

**SUMMARY OF THE THIRTY-FIRST MEETING
OF THE OPEN-ENDED WORKING GROUP
OF THE PARTIES TO THE MONTREAL
PROTOCOL ON SUBSTANCES THAT
DEplete THE OZONE LAYER:
1-5 AUGUST 2011**

The thirty-first meeting of the Open-ended Working Group (OWEG 31) of the parties to the Montreal Protocol on Substances that Deplete the Ozone Layer convened in Montreal, Canada from 1-5 August 2011. Approximately 400 delegates, representing governments, UN agencies, Montreal Protocol expert panels and committees, non-governmental organizations and industry, attended.

At OWEG 31, delegates considered several issues arising from the 2011 Progress Report of the Technology and Economic Assessment Panel (TEAP), including: a review of nominations of essential-use exemptions for 2012 and 2013; a review of nominations for methyl bromide critical-use exemptions for 2012 and 2013; and methyl bromide use for quarantine and pre-shipment (QPS). Parties also discussed the results of the TEAP Replenishment Task Force assessment of the funding requirement for the replenishment of the Multilateral Fund for the Implementation of the Montreal Protocol (MLF) for the period 2012-2014. OWEG 31 considered two proposals to amend the Montreal Protocol related to hydrofluorocarbons (HFCs): the first by the Federated States of Micronesia, and the second by the US, Canada and Mexico.

Contact group discussions were held on: the MLF replenishment; a request for additional information from the TEAP on alternatives to ozone-depleting substances (ODS); feedstocks and process agents; ODS in ships; and the TEAP nomination procedures. Throughout the week, parties demonstrated that, in spite of concerns that the consideration of climate-related issues might derail all progress under the Protocol, they remained committed to finding ways forward even on politically-sensitive issues.

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

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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 (ODS). The Convention has 196 parties.

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 196 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, 196 parties have ratified the London Amendment. MOP 2 also established the Multilateral Fund for the Implementation of the Montreal Protocol (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 contributions of over US\$2.7 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. The Implementation Committee examines cases of possible non-compliance by parties, and makes recommendations to the MOP aimed at securing full compliance. To date, 194 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, 185 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 and additional controls on HCFCs, and

to reporting on methyl bromide for quarantine and pre-shipment (QPS) applications. At present, 169 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 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 EXMOP 2: MOP 16 took place in Prague, the 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. 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 and the Technology and Economic Assessment Panel (TEAP); difficulties with CFC phase-outs faced by some Article 5 parties manufacturing CFC-based metered-dose inhalers (MDIs); treatment of stockpiled ODS; 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 29 decisions, including on: an accelerated phase-out of HCFCs; essential-use nominations and other issues arising out of the 2006 reports of the TEAP; critical-use nominations for methyl bromide; and monitoring transboundary movements of, and illegal trade in, ODS.

COP 8/MOP 20: MOP 20 was held jointly with COP 8 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. This meeting was the Protocol's first paperless meeting.

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; budget; and data and compliance issues. Delegates considered, but did not agree to, a proposal to amend the Montreal Protocol to include hydrofluorocarbons (HFCs).

MOP 22: MOP 22 took place in Bangkok, Thailand, from 8-12 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 the Federated States of Micronesia.

CURRENT ODS CONTROL SCHEDULES: Under the amendments 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 HCFC adopted at MOP 19, HCFC production and consumption by non-Article 5 countries was to be frozen in 2004 and phased-out by 2020, while for 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). There are exemptions to these phase-outs to allow for certain uses lacking feasible alternatives.

OEWG 31 REPORT

The thirty-first session of the Open-ended Working Group (OEWG 31) was opened on Monday, 1 August, by Ndiaye Cheikh Sylla (Senegal), who co-chaired the meeting with Gudi Alkemada (the Netherlands).

Welcoming delegates to the OEWG, Marco González, Executive Secretary, Ozone Secretariat, called 2011 a "milestone" year for the Montreal Protocol, noting it marks the 20th anniversary of the Multilateral Fund for the Implementation of the Montreal Protocol (MLF) and a year of assessment of compliance with control measures under the Protocol. González applauded the successes of many parties in meeting 2010 compliance targets for chlorofluorocarbons (CFCs), halons, and carbon tetrachloride (CTC). Pointing to cases of countries'

self-reporting of non-compliance, he said these represent an "incredible victory," as they demonstrate the trust and confidence of parties in the fairness of the Protocol's non-compliance procedures. He also lauded paperless meetings as an example of the global leadership of the Montreal Protocol.

González outlined the agenda of the OEWG, and highlighted, *inter alia*: the need for continued cooperation in negotiations on MLF replenishment; the work of assessment panel experts; consideration of proposals to control hydrofluorocarbons (HFCs) under the Montreal Protocol; and the recent approval by the Executive Committee of the MLF (ExCom) of Hydrochlorofluorocarbon (HCFC) Phase-out Management Plans (HPMPs) for countries including Brazil, China, Mexico and Indonesia. He also alerted delegates to the development of a new website for the Montreal Protocol, at www.montreal-protocol.org.

Co-Chair Alkemada introduced the agenda (UNEP/OzL. Pro.WG.1/31/1/Rev.1), noting issues including the report and discussion of the Technology and Economic Assessment Panel's (TEAP) Task Force on the 2012-2014 MLF replenishment, and proposed amendments to the Protocol. She suggested, and delegates agreed, to delete an item on adjustments to the Protocol. She also suggested that time be allocated to hear reports on the preparations for the 23rd Meeting of the Parties (MOP 23) and on the extension of González's term as Executive Secretary.

Canada suggested that its proposed draft decision regarding the phase-out of HFC-23 by-product emissions (UNEP/OzL. Pro.WG.1/31/CRP.1), submitted with Mexico and the US, be considered under other matters. India, China and Brazil expressed reservations about the draft decision. Brazil proposed that discussions on HFCs be limited to informal meetings held in parallel with other sessions.

On additional suggestions for the agenda, Saint Lucia proposed that the OEWG consider the treatment of ozone-depleting substances (ODS) on ships and flagships, and Sweden proposed that the Co-Chair of the Steering Panel on the Evaluation of the Financial Mechanism give a brief report. Switzerland requested that TEAP provide more information on the climate impact of the Protocol, including on alternatives to ODS. Delegates agreed to consider these issues, as well as the draft decision by Canada, Mexico and the US, under other matters, and the agenda was adopted with these amendments.

Delegates then discussed and agreed to the organization of work, with the Co-Chairs suggesting, and delegates agreeing, that other matters be considered earlier in the schedule.

During the week, delegates convened daily in plenary and in bilateral and informal consultations to make progress on the agenda. Contact groups also met from Tuesday to Friday. This summary report is organized according to the agenda of the meeting.

REPORT OF THE TEAP TASK FORCE ON THE 2012-2014 MLF REPLENISHMENT

On Monday morning, members of the TEAP Replenishment Task Force (RTF) presented their assessment of the funding requirement for the MLF replenishment for 2012-2014.

Miguel Quintero (Colombia) introduced the RTF's work, indicating the 10-member group was co-chaired by Lambert Kuijpers (the Netherlands) and Shiqiu Zhang (China), and that the TEAP had adopted its report in May 2011. He explained the major HCFCs taken into account in the report are: HCFC-22, used in refrigeration, air conditioning and foam; HCFC-141b, used in foam and solvents; and HCFC-142b, used in foam and some refrigeration.

Roberto Peixoto (Brazil) outlined the methodology used for estimating replenishment requirements, describing estimates of cost effectiveness and the assumptions and scenarios applied in the assessment.

Kuijpers presented the RTF's findings, which yield a total funding requirement range of US\$390-477 million for the 2012-2014 triennium, and indicative funding requirements of US\$573-687 million and US\$611-775 million for 2015-2017 and 2018-2020, respectively. He underscored the need for further technical studies on production closure of HCFC facilities and the practical challenges that remain with regard to funding stability.

TEAP experts then responded to queries on, among other things: the choice of scenarios used for cost estimates; the grouping of countries for categories of HCFC consumption; discrepancies between consumption and production values of HCFCs; consideration of swing plants in funding eligibility decisions; cost-effectiveness of water-blown technology in the foam sector; retrofitting solutions for the refrigeration sector; and funding estimates for institutional strengthening activities.

Commenting on current and future estimates of, *inter alia*, capital and operating costs, the US noted that experiences with CFC phase-outs show that cost-effectiveness can increase over time as countries gain experience and new technologies are deployed.

Delegates agreed to establish a contact group on the issue. On Thursday, Poland, on behalf of the EU, introduced a draft decision proposing the continuation of the fixed-exchange-rate mechanism for the 2012-2014 replenishment (UNEP/OzL.Pro.WG.1/31/CRP.11), and Co-Chair Alkemade directed discussion of the draft decision to the contact group.

The contact group on MLF replenishment, co-chaired by Laura Berón (Argentina) and Jozef Buys (Belgium) met from Tuesday to Friday. On Tuesday, delegates proposed issues to be addressed in the supplementary report of the RTF, which formed the basis of a Co-Chair's Summary. This summary was discussed from Wednesday to Friday, with the final agreed text forwarded to plenary as a non-paper on Friday. The group also agreed to forward the EU draft decision to plenary for approval with no amendments.

The contact group debated financing related to swing plants. Some developing country parties insisted that the report should contain scenarios of funding for swing plants and that the TEAP should not be required to furnish scenarios that did not include such funding. Many developed country parties said that both scenarios should be included so that the most balanced and appropriate figures for the replenishment could be put forward to the MOP. The TEAP commented that gathering data for swing

plants in all concerned countries may take time, but conceded that an estimate could be provided. After lengthy discussion, delegates agreed that both scenarios should be reflected.

Delegates also debated a request to the TEAP to estimate the cost of activities that promote low global warming potential (GWP) alternatives and phase down the consumption, production and releases of HFCs. Some developed country parties highlighted the importance of having these estimates as a basis for future replenishments on alternatives, while some developing country parties perceived the inclusion of any reference to HFCs as being too "politically sensitive" to be dealt with by the TEAP at this stage. Delegates agreed to delete suggested proposals on HFCs from the document.

Outcome: In the Co-Chairs' Summary of Suggestions for Elaboration in the Supplementary RTF Report, the TEAP is requested to update, for MOP 23, all funding requirements as presented in its May 2011 report, taking into account all ExCom decisions and approvals up to ExCom 64 and the most recent HCFC consumption and production data reported to UNEP under Article 7 by 1 September 2011.

The TEAP is also requested to provide scenarios considering, *inter alia*: institutional strengthening in combination with certain inflation rates; funding and no funding for swing plants; and allocating some funding tranches for HCFC production phase-outs to replenishments after 2014. The TEAP's scenarios should also consider changes in cost-effectiveness figures and their consequent impact on the next three replenishments, along with 0%, 25% and 50% penetration rates of low-GWP alternatives in the refrigeration and air conditioning (R/AC) sector with 10% and 20% R/AC manufacturing ratios for the periods 2012-2014 and 2015-2017.

Further, the TEAP is requested to:

- present alternative HCFC production phase-out scenarios, taking into account the possible redirection of dispersive HCFC production to feedstock production;
- present a range of approaches for swing plants and their funding implications;
- provide a list of the alternatives included under low-GWP calculations; and
- provide information on alternative growth rates for HCFCs between 2009-2013, taking into account available Article 7 data up to 1 September 2011.

On Friday in plenary, delegates also agreed to forward to MOP 23 a bracketed draft decision (UNEP/OzL.Pro.WG.1/31/CRP.11) on the extension of the fixed-exchange-rate mechanism to the 2012-2014 MLF replenishment. In the decision, MOP 23 would decide, *inter alia*:

- to direct the Treasurer to extend the fixed-exchange-rate mechanism to the period 2012-2014;
- that parties choosing to pay their contributions to the MLF in national currencies will calculate their contributions based on the average UN exchange rate for the six-month period commencing 1 January 2011;
- that parties not choosing to pay in national currencies pursuant to the fixed-exchange-rate mechanism will continue to pay in US dollars; and

- to agree that if the fixed-exchange-rate mechanism is to be used for the replenishment period 2015-2017, parties choosing to pay their contributions in national currencies will calculate their contributions based on the average UN exchange rate for the six-month period commencing 1 January 2014.

PROPOSED AMENDMENTS TO THE MONTREAL PROTOCOL

This agenda item was considered in plenary throughout the week and in informal consultations on Friday.

Co-Chair Alkemade invited proponents to introduce their amendment proposals. On the North American proposal, submitted jointly with Canada and Mexico (UNEP/OzL.Pro.WG.1/31/5), the US underlined the rapidly-growing use of HFCs as replacements for HCFCs, explaining that HFCs are potent greenhouse gases (GHGs) that pose a threat to the climate system in the near term. He noted the proposal is similar to one put forward in 2010 but reflects comments received from other parties, and provides for a gradual phase-down of the production and consumption of HFCs starting in 2015 for non-Article 5 countries. He said the proposal: has revised baselines; includes limits on HFC-23 by-product emissions from HCFC-22 production by 2014; addresses trade of HFCs; proposes the MLF support Article 5 countries' implementation of the amendment; and is estimated to produce a total benefit of 98,000 million metric tons of carbon dioxide equivalent through 2050.

Mexico underscored parties' "moral and ethical" obligations to address HFCs and explained that, as an Article 5 country, Mexico sees this amendment as a "natural extension" of the Montreal Protocol's objective and the MLF as the most effective mechanism through which to achieve HFC phase-down.

Canada addressed questions raised by other parties in recent years on the proposed amendment. Regarding the Montreal Protocol as an avenue to address HFCs, he explained that as HFCs were introduced on the global market principally as alternatives to ODS, the Montreal Protocol has a responsibility to address HFCs and their climate impact. He further underscored that the Montreal Protocol is the best instrument to control HFC consumption and production, given its effective compliance regime and successful financial mechanism, and leaves unchanged provisions of the Kyoto Protocol that govern HFC emissions.

On the availability of HFC alternatives, Canada emphasized that the amendment would send a strong signal to industries to initiate the development and commercialization of such substances.

On concerns of enhancing challenges already faced by Article 5 countries phasing out HCFCs, Canada noted that under the proposal, Article 5 countries would have about 10 years before they would have to reduce their HFC consumption.

The Federated States of Micronesia (FSM) introduced its proposed amendment (UNEP/OzL.Pro.WG.1/31/4), recalling this marked the third year the proposal was being submitted. He acknowledged that HFCs are being used for important purposes and noted that the proposal recognizes the need for their continued use, particularly by developing countries, while recognizing their negative climate effects and aiming for their

phase-down in the future. He explained that his country's proposal seeks to "solve a problem without causing more problems," and called for establishing a contact group on the proposals.

The amendment proposed by FSM would provide for a phase-down of HFCs and require the MLF to make available the incremental costs of compliance with control measures. For Article 5 parties, the baseline is established using HCFC and HFC production and consumption from 2004-2006 and the phase-down schedule would reduce HFC consumption 15% from the baseline every three years beginning in 2014 until it reaches 15% of the baseline in 2029 and 10% of the baseline in 2031. For Article 5 parties, the baseline is established using HCFC production and consumption data from 2007-2009, and they would be provided a six-year grace period to comply with the phase-down schedule for non-Article 5 parties.

Some delegations, including Macedonia and Burkina Faso, expressed their support for the North American proposal, with Georgia noting that it furthers global climate protection efforts. India, Venezuela and others expressed misgivings related to unresolved political, legal and technical issues.

Ensuing discussions addressed the means of discussing the proposals. Several parties, including Australia, Cameroon, Colombia, the Dominican Republic, Egypt, Grenada, Japan, Jordan, Morocco, Norway, Saint Lucia, Togo and Tunisia, supported establishing a formal contact group.

Other parties, including India, China and Saudi Arabia, spoke out against convening a formal contact group, with China and Saudi Arabia warning that the discussion of HFC controls under the Montreal Protocol could disrupt upcoming climate talks in December.

Malaysia, Brazil, Cuba and India preferred that discussions of the proposals take place in an informal group on the margins of OEWS 31, with India underlining that formal contact groups under the Montreal Protocol are only mandated to address issues directly under the Protocol and the Vienna Convention.

Co-Chair Alkemade proposed that amendment discussions be continued in an informal contact group, with the financial and technical issues to be addressed under "other matters," specifically under a proposal by Switzerland for the TEAP to provide more information on low-GWP alternatives to ODS. Australia, the EU, Switzerland, Canada, Mexico and the US registered their disappointment that a formal contact group would not meet on the issue. Responding to a question by FSM as to whether informal discussions would be recorded, Co-Chair Alkemade, opposed by Argentina, suggested that discussions in an informal contact group could be recorded and circulated as a conference room paper. Canada and the US favored considering the issue in plenary, with an informal contact group remaining as a possibility.

Co-Chair Alkemade then proposed that delegates consider raising questions for the proposal proponents in plenary, notably on legal issues related to the United Nations Framework Convention on Climate Change (UNFCCC), technical and financial assistance, and baselines and reduction targets, although

China, Venezuela, India and others emphasized that no consensus had been reached on whether to discuss the text of the proposed amendments in plenary.

Several countries, including China, India, Brazil and Indonesia, raised concerns with the legal issues in relations between the Kyoto and Montreal Protocols. India emphasized that HFCs can only be addressed under the Montreal Protocol if scientific studies prove that they are ODS. Canada noted that Article 2 of the Vienna Convention does allow the Montreal Protocol to address substances that have adverse impacts when they result from actions to protect the ozone layer. FSM opposed framing HFCs as solely a climate issue falling exclusively under the UNFCCC, underscoring that the UNFCCC and Montreal Protocol approaches are complementary, with the former addressing emissions and destruction and the latter concerned with production and consumption.

Argentina called on parties to focus on discharging existing obligations to phase out HCFCs, and, supported by Angola, suggested instead providing incentives for selecting low-GWP ODS alternatives.

China asked whether the amendments help to solve climate change issues, address ODS issues, or strengthen the Montreal Protocol. In response, the US underscored that while addressing HFCs would not directly benefit the ozone layer, the amendment would address a direct outcome of the ODS phase-out.

Canada stressed that since no concrete alternative to the amendment proposals has been put forward after three years, either under the UNFCCC or the Montreal Protocol, action is needed.

Responding to a query from Trinidad and Tobago on the financing mechanism, the US supported working with the MLF. Canada expressed confidence that solutions for funding HFC phase-downs could be negotiated, and Mexico clarified that the proposed amendment provides mechanisms for funding transitions away from HFCs in sectors not covered by financial mechanisms in the climate regime. The EU called for financial resources made available for HFC-related issues under the Montreal Protocol to count towards UNFCCC financial commitments. FSM emphasized that addressing HFCs immediately would be cost-effective, as it would avoid the need for double-transitions.

Indonesia raised concerns over the implications of the amendments for HCFC-phase-down timelines, given that some HPMPs provide for HFCs as substitutes.

Brazil proposed that new approaches to low-GWP alternatives be considered, including increasing the cost-effectiveness thresholds for these alternatives, and greater involvement of the MLF in financing alternatives and transitions to alternatives through pilot projects. He requested information from the US and Canada on their experiences formulating national regulations and legislation that prevents the phase-in of high-GWP alternatives. Canada welcomed a suggestion to explore policy options on low-GWP alternatives, noting that HCFC cost-effectiveness thresholds have not prevented transition to low-GWP alternatives. The US noted the ExCom is already funding pilot projects on low-GWP alternatives. He welcomed information

exchange and technical cooperation on low-GWP alternatives, especially at the regional level, and highlighted national legislation to prevent the phase-in of high GWP alternatives.

Underscoring the urgency of climate change, Greenpeace reported on the successful deployment of HFC-free alternatives, and called for confidence-building initiatives through workshops on technology transitions and an agreement for adequate funding to assist developing countries to leapfrog HFCs in HCFC phase-outs.

Egypt, Saint Lucia, Australia, the EU, Macedonia and others raised questions about baselines and reduction goals and timelines. The US specified that Article 5 countries would start with a freeze in 2017, non-Article 5 countries with a reduction in 2015, and that the proposal provides for a phase down to 15%, to provide for uses without readily available alternatives. The US said the schedule for Article 5 parties would be based on 2005-2008 HCFC data, and the baseline for non-Article 5 countries would be calculated using a combination of HCFC and HFC data. Georgia suggested using HFC data for Article 5 countries.

With respect to gaps in HFC data, Canada noted the utility of the proposal by Switzerland for a TEAP study on additional information on ODS alternatives. The EU raised concerns over calculating an HFC consumption baseline that includes historic consumption of HCFCs. Jordan stressed the importance of linking the baseline with economic and social dimensions and Mexico underscored that the proponents were open to exploring other options for discussing baselines.

FSM stressed that for small island developing states and African countries most vulnerable to its adverse impacts, climate change is not a political issue but a matter of survival. China regretted the amount of time taken up discussing the proposed amendments and said it was premature to discuss them. The US called for discussions to continue in an informal group, which met on Friday. Discussion of the proposed amendments will resume at MOP 23.

2011 TEAP PROGRESS REPORT

On Tuesday, Stephen Andersen (US), TEAP Co-Chair, introduced the 2011 TEAP Progress Report.

MTOC: Ashley Woodcock (UK), Co-Chair of the Medical Technical Options Committee (MTOC), reported on essential-use nominations (EUNs) for CFCs for metered-dose inhalers (MDIs), noting EUNs were received from Bangladesh, China, Pakistan and the Russian Federation. He underscored that there are now a wide range of generic CFC-free MDIs available at low costs in Article 5 countries.

Jose Pons Pons (Venezuela), MTOC Co-Chair, highlighted that many countries that had submitted EUNs for 2011 are no longer seeking nominations.

CTOC: Masaaki Yamabe (Japan), Co-Chair of the Chemicals Technical Options Committee (CTOC), explained that that CTOC recommends the removal of 27 of the 41 ODS uses registered as process agents. On laboratory and analytical uses of ODS, she said many alternatives are available but noted a few CTC uses have no alternatives. On essential-use exemptions (EUEs), she explained CTOC recommends the Russian Federation's nomination for 100 metric tons of CFC-113 solvent

for manufacturing aerospace equipment in 2013, acknowledging the expansion of their domestic space programme and unresolved problems with alternatives.

Ian Rae (Australia), CTOC Co-Chair, provided an update on n-propyl bromide (n-PB), noting that as it is not a controlled substance, it is difficult to get accurate data on its production and uses, and that parties may wish to reconsider the practicability of Decision XIII/7 for the TEAP to report annually on n-PB uses and emissions.

HTOC: David Catchpole (UK), Co-Chair of the Halons Technical Options Committee (HTOC), reported, *inter alia*, on new developments for halon alternatives and on the continued production in China and France of halon 1301 for feedstock.

HTOC Co-Chair Daniel Verdonik (US) outlined the history of HTOC efforts, begun in 2003, to work with the International Civil Aviation Organization (ICAO) to phase out halons. He pointed to key events including an ICAO General Assembly resolution to consider a halon replacement mandate in 2007, and the adoption in 2010 of such a mandate.

Alain Coutu, ICAO Secretariat, outlined the process required to amend ICAO's Chicago Convention annexes in light of the 2010 mandate, and pointed to efforts to leapfrog high-GWP alternatives in replacing fire extinguishing agents and on-going challenges in finding alternatives in some areas, like cargo bays.

XXII/22 TASK FORCE: Marta Pizano (Colombia), Co-Chair of the XXII/22 Task Force, recalled that Decision XXII/22 called on the TEAP and its TOCs to draw up guidelines for the nomination of experts by parties and to consider the need for balance and appropriate expertise when appointing members. She explained the XXII/22 Task Force considered different criteria to define "balance," including balance between Article 5 and non-Article 5 countries.

Verdonik, XXII/22 Task Force Co-Chair, reported on the process for appointments to TOCs. He said parties may want to consider mandating the TEAP to develop a standard nomination form to facilitate nominations. He also highlighted the potential of a user-friendly interface, which could be developed and managed by the Ozone Secretariat to improve the current matrix of expertise. The US asked about the resource implications of such an interface.

TEAP AND TOC OPERATIONS: Addressing dissenting views among experts in assessment panels, Andersen noted that in the TEAP's first 20 years of operation, five minority reports had been produced, while in 2011 three minority reports were submitted on methyl bromide critical-use exemptions (CUEs) and one minority view was registered on methyl formate as a foam blowing agent. Andersen also reported on new expert nominations, disclosure of interest and guidelines on recusal.

Australia stressed the need to include national governments in decisions on the nomination of experts. Supported by the US, she requested the TEAP to avoid minority reports.

Japan, with Australia, noted the need to discuss the tenure period for experts to the TEAP, while the US highlighted the need to also address the reappointment of experts to the Panel.

On the nomination process, the US noted that it was not yet ready to define the term "balance." He expressed interest in

the TEAP guidelines on recusal, noting that additional work is needed before the guidelines can be applied, and calling for collaboration on this with the Intergovernmental Panel on Climate Change (IPCC).

On Wednesday, Australia introduced its draft decision, submitted with the US, on updating the nomination processes for the TEAP (UNEP/OzL.Pro.WG.1/31/CRP.6), pointing to its aims to: make the nomination process more transparent; standardize procedures; and involve parties more closely in the nomination of experts and continuation of TOCs and temporary subsidiary bodies.

The EU welcomed the initiative but highlighted several points of disagreement, pointing to concern over sub-articles on the expiration of TEAP members' terms at the end of 2013 and on the participation of the Ozone Secretariat Executive Secretary in the TEAP.

The US noted that in proposing a timeframe for tenure, it is seeking to prevent two classes of TEAP members: some with lifetime memberships, and others with four-year terms. He also highlighted that the reason for including the Executive Secretary as an *ex officio* member of the TEAP was in order to draw on his expertise. Canada said the draft decision was necessary to ensure transparency and oversight within the TEAP. Colombia stressed that justification and a timeframe would be needed to re-nominate experts, and called for a manual to be compiled on the Panel's terms of reference, operational procedures, and relevant decisions of the parties. Japan requested that this draft decision be streamlined with the draft decision on the endorsement of a new Co-Chair of the CTOC and a senior expert of the TEAP (UNEP/OzL.Pro.WG.1/31/CRP.3).

Switzerland requested more time to review the document, stressing that the issue of recusal had yet to be addressed.

Delegates agreed to establish a contact group, co-chaired by Masami Fujimoto (Japan) and Javier Camargo (Colombia), which met on Thursday evening. Participants reviewed the draft decision and proposed bracketed additional text, discussing, *inter alia*: provisions relating to geographic and expertise balance; procedures for conflict of interest and recusal; the possibility of reappointments after four-year terms; the deadline for removal of members not nominated for four years; the desirability of making the Executive Secretary an *ex officio* member of the TEAP; and whether nomination procedures would also apply to TOCs and temporary subsidiary bodies.

Outcome: On Friday in plenary, Fujimoto reported on contact group discussions, highlighting that resulting changes to the proposal were reflected in a revised draft decision. OEWG 31 agreed to send the revised draft decision (UNEP/OzL.Pro.WG.1/31/CRP.6/Rev.1), in square brackets, to MOP 23 for further consideration. Delegates also agreed to forward to MOP 23 a draft decision (UNEP/OzL.Pro.WG.1/31/CRP.3), in square brackets, on the endorsement of Keiichi Ohnishi (Japan) as a new Co-Chair of the CTOC and Masaaki Yamabe (Japan) as a TEAP senior expert.

ISSUES RELATED TO EXEMPTIONS FROM ARTICLE 2

NOMINATIONS FOR ESSENTIAL-USE EXEMPTIONS

FOR 2012-2013: On Tuesday, Co-Chair Sylla outlined the requested quantities and TEAP's recommendations for EUEs from Bangladesh, China, Jordan, Pakistan and the Russian Federation, noting cases where ODS alternatives were deemed available.

China raised concerns about technical issues of the TEAP's report, particularly with regard to non-ODS alternatives to ipratropium, and Jordan asked about the health and environmental implications of alternatives for bromochloromethane as a solvent for polymer fire retardants. China and Jordan agreed to bilateral talks with the TEAP on these issues.

Canada praised countries that had completed their CFC phase-outs for MDIs. Noting with concern the continued registration and launching of CFC products where alternative inhalers are available, he encouraged actions through the TEAP to request countries to ban the launch and sale of such MDIs and to fast-track domestic procedures for transitions to CFC-free alternatives.

The Russian Federation outlined its progress towards CFC-free MDIs, through a Global Environment Facility (GEF) - United Nations Industrial Development Organization (UNIDO) project, noting his country's need for inexpensive medicine for asthma treatment. He also agreed to engage in bilateral talks with the EU on the Russian Federation's requests for an exemption for 2012 and a change in the phase-out schedule for CFC-113 in the aerospace industry. On Friday in plenary, the EU reported on these bilateral discussions and asked the CTOC and MTOC to look interessionally at the aerospace and medical issues, respectively, to help parties make informed decisions at MOP 23.

Outcome: OEWG 31 agreed to forward the bracketed draft decision (UNEP/OzL.Pro.WG.1/31/CRP.2) to MOP 23 for further consideration.

NOMINATIONS FOR CRITICAL-USE EXEMPTIONS

FOR 2012-2013: On Tuesday, the Methyl Bromide Technical Options Committee (MBTOC) Co-Chairs presented their progress report, which addressed 2012-2013 critical-use nominations (CUNs) and quarantine and pre-shipment (QPS) issues. On the use of methyl bromide for QPS (MB-QPS), which, she noted, is the largest remaining methyl bromide use not subject to a freeze or reduction under the Protocol, MBTOC Co-Chair Pizano reported on MBTOC's work with the International Plant Protection Convention (IPPC) and said MBTOC estimates that 31-47% of the top four highest-consuming categories of MB-QPS can be replaced with commercially available alternatives.

MBTOC Co-Chair Mohamed Besri (Morocco) presented the report on pre-plant soil uses of methyl bromide, noting that among non-Article 5 countries, only Australia, the US and Canada continue to use methyl bromide for this purpose. He highlighted that emergence of new and re-emergence of previously controlled pathogens have occurred, following a few

years of use of several methyl bromide alternatives. In Article 5 parties, he said that nearly 80% of controlled consumption has already been phased out, ahead of the 2015 target.

MBTOC Co-Chair Michelle Marcotte (Canada) presented the results of assessment reports on controlling pests in flour and cereal mills and in commodities, and outlined the results of a Special Report on the efficacy of sulfuryl fluoride (SF) in killing pest eggs.

Marcotte also introduced the MBTOC economic assessment and highlighted the difficulties in assessing economic information provided by parties.

MBTOC Co-Chair Ian Porter (Australia) presented MBTOC's interim recommendations on CUNs, noting that overall CUNs continue to fall. On the 13 CUNs submitted for soil uses, he explained that Australia's were recommended in full, Canada was recommended at 93% of its nomination, which matches its previous exempted amount, and the US was recommended at 87% of its nomination. Porter noted the MBTOC had yet to review revised information submitted by the US. Porter also addressed consensus issues, noting that three minority reports and one minority view arose relating to CUNs.

Marcotte reported on the MBTOC's interim recommendations for structures and commodities, noting CUNs from Australia, Canada and Japan were recommended. She said the US CUNs were recommended for treatment of dried fruits, walnuts and dates, for use in mills and food processing structures and for research in cured pork alternatives, but the MBTOC was unable to assess the US CUN for cured pork and post-harvest research aspects.

In a question and answer session, concerns were expressed by Jordan about the significant consumption of MB-QPS, and by Cuba and Venezuela over the accumulation of methyl bromide stocks. Responding to a question from Switzerland, Porter said that TEAP and TOC members from those countries submitting CUNs had generally not recused themselves when considering their country's submission.

Several parties, including Canada, Australia and China, expressed concerns about minority reports arising from the MBTOC process. Porter explained the larger number of minority reports arose from an effort to agree on interim recommendations at MBTOC's first meeting and to avoid "unable to assess" decisions. The US sought additional clarification on the process of deriving recommendations, particularly for one CUN case where the CUE amount suggested in the minority view became the recommended exemption. Porter explained the TEAP's consensus interim recommendation had settled on the lower amount while it sought clarification on the justifications for the remainder of the nomination.

OEWG 31 agreed that MBTOC would continue bilateral consultations with parties concerned with these procedures.

Methyl Bromide in Africa: On Wednesday, Kenya introduced a draft decision on key challenges in phasing out methyl bromide in Africa, submitted with Algeria, Cameroon, Egypt, Morocco, Tunisia, Zambia and Zimbabwe, and supported by China (UNEP/OzL.Pro.WG.1/31/CRP.10). While noting successes in phasing out methyl bromide in Africa, he stressed that some alternatives

have proven unsustainable in terms of cost, efficacy, availability, technical capacity and regulatory constraints. He explained the draft decision would, *inter alia*, request the TEAP to include financial assistance for methyl bromide phase-out activities in Africa in its 2012-2014 replenishment assessment.

Canada suggested the request relating to the replenishment assessment be forwarded to the already-established MLF replenishment contact group and, with the EU and Australia, encouraged further consideration of other elements in the draft decision through informal discussions and intersessional consultations prior to MOP 23.

Outcome: In the closing plenary on Friday, delegates agreed to forward a bracketed, revised draft decision (UNEP/OzL.Pro.WG.1/31/CRP.10/Rev.1) to MOP 23. The decision would request the TEAP to review trends in methyl bromide consumption in Africa and make recommendations on phase-out activities for consideration by OEWG 32, and would request the ExCom to carry out further studies on the technical and economic implications of methyl bromide phase-out in Africa, paying special attention to experiences from projects undertaken to date.

QPS ISSUES: On Wednesday, discussing the presentation by the MBTOC and noting that the TEAP report records an increase in MB-QPS from 2008-2009, the EU informed delegates that it had worked with other interested parties to prepare a draft decision on the issue (UNEP/OzL.Pro.WG.1/31/CRP.9). He stressed the need to collect harmonized data on QPS.

Australia, with the US, Canada and Switzerland, welcomed the draft decision, and, with China and Japan, concurred that there is need for greater information sharing on QPS.

Japan underscored that MB-QPS is currently "vital," and, noting work of the IPPC in collecting data on methyl bromide, suggested collaboration between the Montreal Protocol and the IPPC to avoid duplication of efforts.

Kenya noted the apparent increase in methyl bromide for QPS uses compared with other uses, and said that QPS is being used as a "cover-up" for the importation of methyl bromide for other purposes. He called on the MLF to assist Africa to access cost-effective methyl bromide alternatives.

The US highlighted that MB-QPS uses differ from other ODS uses due to import/export regulations that protect countries from invasive, non-native species. Colombia noted that it would be difficult to reduce the use of methyl bromide in situations involving import/export regulations. China stressed that banning, prohibiting or reducing MB-QPS would be detrimental to bilateral trade. Egypt stressed that QPS regulations in his country are stringent and any changes would negatively affect trade. Mexico said that a ban or reduction in MB-QPS uses could only be possible with more information on the uses of methyl bromide and their alternatives.

The EU clarified that avoiding double fumigation was the rationale for requesting parties to ensure that their regulations require that consignments not be treated twice with methyl bromide.

Brazil underscored that additional reporting requirements on methyl bromide use would be difficult to meet. Kenya concurred, asking how the reporting regulation would be enforced, and

stressing the difficulties faced by developing countries in meeting the import/export regulations requiring methyl bromide use.

Co-Chair Alkemade requested interested parties to continue discussions on QPS in informal and intersessional consultations prior to MOP 23.

Outcome: In the closing plenary on Friday, delegates agreed to forward to MOP 23 a bracketed draft decision that would reflect the results of those consultations.

LABORATORY AND ANALYTICAL USES OF ODS: On Tuesday, on laboratory and analytical uses of ODS, Co-Chair Alkemade noted some exemptions, including the allowance of ODS use by Article 5 countries for some otherwise-banned uses. She said the TEAP reported no responses to their requests for information from Article 5 countries on these continued laboratory and analytical ODS uses and that the TEAP remained uncertain about whether the barriers to ODS phase-outs for these uses were the lack of alternatives or the cost of new methods.

Australia supported CTOC's recommendation to eliminate 15 procedures for which there are suitable alternatives from the list of exempted laboratory and analytical uses, yet highlighted the need for continued exemptions, including some solvent uses of CTC. Voicing reservations to the full list of recommended deletions to exempted laboratory and analytical uses of ODS, and noting his country's continued use of CTC in some cases, Canada expressed interest in bilateral discussions with the CTOC for guidance on possible alternatives.

On the lack of information from Article 5 countries on their continued use of ODS for laboratory and analytical use, Australia suggested that parties discuss CTOC's suggestions for encouraging such information sharing, such as periodic reporting of ODS use in laboratory procedures by all parties. China said that his country had submitted information on ODS laboratory uses to the TEAP by the deadline agreed at MOP 22, and expressed hope that developing countries' continued need for exemptions in laboratory and analytical uses of ODS would be recognized.

Switzerland asked the TEAP to clarify the quantity of ODS associated with laboratory and analytical uses, and to compare this with the quantity generated through process agents and feedstocks in order to determine where parties should focus their efforts to have the greatest substantive impact on ODS reduction.

Co-Chair Alkemade recommended bilateral consultations with the TEAP and suggested the establishment of informal and intersessional meetings on laboratory and analytical exemptions, with the issue to be taken up by parties at MOP 23.

In plenary on Wednesday, China introduced a draft decision on global laboratory and analytical-use exemptions for ODS (UNEP/OzL.Pro.WG.1/31/CRP.7), noting some Article 5 parties continue to have difficulty in adopting non-ODS alternatives and require additional time for the transitions. He explained that, in some cases, substitutes are expensive, and some countries have lengthy processes for modifying laboratory rules to use alternatives.

Reservations about the draft decision were expressed by the EU, Australia and the US, and China agreed to consult with these interested parties.

Outcome: In the closing plenary on Friday, delegates agreed to forward a bracketed draft decision that would reflect the results of those consultations on the issue to MOP 23.

PROGRESS IN PHASING OUT ODS AS PROCESS

AGENTS: On Tuesday, Co-Chair Alkemade introduced the joint report of the TEAP and the ExCom on progress in phasing out ODS used as process agents (UNEP/OzL.Pro/ExCom/62/Inf.2/Rev.1).

Canada welcomed the updated information on parties' consumption, and, supported by Australia, called for a contact group to discuss pending administrative issues. Australia thanked the CTOC for highlighting information gaps that prevent the CTOC from performing its duties, and drew attention to the ExCom report on process agents.

Delegates agreed to take up the issue in a contact group mandated to discuss process agents and feedstocks. This contact group, convened by Blaise Horisberger (Switzerland), met on Tuesday and Wednesday.

On Wednesday morning in plenary, the EU presented a draft decision on sustained mitigation of ODS emissions from feedstock and process-agent uses (UNEP/OzL.Pro.WG.1/31/CRP.4), highlighting the need to control the substantial quantities of ODS emissions from these uses. He outlined operative paragraphs on, among other things: reminding parties to minimize ODS emissions from feedstock and process-agent uses; asking parties to report to the Secretariat on processes in which ODS are used as feedstock and in which ODS have been replaced with alternatives; and requesting parties to consider introducing labeling requirements for ODS containers to allow verification that such substances are for feedstock purposes only.

In the contact group, participants examined unexplained discrepancies between "bottom-up" and "top-down" estimates of CTC emissions and the significance of emissions from CTC used as feedstock and process agents.

On Friday, Horisberger reported to plenary that participants had engaged in a broad discussion of the issues rather than addressing the specific text of the draft decision. He outlined the group's substantive discussions, highlighting agreement on: the need for more information; broadening the emphasis beyond feedstocks and process agents to other production and destruction issues; and focusing on CTC but also covering other ODS. He noted a suggestion to request the Scientific Assessment Panel (SAP) and the CTOC to continue work on these issues.

Outcome: OEWG 31 agreed to continue work through intersessional consultations, and to forward the draft decision, in brackets, to MOP 23.

TEAP INVESTIGATION INTO ODS ALTERNATIVES IN EXEMPTED FEEDSTOCK AND PROCESS-AGENT USES AND FEASIBILITY ASSESSMENT OF REDUCING OR ELIMINATING SUCH USES:

On Wednesday, Co-Chair Sylla introduced the TEAP investigation into alternatives to ODS in exempted feedstock and process-agent uses and assessment of

the feasibility of reducing or eliminating such uses and related emissions, proposing that further discussion continue in the contact group on process agents and feedstocks.

ENVIRONMENTALLY SOUND MANAGEMENT OF ODS

On Wednesday, Co-Chair Alkemade invited TEAP Task Force Co-Chairs Ian Rae (Australia) and Paul Ashford (UK) to present their report related to ODS destruction.

Rae outlined the work asked of the TEAP on, *inter alia*, evaluating destruction removal efficiencies (DRE) for methyl bromide and developing verification criteria for the destruction of ODS at facilities using approved technologies.

On verification criteria for ODS destruction, Ashford explained the need for guidance to encourage more local destruction, given the shift from managing centralized stockpiles of already-sequestered materials to more dispersed end-of-life recovery and destruction. He also described work on voluntary auditing frameworks that would allow facilities to be eligible for carbon credits and funding.

In response to questions from Australia, the Co-Chairs commented on dioxin and furan limits and the choice of a 99.99% DRE for methyl bromide.

On the Task Force's recommendation to approve the listing of new destruction technologies, Australia, with the EU, favored waiting for the supplementary report, which would take into account additional information submitted.

On the suggestion to include a voluntary annex to the Code of Good Housekeeping, the EU and the US favored intersessional work prior to MOP 23.

SYNTHESIS REPORT OF THE 2010 ASSESSMENTS OF THE MONTREAL PROTOCOL ASSESSMENT PANELS

On Thursday in plenary, Co-Chair Alkemade introduced the presentation of the synthesis report of the 2010 assessments of the SAP, Environmental Effects Assessment Panel (EEAP) and TEAP (UNEP/OzL.Pro.WG.1/31/3).

SAP Co-Chair Paul Newman (US) outlined three areas addressed by the synthesized findings, on the interactions between stratospheric ozone and climate, the potential contributions of HFCs to climate change if unabated, and the alternatives available for some continued methyl bromide uses.

SAP Co-Chair A.R. Ravishankara (US) elaborated the SAP's main findings, including that atmospheric abundances of ODS and surface ultraviolet (UV) radiation are responding as expected, based on actions under the Montreal Protocol, and that climate change and ozone are intricately coupled, with increasing abundances of GHGs expected to significantly affect future stratospheric ozone.

EEAP Co-Chairs Janet Bornman (New Zealand) and Nigel Paul (UK) outlined the EEAP's findings. Bornman listed the focal areas of the Panel's work on air quality, materials, human health, terrestrial and aquatic ecosystems and biogeochemical cycles, noting, *inter alia*, both the benefits and risks of UV radiation to human health with reference to skin cancers, Vitamin D production and photochemical smog. Paul spoke on the interactions of changes of UV with other environmental changes and the impacts on food security and quality. He highlighted that

an increase in carbon dioxide emissions due to increased organic matter run-off from land to sea may force global warming beyond current predictions. He also noted that the combined effects of increasing temperature and carbon dioxide levels may exceed aquatic ecosystems' capacity to adapt to UV radiation.

Highlighting findings of the TEAP Assessment Report, Stephen Andersen (US), TEAP Co-Chair, outlined examples of actions to reduce radiative forcing of climate change, including: the EU directive on mobile air conditioning systems in all new cars by 2017; the US Significant New Alternatives Policy (SNAP) regulation to reduce HFC-134a in new cars; and 25% higher MLF financing for climate-friendly solutions.

The EU sought clarification on the HTOC report which, he said, records discrepancies of up to 300% in trade data on non-virgin halons. David Catchpole (UK), HTOC Co-Chair, said the discrepancy may be due to import/export information on these halons provided by parties.

The Natural Resources Defense Council gave an update on new US regulations for HFC-134a for air conditioning in cars.

On actions to reduce radiative forcing of climate change, on which Switzerland requested information from parties, Andersen reported that the TEAP has not compiled data on country actions in several years.

POTENTIAL AREAS OF FOCUS FOR THE ASSESSMENT PANELS' 2014 QUADRENNIAL REPORTS

Co-Chair Sylla introduced a discussion on potential areas of focus for the assessment panels' 2014 quadrennial reports.

Australia, supported by the US, proposed that the Secretariat compile the suggestions submitted by the SAP and EEAP, along with those anticipated from the TEAP, in a draft decision for consideration at MOP 23. Australia added that his country wanted to consider ways to streamline reporting processes for the SAP and EEAP, which report on a quadrennial and annual basis, respectively.

The EU asked about means of providing input into the development of guidance to the assessment panels, outlining some initial ideas for assessment panel considerations, including on the impacts of: recent volcanic activity on ozone; the ozone hole on Arctic and Antarctic climates; and the destruction of banked halons. Co-Chair Sylla said parties could send comments to the Secretariat during the intersessional period.

STATUS OF NEPAL RELATIVE TO THE COPENHAGEN AMENDMENT TO THE MONTREAL PROTOCOL

On Wednesday in plenary, Co-Chair Alkemade introduced the request of Nepal to be considered in full compliance with the control provisions of the Copenhagen Amendment to the Montreal Protocol.

Nepal outlined the background to its request, noting that although political difficulties had prevented the ratification of amendments to the Montreal Protocol, his country had fulfilled its Protocol commitments, adopted proactive HCFC management measures and developed a phase-out plan for HCFCs.

He explained that assistance from the MLF for its HPMP was contingent on ratification of the Copenhagen Amendment, and, while ratification processes had been initiated in parliament, it

would take time to complete. He said Nepal's compliance with the Amendment's provisions make Nepal a "*de facto*" party and asked parties to approve Nepal as party to the amendment to improve its capacity to achieve its HCFC phase-out targets.

Japan commented that the request for the MOP to approve Nepal's status of compliance seemed like a realistic solution for furthering its HCFC phase-out targets. The US applauded Nepal's efforts on ODS reduction, but questioned whether Nepal could be eligible for MLF funds without ratification.

Co-Chair Alkemade said the issue would be taken up at MOP 23 and encouraged parties to engage in intersessional consultations with Nepal.

OTHER MATTERS

ADDITIONAL INFORMATION ON ODS

ALTERNATIVES: On Wednesday, Switzerland introduced a draft decision requesting additional information on ODS alternatives (UNEP/OzL.Pro.WG.1/31/CRP.5).

Switzerland outlined the rationale for and operative text of the draft decision, noting it requests the TEAP to, *inter alia*, prepare a report for OEWG 32 including: information on the cost of low- and high-GWP alternatives to HCFCs and CFCs and their suitability in high-temperature conditions; data on production and consumption of HFCs; and the technical and economic feasibility of reducing reliance on HFCs.

Noting a similar proposal by his country and others at OEWG 30, Colombia suggested the addition of, among other things, a request to the TEAP related to funding for low-GWP alternatives for Article 5 countries and information related to assessing, by sector, the quantities and types of HFCs that might become alternatives for HCFCs. He also advised asking the TEAP to consider ranking ODS alternatives by their GWP, rather than adopting binary categorization of low- and high-GWP.

Canada, Australia and the EU supported the establishment of a contact group on the issue. China, supported by India, expressed reservations about the draft decision based on its reference to HFCs, which China said should be discussed under the UNFCCC. A contact group on the draft decision, co-chaired by Mikkel Sørensen (Denmark) and Donnalyne Charles (Saint Lucia), met on Wednesday and Thursday.

No agreement on the draft decision was reached by the contact group, and the entire text was bracketed. Areas of disagreement among parties included: preambular paragraphs referring to the centrality of the UNFCCC and Kyoto Protocol in addressing climate change issues; removal of references to HFCs; and replacement of references to HFCs with the term "high-GWP substances."

On Friday in plenary, contact group Co-Chair Charles explained the group had addressed the draft text and possible new text for the preamble, along with three of the four operative paragraphs, and expressed hope that the work could be continued at MOP 23.

Outcome: OEWG 31 agreed to send the heavily-bracketed revised draft decision to MOP 23 for further consideration.

ODS CONSUMPTION RELATED TO SHIPS: On Wednesday, Saint Lucia presented its draft decision on ODS consumption related to ships, submitted jointly with Belize, the

Marshall Islands, Trinidad and Tobago, and Saint Vincent and the Grenadines (UNEP/OzL.Pro.WG.1/31/CRP.8). She explained the challenges and inconsistencies involved in applying ODS export and import licensing systems to ODS carried and used by ships, given that countries may have open or closed ship registries and that ships may not be owned by the country whose flag they carry. Saint Lucia said the draft decision aims to clarify reporting and recording use of ODS on ships and flagships.

Fiji, on behalf of Pacific Island countries, and Mexico supported the draft decision.

Argentina, supported by Colombia, expressed reservations about operative text regarding how to record ODS sales to ships in a party's port. Colombia also queried whether the Secretariat had sufficient disaggregated data for reviewing current ODS reporting for sales to ships, and cautioned that acquiring sufficient information on ODS consumed aboard ships might take time. Noting the complexity of the issue, the EU said that different understandings of imports and exports of ODS for ships open "loopholes" for illegal trade and put at risk phase-out efforts for low-consuming countries.

Delegates agreed to establish a contact group, which met on Thursday evening, co-chaired by Nicol Walker (Jamaica) and Cornelius Rhein (EU). Following an introduction of the aims and content of the draft decision, delegates discussed, *inter alia*: collection and reporting methods of parties; data discrepancies; consultations with the International Maritime Organization; possible effects of a licensing system change on ODS quotas for some parties; and national consumption and allocation issues. Participants agreed on the need for more information about domestic reporting systems, in order to make informed decisions about how to consistently address ships' ODS consumption.

Reporting to plenary on Friday, Rhein noted consensus from participants on the relevance of the issue, the need for information from the Secretariat and parties, and the adoption of a step-wise approach to addressing the matter. Outlining their substantive discussions, Walker noted parties' requests for continued work on operative language, and announced that the Secretariat had offered to facilitate intersessional work on both documentation of procedures that parties use to record data on ships' ODS use and the draft decision.

Outcome: Co-Chair Alkemade encouraged intersessional information exchanges and deliberation, and OEWG 31 agreed to forward a draft decision reflecting the contact group discussion, in square brackets, to MOP 23.

PHASE OUT OF HFC-23 BY-PRODUCT EMISSIONS: On Wednesday in plenary, the US introduced a draft decision on the phase-out of HFC-23 by-product emissions, submitted with Canada and Mexico (UNEP/OzL.Pro.WG.1/31/CRP.1).

The EU, supported by Australia, welcomed the draft, with the EU informing delegates that, under the EU Emissions Trading Scheme, the EU has phased out recognition of HFC-23 credits from May 2013.

Argentina, with Venezuela, Cuba and Brazil, stressed that HFCs are not under the ambit of the Montreal Protocol, and India emphasized that HFC-23 is not an ODS and is already covered under the UNFCCC. China reiterated that his country's

position on HFCs is "clear and consistent," underlining that for political, administrative and legislative reasons, this was not the appropriate time to consider this draft decision.

Mexico emphasized that the draft decision was dealing specifically with emissions not covered under either the Kyoto Protocol or the ExCom of the Clean Development Mechanism (CDM). Japan noted that the financial implications of the phase-out would need to be carefully considered.

Canada highlighted that the draft calls for more information on, among other things, plants that are not linked to a CDM project, and said that these could be an opportunity for the MLF to act on phasing out HFC-23 by-product emissions.

Outcome: Co-Chair Alkemade suggested that interested parties engage in informal discussions on this issue, and proposed intersessional work on the draft for consideration at MOP 23. OEWG 31 agreed to forward to MOP 23 a revised draft decision, in square brackets, reflecting those informal discussions.

STEERING PANEL ON EVALUATION OF THE FINANCIAL MECHANISM REPORT: On Wednesday, Husamuddin Ahmadzai (Sweden), Co-Chair of the Steering Panel on the Evaluation of the Financial Mechanism, reported to plenary on the Evaluation, including on the selection of an evaluator and the submission of the evaluator's inception report. He said the next meeting of the Steering Panel would be held at MOP 23.

EXTENSION OF TERM OF EXECUTIVE SECRETARY: On Thursday, Michael Church (Grenada), MOP 21 President, presented the current status of a MOP 22 decision to explore legitimate means to retain Marco Gonzalez as the Executive Secretary of the Ozone Secretariat. He announced that he had received confirmation from the Office of the UN Secretary-General that González's contract would be extended for two years, although the modalities had yet to be finalized. Delegates applauded.

PRESENTATION BY INDONESIA: On Thursday, welcoming participants to his country in November 2011 for ExCom 65, Vienna Convention COP 9 and Montreal Protocol MOP 23, Indonesia presented an overview and slideshow about his country, highlighting the cultural and biological diversity of Bali.

CLOSURE OF THE MEETING

On Friday afternoon in plenary, Co-Chair Sylla led delegates through the reports of the meeting (UNEP/OzL.Pro.WG.1/31/L.1, UNEP/OzL.Pro.WG.1/31/L.1/Add.1, UNEP/OzL.Pro.WG.1/31/L.1/Add.2) by paragraph and section, and delegates adopted these with amendments.

Co-Chair Sylla noted that the report included summaries of presentations by assessment panel and TOC members (UNEP/OzL.Pro.WG.1/31/L.2 and UNEP/OzL.Pro.WG.1/31/L.2/Add.1), but did not include the questions and answers that followed the presentations. OEWG 31 adopted these documents.

Co-Chair Alkemade explained that the texts in the compilation of draft decisions (UNEP/OzL.Pro.WG.1/31/L.3) to be forwarded to the MOP would be replaced by the most recent versions submitted, and Co-Chair Sylla presented the document. Australia

asked that square brackets be inserted for some text proposed in contact groups, to identify text that has not yet been agreed. Argentina requested that the work of the MLF Replenishment contact group be reflected in the report. The US asked for clarification that draft decisions for which no contact group had been convened would still be considered as bracketed text, and the Secretariat explained that all draft decisions prepared by working groups in the UN system are considered as bracketed. The OEWG adopted the document, with the anticipated changes and additions.

Co-Chair Sylla adjourned the meeting at 5:16 pm.

A BRIEF ANALYSIS OF OEWG 31

On the heels of what was hailed as a highly successful meeting of the Executive Committee of the Multilateral Fund (MLF) for the Implementation of the Montreal Protocol (ExCom), in which 34 Hydrochlorofluorocarbon (HCFC) Phase-out Management Plans (HPMPs) were approved for developing country parties, the 31st Open-ended Working Group (OEWG 31) of the Montreal Protocol met to tackle a heavily-loaded agenda. Throughout the week, parties demonstrated that, in spite of concerns that the consideration of climate-related issues might derail all progress under the Protocol, they remained committed to finding ways forward even on politically-sensitive issues. Even as discussions on hydrofluorocarbons (HFCs) spilled over into several areas of the OEWG's work that are only indirectly related to the proposed amendments for their control, these tensions did not prevent substantive exchange of ideas.

Trust in technical expertise and reliance on stable funding are lynchpins of the Protocol, and parties spent considerable time addressing these two elements through discussions on MLF replenishment and the nomination procedures for the Technology and Economic Assessment Panel (TEAP). MLF replenishment discussions arise every three years, and are one of the ongoing areas of negotiation for parties (given the centrality of funding for achieving the goals of the Protocol). The nomination processes for the TEAP, including on processes for recusal, conflict of interest disclosures, and methods for recording dissent with the committees, are not subject to scheduled periodic review, but underpin parties' trust in the scientific advice given to them.

This brief analysis considers how discussions on proposed HFC amendments, MLF replenishment and TEAP nomination procedures reflect the enduring commitment of Montreal Protocol parties to the process's collaborative spirit, and what these negotiations signal for the upcoming 23rd Meeting of the Parties to the Montreal Protocol (MOP 23), to be held in November 2011.

PROPOSED HFC AMENDMENTS: EXPANDING THE PROTOCOL

As at OEWGs and MOPs for the past two years, proposals to amend the Montreal Protocol, from the Federated States of Micronesia and from Canada, the US and Mexico, loomed large in discussions at OEWG 31. Proponents did not present these proposals as competing, but as alternative formulations of ways

to address HFCs. The OEWG's discussions focused mainly on the North American proposal, which had been revised to reflect earlier discussions.

The proposed amendments specifically target controls for HFCs: gases with high global warming potential. The use of HFCs is skyrocketing worldwide, as they are often the alternative of choice for countries fulfilling their commitment to phase out HCFCs. Some countries expressed renewed hope that action on greenhouse gases (GHGs), stymied in climate change processes, might achieve traction in the ozone regime. They also argued that the Montreal Protocol is responsible for the proliferation of HFCs, and that parties bear responsibility for their negative impacts.

Other delegations from rapidly industrializing countries, notably China, India and Brazil, objected to consideration of HFCs, emphasizing that a substance should only be addressed by the Montreal Protocol if it is an ozone-depleting substance (ODS), which HFCs are not; as such, these parties argue that HFCs should be addressed solely by the UNFCCC and its Kyoto Protocol, which currently list HFCs among targeted GHGs.

Splits were revealed among developing country parties, with some finding themselves caught between strategic alliances and national interests. Some felt committed both to South-South cooperation with amendment opponents, and to pursuing climate change mitigation measures in any possible forum, given the immediacy of the climate change threat. Indeed, many countries hailed findings that the Montreal Protocol has, since its inception, resulted in five times the climate benefit of the first commitment period of the Kyoto Protocol.

Proponents of amendments were not successful in convening a specific formal contact group on their proposals, due to strong opposition from a number of parties. Instead, discussions on HFCs took place throughout the week in plenary and in a contact group discussion on a request to the TEAP for additional information on ODS alternatives, including on the costs of HFC phase-downs. For amendment supporters, this ensured that exchanges on the issue were on the record; however, for parties arguing that HFCs are outside the ambit of the Protocol, these discussions were seen as a distraction from the more pressing work central to the Protocol. Nonetheless, after registering their objections to the discussions, several opposing parties contributed to substantive discussions on the proposals, notably on baselines and provisions for technical and financial assistance. Reports during the OEWG from the assessment panels, particularly the Scientific Assessment Panel (SAP), highlighted the interactions between climate change and ozone and lent urgency to consideration of HFC controls. However, OEWG 31 discussions focused less on the facts surrounding HFC contributions to climate change, and more on the legal dimensions of multilateral environmental agreement mandates and overlaps.

Unlike on most issues addressed by the Montreal Protocol, for which parties turn quickly to the assessment panels for guidance, the HFC issue stands apart, with technical and scientific aspects sidelined to some extent. Indeed, some parties were reluctant to engage TEAP expertise on HFCs, concerned that such a move

would legitimize consideration of the substances in this forum. This development provides insights on the role of expertise in the Montreal Protocol. This reticence can be seen as an acknowledgement not only of the influence science wields in influencing policy outcomes, but also of how intrinsically linked TEAP discussions are to the broader negotiation dynamics. At the end of the day, political agreement and will are the driving determinants of action under the Protocol.

Some participants feared that some countries would respond to inflexibility on the HFC issue by refusing to engage in other areas of work, but these fears were unrealized as progress was indeed made in other areas, such as the MLF replenishment.

MLF REPLENISHMENT: FUNDING THE TRANSITION

The recent approval of several countries' HPMPs for accelerated HCFC phase-outs accentuated the looming deadline to agree, at MOP 23, on the 2012-2014 MLF replenishment, as approved activities hinge on availability of resources. A TEAP Replenishment Task Force (RTF) had been charged with identifying the requirements for assisting Article 5 countries with implementation, and the resulting estimate provides the basis for negotiations on funding commitments. Donor countries aiming to meet their financial responsibilities to the Protocol, particularly with respect to "stable and sufficient" funding for HCFC phase-outs, but minimize their actual expenditures, took great interest in the scenarios and assumptions used by the RTF in its work.

When the RTF presented its work to plenary on Monday, delegates quickly identified the need for a contact group for lengthy substantive discussions. One issue of note for parties was on how to address and avoid overlapping or repeated financing for activities under the Protocol, in particular with respect to funding for swing plants—HCFC facilities that have been converted from CFC operations. The question of whether to fund another conversion, or closure, as part of HCFC phase-outs was echoed in the HFC discussions. Some parties championed the proposed amendments as an opportunity to avoid double-costs and leapfrog straight to low-GWP alternatives, while others argued the ExCom could prioritize such leapfrogging without an amendment. Parties stressed the need to know the cost implications of such choices, and in the end delegates charged the RTF with revising its report for MOP 23, taking into account listed scenarios and new data, including that from the over 80 approved HPMPs.

MLF funding is central to the Protocol, as it determines developing countries' abilities to phase out remaining ODS. As donor countries face increased scrutiny at home over their spending obligations, they in turn are giving a closer look to what activities are being funded by the MLF, not only examining the efficiency of the benefit achieved from each disbursement, but also avoiding double-funding ODS phase-out activities and reducing the potential for moral hazards and loopholes. Such considerations are likely to come to the fore in MLF replenishment negotiations at MOP 23.

TEAP PROCESS: SCIENTIFIC AUTHORITY AND TRUST

As a result, the TEAP has before it a mammoth task to provide the information to serve as the basis of these negotiations in just seven weeks for parties' MOP 23 preparations. Given the TEAP's critical role in the operations and successes of the Protocol, it is of little surprise—but of great significance—that the TEAP itself was the focus of scrutiny at OEWG 31, with issues of membership and nomination processes under review.

Parties' attention to these procedures was drawn in part by a recent surge in the number of minority reports emerging from the TEAP's deliberations, but this also gave parties an opportunity to raise some long-standing concerns, including balance, terms of office, recusal and conflicts of interest. Rather than auguring poorly for the ozone regime, this spotlight on how advice is produced represents a self-reflective dimension to parties' activities. At MOP 23, parties will have to consider the impact of changes to TEAP procedures and tenure limits on the maintenance of regional and expertise balance and the continued legitimacy and credibility of the Panel's work.

Discussions at OEWG 31 picked up on efforts initiated at MOP 22 to address concerns related to the TEAP. Balance of geographic representation and of expertise emerged as key themes in a contact group on the question, as did a strong preference for consensus-based decision making, echoing views put forward in other forums, such as with the work of the Intergovernmental Panel on Climate Change, and of the Persistent Organic Pollutants (POPs) Review Committee under the Stockholm Convention.

The issues of representation are particularly tricky as the TEAP not only pivots on technical expertise but also relies predominantly on the voluntary work of its members. Some parties expressed interest in mandating greater participation of parties in the nominations and appointments, in part to facilitate their access to information from technical panels and representation of their regional concerns in the work of the TEAP. Other concerns over representation included worries from some NGOs that undue influence of major chemicals industries on the decisions of the TEAP may sideline consideration of some ODS alternatives.

In heading toward MOP 23, a central question for the parties to the Protocol remains: how will they address these tensions to ensure the continuity of both technical expertise and trust of the parties in the work and decisions of TEAP?

TOWARDS MOP 23 AND OZONE LAYER RECOVERY

At the end of MOP 22 in 2010, many delegates had registered disappointment with the ways in which climate-related HFC issues had been addressed, and expressed concern about what failure to reach agreement indicated for the future of the Montreal Protocol. At OEWG 31, even the entrenched and opposing positions expressed by some parties on HFCs did not prevent substantive discussions on how to gain more information on ODS alternatives. One proposal proponent expressed appreciation for the "diligent work" and "helpful" questions from many countries, which represented constructive discussion on the content of the proposals and left many optimistic that progress can be made at MOP 23 and beyond.

With all draft decisions of OEWG 31 forwarded to the MOP as bracketed text, and containing many outstanding areas of disagreement, delegates likely face challenging negotiations at MOP 23. Yet the emphasis on continuing dialogue in coming months on many of its agenda items highlights that OEWG 31 served its purpose as a catalyst for bilateral and informal exchanges on contentious issues. As a result of these exchanges, participants in MOP 23 will benefit from greater understanding of the range of positions and interests that will shape future negotiations. The inclusion of any outright discussions of HFCs on the agenda, particularly in relation to controls on their emissions, will continue to provoke dissent from some parties. However, OEWG 31 demonstrated that, although consensus on key issues remains elusive and the scope of the Protocol is under debate, its parties are committed to upholding their track record of negotiating difficult political and technical matters and exploring a range of ways forward.

UPCOMING MEETINGS

23rd International Congress of Refrigeration (ICR2011):

This meeting, with the theme “Refrigeration for Sustainable Development,” will bring together experts in the field of refrigeration and refrigeration technology on issues including cryophysics, thermodynamics, energy recovery, and safety.

dates: 21-26 August 2011 **location:** Prague, Czech Republic **contact:** Ladislav Cervinka **fax:** +420-224-233-078 **email:** icaris@icaris.cz **www:** <http://www.icr2011.org>

POPRC 7: The seventh meeting of the Persistent Organic Pollutants (POPs) Review Committee (POPRC 7) will consider additional chemicals for listing under the Convention and respond to tasks assigned by COP5. **dates:** 10-14 October 2011 **location:** Geneva, Switzerland **phone:** +41-22-917-8729 **fax:** +41-22-917-8098 **email:** ssc@unep.ch **www:** <http://www.pops.int>

Tenth meeting of the Conference of the Parties to the Basel Convention:

The tenth meeting of the Conference of the Parties to the Basel Convention (COP 10) will be held in October in Colombia. **dates:** 17-21 October 2011 **location:** Cartagena, Colombia **contact:** Basel Convention Secretariat **phone:** +41-22-917-8218 **fax:** +41-22-797-3454 **email:** sbc@unep.org **www:** <http://www.basel.int/meetings/frsetmain.php>

65th Meeting of the Executive Committee of the Multilateral Fund (MLF) for the Montreal Protocol:

This meeting of the Executive Committee is expected to, among other things, consider funding requests to the MLF for activities to implement the requirements of the Montreal Protocol. **dates:** 5-11 November 2011 [tentative] **location:** Bali, Indonesia **contact:** MLF Secretariat **phone:** +1-514-282-1122 **fax:** +1-514-282-0068 **email:** secretariat@unmfs.org **www:** <http://www.multilateralfund.org/>

OEWG of the International Conference on Chemicals Management:

This meeting will act as a preparatory meeting for the third International Conference on Chemicals Management (ICCM3), with technical briefings and regional groups meeting on 14 November. **dates:** 15-18 November 2011 **location:**

Belgrade, Serbia **contact:** SAICM Secretariat **phone:** +41-22-917-8532 **fax:** +41-22-797-3460 **email:** saicm@unep.org **www:** <http://www.saicm.org>

47th Meeting of the Implementation Committee under the Non-compliance Procedure for the Montreal Protocol:

This meeting will consider issues related to non-compliance and parties returning to compliance. **dates:** 18-19 November 2011 **location:** Bali, Indonesia **phone:** +254-20-762-3851 **fax:** +254-20-762-4691 **email:** ozoneinfo@unep.org **www:** <http://www.montreal-protocol.org>

MOP 23/COP 9: The twenty-third Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer (MOP 23) and ninth meeting of the Conference of the Parties to the Vienna Convention for the Protection of the Ozone Layer (COP 9) is scheduled to take place in Bali, Indonesia.

dates: 21-25 November 2011 **location:** Bali, Indonesia **phone:** +254-20-762-3851 **fax:** +254-20-762-4691 **email:** ozoneinfo@unep.org **www:** <http://www.montreal-protocol.org>

GLOSSARY

CDM	Clean Development Mechanism
CFC	Chlorofluorocarbon
CTC	Carbon tetrachloride
CTOC	Chemicals Technical Options Committee
CUE	Critical-use exemption
CUN	Critical-use nomination
EEAP	Environmental Effects Assessment Panel
EUE	Essential-use exemption
EUN	Essential-use nomination
ExCom	Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol
FSM	Federated States of Micronesia
GHG	Greenhouse gas
GWP	Global warming potential
HCFC	Hydrochlorofluorocarbon
HFC	Hydrofluorocarbon
HPMP	Hydrochlorofluorocarbon Phase-out Management Plan
HTOC	Halons Technical Options Committee
IPCC	Intergovernmental Panel on Climate Change
IPPC	International Plant Protection Convention
MBTOC	Methyl Bromide Technical Options Committee
MDIs	Metered-dose inhalers
MLF	Multilateral Fund for the Implementation of the Montreal Protocol
MTOC	Medical Technical Options Committee
OEWG	Open-ended Working Group
ODS	Ozone-depleting substances
QPS	Quarantine and pre-shipment
RTF	Replenishment Task Force
SAP	Scientific Assessment Panel
TEAP	Technology and Economic Assessment Panel
UNFCCC	United Nations Framework Convention on Climate Change