldives underscored that addressing HFCs is not akin to "stepping on someone else's turf."

Opposing discussion of the proposed amendments in a contact group until the Montreal Protocol is formally invited to do so by the UNFCCC, South Africa suggested establishing a contact group to consider other HFC-related matters, including on, *inter alia*: availability of alternatives; implications of the new HFC phase-down obligations in the context of existing HCFC obligations in terms of technology pathways; financial needs; additional funding for the MLF to maximize the climate benefit of HCFC phase-out; and measures to ensure implementation.

Uruguay stressed the need for coordination among the Montreal Protocol, the UNFCCC and the Kyoto Protocol. Argentina expressed concern about: the legal relationship between the Protocol and the UNFCCC; funding to phase down HFCs; and the existence of alternatives to HFCs. Brazil said considering the amendments in a contact group would be premature and action should depend on provision of new and additional funding for climate-friendly alternatives.

China observed that action should reflect the principle of common but differentiated responsibilities; queried whether the MLF can provide adequate funding for Article 5 countries; and said the feasibility and costs of nascent alternative technologies are uncertain.

Australia said momentum to control HFC consumption and production is building rapidly and an HFC phase-down in the Protocol will complement the UNFCCC efforts. She also suggested further work by the TEAP on alternative technologies to HFCs.

Stressing that the Kyoto Protocol controls emissions from gases while the Montreal Protocol addresses production and consumption, the EU said the processes are complementary. He also supported discussing funding and availability of alternatives, emphasizing that the proposals call for a phase-down, not a phase-out, allowing alternatives to emerge. Senegal described the amendment as a logical follow-up to the Montreal Protocol's phase-down and phase-out of ODS and supported discussing technology transfer and capacity building in a contact group.

In response to questions, FSM noted its proposal has a section on the Kyoto Protocol and expressed willingness to further discuss issues such as alternatives, funding and timing in a contact group. The US said, *inter alia*: the proposal calls for a phase-down not a phase-out; there are a number of options for achieving a phase-down, including transitions from high-GWP to low-GWP and cascade systems; and solutions are already available in some sectors but not in all.

On Wednesday in plenary, Co-Chair McInerney reported that the Secretariat and Co-Chairs met with the US, Mexico, Canada, FSM, India, China, Brazil and South Africa to discuss a way forward and agreed to establish a formal discussion group, co-convened by Leslie Smith (Grenada) and Gudi Alkemade (Netherlands). He said the group would report back to plenary on: possible processes to address legal, technical and financial aspects of HFC management; and options to establish a relationship between the UNFCCC and Protocol. Several parties requested clarity on the characteristics of the group and the differences between formal and informal discussion groups. Co-Chair McInerney confirmed the group's status as formal, explaining that its report to plenary would be reflected in the meeting report. India and Kuwait opposed a formal discussion group and Co-Chair McInerney said this opposition would be noted in the meeting report.

The formal discussion group on HFC management convened on Wednesday afternoon. The group began by discussing the legal basis for using the Protocol and its mechanisms to address the management of HFCs. The amendment proponents responded to questions on why HFC production and consumption should be addressed under the Montreal Protocol and why this approach does not legally contradict the UNFCCC and the Kyoto Protocol. They noted, *inter alia*: the Montreal Protocol focuses on production and consumption while the UNFCCC and the Kyoto Protocol focus on emissions; Article 2b of the Montreal Protocol addresses such cooperation and harmonization; Articles 4 and 12 of the UNFCCC and Articles 2, 5, 7 and 10 of the Kyoto Protocol state that the UNFCCC and the Kyoto Protocol

apply only to GHGs not controlled by the Montreal Protocol; and the FSM proposal includes a disclaimer that the amendment shall have no effect on the status of HFCs under the UNFCCC or the Kyoto Protocol. One developing country stressed that a disclaimer is insufficient and said guidance from the UNFCCC and the Kyoto Protocol is essential.

When the discussion group reconvened on Thursday morning, the amendment proposal proponents responded to questions related to: availability of technologies that are economically sound, economically viable and technically proven; the definition of low-GWP alternatives; and technology transfer. The proponents noted, *inter alia*: specific alternatives that are available in the domestic refrigeration, foam and motor vehicle AC sectors, such as HFO-1234yx for the motor vehicle AC sector; different sectors will transition at different times; and the North American proposal allows 30 years for a transition. One developed country emphasized the key issue is the quantity of gases that end up in the atmosphere, not their GWP, and drew attention to an EU study that includes detailed sector analysis on replacement options, uptake of alternatives, energy efficiency, safety considerations and costs.

One developing country highlighted technology transfer options from HFC technology to low-GWP technology. Another proposed focusing on near-term actions, including: development of technical information; comprehensively addressing climate considerations through strengthened coordination between the TEAP and the IPCC; and a trial implementation phase, with a view to closing the ambition gap from 2030 to 2020 and including Article 5 and non-Article 5 parties. Another suggested taking into account consumption patterns by sector for each country, noting that some countries with high consumption in a sector with no alternatives might face greater challenges in compliance.

Delegates also raised technical concerns related to, *inter alia*, flammability and alternatives for countries with high ambient temperatures, and high population density.

On Friday morning, the discussion group addressed finance and other issues related to HFC management. One developing country party prioritized discussing joint work between the UNFCCC and the Montreal Protocol. Supporting addressing HFC management either under the Montreal Protocol or the UNFCCC and stressing immediate action under the Montreal Protocol, another developing country party prioritized political, technological and financial assurances to developing countries. He suggested a trial period to test the feasibility of HFC management under the Protocol; noted that the MLF should be considered as the financial mechanism for dealing with HFCs; and said discussion should move away from the consideration of voluntary carbon markets as a financing option. Another developing country party, *inter alia*: suggested that, in the management of HFCs, the MLF should be “independent of the Montreal Protocol” and called for the release of all patents related to alternatives to facilitate effective technology transfer.

One developed country party noted the calls for new and additional financial resources and, supported by other developed

countries, proposed requesting the TEAP to prepare economic and cost assessments for the phase down of HFCs.

Noting the discussion on the proposed amendments had reached a stalemate, one developing country party then proposed a “staged approach,” requesting the TEAP to provide information on alternatives, asking the MLF to prepare a cost assessment and inviting the UNFCCC to consider the Montreal Protocol’s work on HFCs.

On Friday in plenary, Co-Convener Leslie Smith reported on the discussion group meetings. Noting that the group started to discuss many issues related to the legal, financial and technical aspects of HFC management as well as options for establishing a link between the UNFCCC and the Montreal Protocol, he said the group did not finalize its discussion and no agreement was reached on any of the issues. He then asked Co-Chair McInerney to request the Secretariat to attach the co-conveners’ summary as an annex to the meeting report.

The EU asked whether it was possible to give an indication of the possibility of following up on a mandate to TEAP and time for further discussion at MOP 25. Co-Chair McInerney responded the agenda item remains open and MOP 25 will discuss the way forward. Uruguay stressed it was key for MOP 25 to take a decision on this issue, noting the timing of MOP 25 in October 2013 and the UNFCCC meeting in November 2013. He expressed concern that, if MOP 25 does not make a decision, another year will be lost.

**Outcome:** Co-Chair McInerney said that the co-conveners’ summary of discussions would be annexed to the meeting report and that UNEP/OzL.Pro.WG.1/33/CRP.4 on proposed amendments to the Montreal Protocol, which was submitted by Canada, Mexico and the US, remains outstanding and will be forwarded to MOP 25 in square brackets.

## OTHER MATTERS

**MLF CLIMATE IMPACT INDICATOR:** On Tuesday, Uruguay introduced a proposal on the MLF climate impact indicator (UNEP/OzL.Pro.WG.1/33/CRP.6), noting that it seeks to strengthen the ExCom’s decision on this issue. Many parties recalled discussions on this topic at the last ExCom meeting and requested clarification on the proposal’s intent. Canada, Brazil, the US, Australia, the EU and Argentina favored further discussion of the CRP. Co-Chair Camargo proposed, and delegates agreed, to hold informal consultations on the proposal.

On Friday evening in plenary, Co-Chair Camargo said that Uruguay informed him that the group had reached consensus on the draft decision (UNEP/OzL.Pro.WG.1/33/CRP.6).

**Outcome:** Co-Chair Camargo proposed, and delegates agreed, to forward the draft decision to MOP 25 for consideration.

## CLOSURE OF THE MEETING

On Friday evening, Co-Chair Camargo guided delegates through the reports of the meeting (UNEP/Oz.L.Pro/WG.1/33/L.1, Add.1 and Add.2). Delegates adopted the meeting reports with several minor amendments.

Co-Chair Camargo gavelled the meeting to a close at 6:52 pm.

## A BRIEF ANALYSIS OF OEWG 33

The thirty-third meeting of the Open-Ended Working Group to the Montreal Protocol (OEWG 33) concluded on a positive note, with many delegates citing “sure signs” of progress towards addressing hydrofluorocarbons (HFCs) under the Montreal Protocol. Although parties did not reach agreement on how to move forward on HFCs, they succeeded in formally discussing the matter, overcoming a four-year stalemate that had previously sidelined all HFC discussions to the realm of “informal.” Many expressed relief that parties were finally willing to engage in formal consideration of the issues associated with possible action on HFCs under the Montreal Protocol, paving the way for one of the most successful multilateral environmental agreements to turn its attention to the world’s fastest growing greenhouse gas.

This brief analysis examines the key outcomes of OEWG 33 and considers the underlying issues that the Montreal Protocol will need to address to make progress on the management of HFCs. These include: considering alternatives to the proposed amendments to phase down HFCs; restructuring and streamlining the Technology and Economic Assessment Panel (TEAP); and reconsidering the role of the Multilateral Fund (MLF), including possibilities for non-traditional financing.

### **BREAKING THE STALEMATE**

OEWG 33 agreed to the establishment of a formal discussion group on HFCs, under what was described by some as the “deliberately ambiguous” title of HFCs management. This choice of format for discussions was significant. While a contact group convenes to discuss proposals, a discussion group does not consider a specific document; however, unlike the informal discussions of past OEWGs, a formal discussion group reports to plenary and its proceedings are reflected in the meeting report. This format allowed parties to avoid polarized debates about the need for amendments to the Protocol to phase down HFCs, and instead focus on “near-term” and “comprehensive” approaches that some suggested would facilitate faster and more effective action on HFCs. The discussion group also briefly considered options to establish a relationship with the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol, a contentious political issue that several parties have previously invoked to block discussion on HFCs under the Montreal Protocol.

At OEWG 33 parties moved beyond previously divisive discussions on the proposed amendments and instead concentrated on the financial, legal and technical issues associated with management of HFCs. South Africa and Brazil emphasized that to make any progress, parties first need to build confidence, political will and trust. Proponents of the amendment proposals were eager to address substantive issues associated with HFCs, and embraced the opportunity for discussion which, in their view, could lead to future consideration of amendments. Attempting to lay down a framework for future discussions of this matter, Brazil proposed a “comprehensive approach” to address HFCs, involving controls on HFCs by all countries in several sectors, including energy, water and waste management. Several parties expressed interest in Brazil’s proposal to

test the feasibility of addressing HFCs under the Montreal Protocol through demonstration or pilot projects. Support for this approach signaled some interest in initiating activities to phase-down HFCs, even without a formal amendment to the Protocol. However, one veteran of the process pointed out that the so called “comprehensive” approaches do not address the production and consumption of HFCs from non-Article 5 parties and said that only an amendment can comprehensively address HFCs. This potential stumbling block is one that parties will likely have to address in the coming months, both in bilateral discussions in preparation for the twenty-fifth Meeting of the Parties (MOP 25), and multilaterally at MOP 25.

Some parties also underscored the importance of taking “near-term” approaches, such as developing technical information and implementing pilot projects, while continuing to discuss how to resolve the more thorny political issues. While many of these parties continued to call for guidance from the UNFCCC, support for a proposal to begin demonstration or pilot projects under the Protocol indicates parties’ underlying respect for the previous successes and legacy of the Protocol. A few suggested recognition of the Protocol’s history may have contributed to apparent growing support for the Protocol “going it alone” on HFCs, acknowledging both its autonomy as an international agreement and its successes in substance-specific phase-outs.

While pilot projects, comprehensive and near-term approaches represent ways forward, the issue of the Protocol’s relationship with the climate regime is a critical issue that must be resolved. Several parties said the establishment of such a relationship was a precondition for taking action on HFCs under the Montreal Protocol, and many developing countries stressed that OEWG 33 needed to send a strong signal to MOP 25 to initiate a joint working process with the UNFCCC. Uruguay, for instance, stressed that valuable time is being lost as parties hesitate to resolve the “climate politics.” Unfortunately, the discussion group ran out of time before resolving this issue, effectively delaying a decision on whether and how to initiate such a relationship until at least MOP 25. Some more pessimistic observers suggested this decision may not be resolved until OEWG 34 or even MOP 26, making the need for near-term action and pilot projects, which could begin now, all the more urgent.

### **RESTRUCTURING THE TEAP**

If parties agree to undertake activities on HFC management or to address other new substances, the TEAP, the Protocol’s technical advisory body, will play an important role in guiding such actions. At OEWG 33, delegates also considered ways to streamline the TEAP’s operation. For instance, some parties indicated that the current organization of the Panel’s Technical Options Committees (TOCs) is too bloated in some areas and is stretched too thin in others, and submitted proposals to split the Refrigeration and Air Conditioning TOC into two separate committees and to merge the chemicals and medical TOCs. Some argued splitting the RTOC would address the concerns of parties calling for more dedicated science on ODS alternatives for countries with high ambient temperatures. Although many

welcomed this proposal, delegates delayed a decision to provide additional time for the TEAP to propose options for its own reorganization. One seasoned delegate stressed that, moving forward, the TEAP will need the right mix of expertise, including expertise on low-GWP alternatives, in order to advise parties.

Opponents to action on HFCs used the 2013 report of the TEAP on additional information on alternatives to ozone-depleting substances, which suggests that few alternative technologies to HFCs exist, to bolster their arguments against discussing the amendment proposals. Other OEWG 33 delegates proposed initiating more work between the TEAP and the Intergovernmental Panel on Climate Change (IPCC), suggesting that, if the two technical advisory bodies work closely to provide information on alternatives to HFCs, the next logical step might be for the UNFCCC and the Montreal Protocol to cooperate on action. Precedent for such collaboration between the TEAP and the IPCC was established in 2005 with the IPCC/TEAP Special Report on Ozone and Climate.

The fact that the TEAP addressed the issue of alternatives to HFCs, an issue considered by some parties as “outside the purview of the Montreal Protocol,” in its report is telling, with one developing country delegate citing this as evidence of increasing political will to address the issue. Many OEWG 33 delegates welcomed further reports by the TEAP on this subject and, in the HFC management discussion group, several parties suggested requesting the TEAP to conduct additional studies on alternatives, including on economic feasibility.

#### **RETHINKING THE MLF**

The success of the Montreal Protocol has been closely tied to its dedicated financial mechanism, the MLF, which has been instrumental in providing technical assistance for developing countries to meet their obligations under the Protocol. Discussions on HFC management recognized this role of the MLF, and delegates expressed a range of views about the appropriate role for the MLF in future consideration of HFCs. In the 23 years since the MLF was established, however, the economic circumstances of many developed and developing countries have changed. Citing the global financial crisis, one developed country reiterated its view that any fund dealing with HFCs should assist both developing and developed countries in meeting their Protocol obligations. However, some developing countries remain adamant that the MLF, as it currently stands, should continue as the sole financial mechanism and insisted that only non-Article 5 countries should contribute new and additional finances for the management of HFCs.

In a closely-related discussion on additional funding to maximize the climate benefit of the accelerated phase-out of HCFCs, some developed countries proposed inviting contributions from non-traditional sources. One negotiator from a developing country suggested that this proposal may create a further schism in the HFC management debate as it is tantamount to a lack of political will on the part of non-Article 5 countries. Most developing countries did not welcome this

suggestion to move towards non-traditional funding, interpreting it as a move by developed countries to renege on their obligations.

Without a clear commitment on finance, many expressed concern that progress on HFCs will be slow, even on pilot projects and further exploratory work on how to address HFCs under the Protocol. One seasoned delegate, however, reminded skeptics that “where there is a will there is a way.” Others also supported this sentiment, recalling that discussions on necessary steps to address HCFCs were highly effective. Moving forward, the manner in which the MLF or perhaps even a future unidentified financial mechanism will address the concerns of all parties ultimately requires the consensus of all parties. As a one-of-a-kind financial mechanism, parties to other conventions have long envied the effectiveness with which the MLF has provided required financial support to Article 5 countries, as those with the most need, to implement their obligations under the Protocol. Discussions of financing under the Montreal Protocol are beginning to reflect these significant global shifts in the categorization of those “most in need,” and some said it is only a matter of time before these discussions lead to changes in the MLF approach.

#### **LOOKING TOWARD THE FUTURE**

The formal discussions of HFC management were a key achievement of OEWG 33, and many parties expressed confidence that the approach taken at the meeting would serve as a solid foundation for future work on this issue. The range of options presented, including amendment proposals, near-term action, and comprehensive approaches reflect the legal, technical and economic issues that will have to be addressed as parties decide on a course of action. Regardless of the mechanisms parties ultimately pursue, political will and trust among both Article 5 and non-Article 5 countries will be critical for that path to lead to continued discussion, formal negotiation and agreed decisions.

Looking toward the future, some parties expressed an interest in hearing from those parties who remained silent on the HFC discussion during this meeting. It is telling, however, that at least some of these previously vocal parties did not voice objection to either the formal discussion or to considering the range of options on HFC management. Some expressed hope that recent bilateral discussions between the Heads of State of the US and China on climate change and HFCs would lend further momentum to work on management of HFCs. Others pointed to promising domestic legislation on HFC phase-downs and low-GWP alternatives in the EU and Japan as a positive sign. MOP 25 will have to decide whether and how to consider the issue of HFCs, but the successful approach taken by OEWG 33 to discussions may provide a useful model for taking this issue forward.

## UPCOMING MEETINGS

**25th Session of the ECOSOC Sub-Committee of Experts on the Globally Harmonized System of Classification and Labeling of Chemicals:** The UN Economic and Social Council's (ECOSOC) Sub-Committee of Experts on the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) will discuss draft amendments to the GHS, GHS implementation, guidance on the application of GHS criteria and the issuance of the 5th revised edition of the GHS. **dates:** 1-3 July 2013 **location:** Geneva, Switzerland **contact:** Rosa Garcia Couto **phone:** +41-22-917-2435 **fax:** +41-22-917-0039 **www:** <http://www.unece.org/trans/main/dgdb/dgsubc4/activities.html>

**Pacific Climate Change Roundtable (PCCR) 2013:** The Joint Meeting of the Pacific Platform for Disaster Risk Management and the Pacific Climate Change Round Table will progress discussion on the development of an integrated Pacific regional strategy for Disaster Risk Management and Climate Change, which is targeted for completion before 2015. **dates:** 9-12 July 2013 **location:** Nadi, Fiji **contact:** Secretariat of the Pacific Regional Environment Programme (SPREP) **phone:** +685 21929 **fax:** +685 20231 **email:** [sprep@sprep.org](mailto:sprep@sprep.org) **www:** <http://www.sprep.org/event/35-joint-meeting-of-the-pacific-platform-for-disaster-risk-management-a-pacific-climate-change-round-table>

**Latin American Carbon Forum 2013:** The Seventh Latin American and Caribbean Carbon Forum (LACF) will discuss prospects for carbon projects in Latin America. The Forum is co-organized by the Inter-American Development Bank (IDB), the Latin American Development Bank (CAF), the World Bank, the International Emissions Trading Association (IETA), the Latin American Energy Organization (OLADE), UNEP Risø Centre and the UNFCCC. **dates:** 28-30 August 2013 **location:** Rio de Janeiro, Brazil **contact:** Miriam Hinostroza, UNEP Risø Centre **phone:** +45-4677-5180 **email:** [mihl@dtu.dk](mailto:mihl@dtu.dk) **www:** <http://www.laticarbon.com>

**51st Meeting of the Implementation Committee Under the Non-Compliance Procedure of the Montreal Protocol:** The meeting will discuss issues related to parties' compliance with the provisions of the Montreal Protocol on Substances that Deplete the Ozone Layer and produce a report for consideration at MOP 25. **dates:** 18-19 October 2013 **location:** Bangkok, Thailand **contact:** Ozone Secretariat **phone:** +254-20-762-3851/3611 **fax:** +254-20-762-0335 **email:** [ozoneinfo@unep.org](mailto:ozoneinfo@unep.org) **www:** [http://ozone.unep.org/new\\_site/en/historical\\_meetings.php](http://ozone.unep.org/new_site/en/historical_meetings.php)

**25th Meeting of the Parties to the Montreal Protocol:** MOP25 is scheduled to consider a number of issues, including nominations for critical- and essential-use exemptions. **dates:** 21-25 October 2013 **location:** Bangkok, Thailand **contact:** Ozone Secretariat **phone:** +254-20-762-3851/3611 **fax:** +254-20-762-0335 **email:** [ozoneinfo@unep.org](mailto:ozoneinfo@unep.org) **www:** [http://ozone.unep.org/new\\_site/en/historical\\_meetings.php](http://ozone.unep.org/new_site/en/historical_meetings.php)

## GLOSSARY

AC	Air Conditioning
CFCs	Chlorofluorocarbons
CRP	Conference room paper
CTC	Carbon tetrachloride
CTOC	Chemicals Technical Options Committee
CUE	Critical-use exemption
CUN	Critical-use nomination
ExCom	Executive Committee
FSM	Federated States of Micronesia
GHG	Greenhouse gas
GWP	Global warming potential
HCFCs	Hydrochlorofluorocarbons
HFCs	Hydrofluorocarbons
HFOs	Hydrofluoroolefins
HPMP	Hydrochlorofluorocarbon Phase-out Management Plan
IPCC	Intergovernmental Panel on Climate Change
MBTOC	Methyl Bromide Technical Options Committee
MDI	Metered-dose inhalers
MLF	Multilateral Fund for the Implementation of the Montreal Protocol
MOP	Meeting of the Parties
MTOC	Medical Technical Options Committee
OEWG	Open-Ended Working Group
ODP	Ozone-depletion potential
ODS	Ozone-depleting substances
QPS	Quarantine and pre-shipment
RTOC	Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee
SIDS	Small island developing states
TEAP	Technology and Economic Assessment Panel
TOC	Technical Options Committee
ToR	Terms of reference
UNCSD	UN Conference on Sustainable Development
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change