



TWENTY-FOURTH MEETING OF THE PARTIES TO THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE LAYER: 12-16 NOVEMBER 2012

The twenty-fourth Meeting of the Parties to the Montreal Protocol (MOP 24) begins today in Geneva, Switzerland. The preparatory segment will take place from Monday to Wednesday, and the high-level segment will convene on Thursday and Friday. Delegates are expected to consider, *inter alia*: issues related to Article 2 of the Protocol, including essential-use exemptions for chlorofluorocarbons (CFCs) in 2013, nominations for critical-use exemptions for 2014, and feedstock uses; additional information on alternatives to ozone-depleting substances (ODS); procedural issues related to the Technology and Economic Assessment Panel (TEAP) and its subsidiary bodies; an evaluation of the financial mechanism of the Protocol; and proposed amendments to the Protocol.

A BRIEF HISTORY OF THE OZONE REGIME

Concerns that the Earth's stratospheric ozone layer could be at risk from 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 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.

VIENNA CONVENTION: In May 1981, the UNEP Governing Council (GC) 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 ODS. The Convention now has 197 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 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: 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 MLF Secretariat costs. 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. 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, and tightening existing control schedules. They also agreed to ban trade in methyl bromide with non-parties to the Copenhagen Amendment. 192 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. 182 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'

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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, the Czech Republic, in 2004. Parties did not complete work on methyl bromide exemptions for 2006 and 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 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 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. 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 and Mauritius.

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.

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 another submitted by the Federated States of Micronesia.

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 lacking feasible alternatives.

INTERSESSIONAL HIGHLIGHTS

OPEN-ENDED WORKING GROUP: The thirty-second meeting of the Open-ended Working Group (OEWG 32) of the parties to the Montreal Protocol convened in Bangkok, Thailand, from 23-27 July 2012. Delegates considered several issues arising from the 2012 Progress Report of the TEAP, including: a review of nominations of essential-use exemptions for 2013 and 2014; a review of nominations for methyl bromide CUEs for 2013 and 2014; and methyl bromide use for QPS. Parties also discussed the treatment of ODS used to service ships, a TEAP report on additional information on ODS alternatives, the evaluation of the Protocol’s financial mechanism, and TEAP nomination and operations processes. OEWG 32 also considered two proposals to amend the Montreal Protocol related to HFCs: the first by the US, Canada and Mexico; and another by the Federated States of Micronesia. Parties were unable to reach consensus on establishing a contact group on the proposals.

TEAP AND TOCs: Several Technical Options Committees (TOCs) met between February and April 2012 to further their work in the lead-up to MOP 24. The work of the TOCs and the related Task Force are included in the TEAP’s 2012 reports for consideration at MOP 24.

EXECUTIVE COMMITTEE: The MLF Executive Committee held its sixty-sixth meeting from 16-20 April 2012 and its sixty-seventh meeting from 16-20 July 2012. Both sessions were held in Montreal, Canada. In both instances, the Committee approved investment projects and work programme activities including several national HCFC phase-out management plans.

IMPLEMENTATION COMMITTEE: The forty-eighth meeting of the ImpCom under the Non-Compliance Procedure convened in Bangkok, Thailand, from 29-30 July 2012. The forty-ninth meeting met in Geneva, Switzerland, from 8-9 November 2012. The ImpCom considered information provided by the MLF Secretariat on relevant decisions of the MLF Executive Committee and on activities carried out by implementing agencies, and issues related to non-compliance. MOP 24 will consider its recommendations.

BUREAU MEETING: The Bureau of the Montreal Protocol MOP met in Geneva, Switzerland, on 10 November 2012. The Bureau considered the progress made in implementing the decisions of MOP23 and discussed the working documents and agenda for MOP24.

SEMINAR ON PROTECTING OUR ATMOSPHERE FOR GENERATIONS TO COME TWENTY-FIFTH ANNIVERSARY OF THE MONTREAL PROTOCOL: The seminar was held in Geneva, Switzerland, on 10 November 2012, immediately prior to MOP24. Hosted by the Government of Switzerland, the seminar provided, *inter alia*, perspectives on experiences from implementing the Montreal Protocol and their usefulness in addressing other global challenges, the science behind the Protocol, and the policies needed to protect the atmosphere.



MOP-24 HIGHLIGHTS:

MONDAY, 12 NOVEMBER 2012

The preparatory segment of the twenty-fourth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer (MOP-24) opened in Geneva, Switzerland, on Monday, 12 November 2012.

In the morning, delegates agreed on the agenda and the organization of work and initiated discussions on issues related to exemptions, including essential-use exemptions for 2013 and critical-use exemptions for 2014.

During the afternoon, delegates took up agenda items on: investigation of data discrepancies related to carbon tetrachloride (CTC); proposal on the review by the Scientific Assessment Panel (SAP) of RC-316C; quarantine and pre-shipment (QPS); and feedstock uses.

OPENING OF THE PREPARATORY SEGMENT

MOP24 was opened on Monday by Ghazi Odat (Jordan), co-chairing the meeting with Gudi Alkemade (the Netherlands).

Bruno Oberle, Secretary of State for the Environment, Switzerland, highlighted the Protocol's scientific foundation, governments' willingness to act quickly and the MLF as factors contributing to the Protocol's success. He said Switzerland supports the HFC amendment proposal and suggested examining the modalities and institutional, financial and technical consequences of such an amendment.

Marco González, Executive Secretary, Ozone Secretariat, highlighted the Protocol's success while noting outstanding challenges, including decisions on, *inter alia*: essential and critical-use exemptions; and quarantines and feedstock uses. He welcomed discussions on: alternatives to HFCs; trade of controlled substances; observed data discrepancies on CTC; and revisions to the TEAP terms of references. González called on delegates to discuss the HFC amendment proposals in the spirit of the Protocol's original negotiations, which based decisions on science, recognized industry's ability to innovate and accepted the principle of common but differentiated responsibilities (CDR).

Awards were presented to Stephen Andersen (US) and Lambert Kuijpers (the Netherlands) for their work as the longest serving co-chairs of the TEAPs.

ORGANIZATIONAL MATTERS

Co-Chair Alkemade introduced the provisional agenda (UNEP/OzL.Pro.24/1). The US suggested additions to the agenda, including: TEAP membership; improved information on policy and control measures of ODS transition; and transition of the MLF chief officer. INDIA, supported by CHINA, BAHRAIN and KUWAIT, objected to raising issues not under the Montreal Protocol, including items on: feedstock uses; clean production of HCFC-22 through by-product emission control; additional funding for the MLF to maximize the climate benefit of accelerated phase-out of HCFCs; and the new HFC amendments. The EU noted that feedstock use is controlled by the Montreal

Protocol and this item, as well as proposals for amendments, should be retained on the agenda. BRAZIL proposed discussing issues related to policy matters only in plenary.

HAITI, INDONESIA, BOLIVIA, ECUADOR, BAHRAIN and NICARAGUA raised the situation of countries not yet ratifying the Beijing Amendment. INDONESIA proposed discussion on the status of the Bali Declaration introduced at MOP-23.

Co-Chair Alkemade proposed issues related to TEAP membership, raised by the US and China, be added as a sub-item to the existing agenda item on TEAP procedures. Regarding the proposed amendments to the Montreal Protocol, Alkemade acknowledged that while this topic was discussed in previous meetings, no agreement was reached and thus it remains on the agenda. CHINA asked for clarification regarding the legal status of the Bali Declaration.

Alkemade proposed, and parties agreed, to include several items under other matters, including: policies and controls influencing transition of ODS; transition of the chief MLF officer; ratification status of the Beijing Amendment; and the Bali Declaration status. She said that plenary will initially address the agenda items on investigation of CTC and the proposal on the review by the SAP of RC-316C.

ADMINISTRATIVE MATTERS

CONSIDERATION OF MEMBERSHIP OF MONTREAL PROTOCOL BODIES FOR 2013: The Secretariat introduced the item noting that the Preparatory Segment is expected to recommend the membership of the bodies to the High-Level Segment.

FINANCIAL REPORTS OF THE TRUST FUNDS AND BUDGETS FOR THE MONTREAL PROTOCOL: The Secretariat introduced this item (UNEP/OzL.Pro.24//7 and 7/Add.1). A budget group was established to further discuss the documents and prepare a draft decision for consideration by Parties.

ISSUES RELATED TO EXEMPTIONS FROM ARTICLE 2 OF THE MONTREAL PROTOCOL

NOMINATIONS FOR CRITICAL-USE EXEMPTIONS FOR 2014: The TEAP said that the CFC essential use nomination was for CFCs used in the manufacture of traditional Chinese medicine (TCM) MDIs, noting that the Medical Technical Options Committee (MTOC) sought to ascertain whether there was increased efficacy from using CFC MDIs for TCM in the treatment of asthma. She noted that there are suitable alternatives and that improved efficacy for the treatment of asthma was not proven and thus not considered an essential use. She suggested China use CFCs from its current allocation.

CHINA expressed concern that because TCM differs from conventional medicine, the MTOC did not address this issue sufficiently; stressing that refusing the nomination would have negative implications for Chinese companies and communities and requested reconsideration. The RUSSIAN FEDERATION said it can provide more information on its nomination bilaterally, noting that it hoped work could be taken up within



the allowed tonnage. MEXICO queried the extent of CFC stocks internationally, and asked TEAP to investigate the obstacles for countries not using allocated essential uses stocks.

TEAP noted that the implications for not having nominations accepted are matters for parties to address. She also said the use of stocks for CFC phase-out is critically important, and that the next TEAP report will report on obstacles to their use.

BANGLADESH said it has complied with its commitment to phase out all CFC-based MDIs by 2012, noting that remaining domestic stocks were consumed during the phase-out. CANADA stated its interest in having further discussions with China and Mexico. An informal group was established for further discussion.

NOMINATIONS FOR CRITICAL-USE EXEMPTIONS FOR 2014: The Methyl Bromide Technical Options Committee (MBTOC) co-chairs presented their final recommendations on methyl bromide critical-use nominations (CUN). Co-Chair Ian Porter noted decreasing CUN trends and described nominations by Australia, Canada and the US for strawberry production. Co-Chair Michelle Marcotte presented CUN on structures and commodities for Australian rice, Canadian flourmills, US dried fruits and nuts and US smoke-house hams. Co-Chair Marta Pizano described revisions to the CUN handbook, *inter alia*: removal of the code of conduct and clarification of economic indicators.

The EU said soilless cultures are available worldwide for strawberry runners and asked if bigger reductions were possible for Australia and Canada. MEXICO recommended using existing methyl bromide stocks and fully eliminating methyl bromide use in the future. CUBA asked MBTOC if it had considered existing stocks when evaluating the nominations. Co-Chair Porter responded that parties handle stocks and MBTOC does not account for stocks in its recommendations.

AUSTRALIA requested flexibility to use its 2014 critical-use exemption for fumigation of packaged rice in 2013, noting this shift would allow Australia to complete its transition one year earlier and result in no additional methyl bromide use. CANADA said it will not request an exemption for flour mills in 2015. AUSTRALIA, the US and CANADA requested the MBTOC to approve its full nomination for strawberry production and stated their intention to prepare a conference room paper (CRP) on methyl bromide. The EU said parties should respect the MBTOC recommendations. Co-Chair Odat requested parties to meet bi-laterally with the MBTOC and to submit a CRP.

QUARANTINE AND PRE-SHIPMENT ISSUES: The EU presented a proposal on QPS. He stated that at COP9/ MOP23, a contact group was established, but a final decision has yet to be reached. JAPAN noted QPS for exporting and importing countries to minimize pests and diseases in trade, but supports discussions.

FEEDSTOCK USES: The EU presented a proposal on ODS in feedstock uses, noting anticipated increases and a need for monitoring. He noted a revised CRP, initially discussed at OEWG 32, will soon be available. INDIA, supported by CHINA, questioned if this issue is relevant, referencing TEAP findings from 2011 and 2012 and did not support requesting TEAP to conduct further studies. CHINA and the US supported discussion with the US noting intersessional work. Co-Chair Odat proposed establishing a small group.

INVESTIGATION OF CARBON TETRACHLORIDE DISCREPANCY

TEAP presented the latest information on the issue, noting the possible reasons for discrepancies in the top-down and bottom-up estimates of CTC, and that its amount in the atmosphere is decreasing. CANADA welcomed the information, and, supported by AUSTRALIA, suggested that CTOC participate in a group to discuss the issue, in view of its relevance to feedstocks. INDIA stressed that CTC had been phased out, the discrepancy is minimal, and expressed doubt about the need to mix the issue with feedstocks. The Co-Chair asked Canada, Sweden, Australia, India and TEAP to meet to discuss the item.

PROPOSAL ON THE REVIEW BY THE SCIENTIFIC ASSESSMENT PANEL OF RC-316C

The RUSSIAN FEDERATION informed delegates of an independent study carried out to evaluate RC-316c, which was found to have a high ODP and GWP, which makes it an unfeasible alternative for aerospace uses. He emphasized that there is no intention to produce or use this substance, and new alternatives are being sought, including imported ones.

The SAP confirmed that RC-316C has high ODP and GWP. The US suggested that the proponents of the relevant draft decision request SAP to assess RC-316C consult and then report back. INDIA said this substance is not controlled by the Protocol, and that requests are not made to SAP to assess the GWP. The Co-Chair proposed that the decision sponsors - US, Australia, Canada, Norway and Switzerland – meet informally with India and the SAP and report back.

ADDITIONAL INFORMATION ON ALTERNATIVES TO OZONE-DEPLETING SUBSTANCES

Co-Chair Alkemade introduced this agenda item. She asked the OEWG32 contact group co-Chairs to provide an update on progress. AUSTRALIA said there had not been significant intersessional consultations and recommended forming a contact group. Co-Chair Alkemade agreed to form a contact group.

PROCEDURAL ISSUES RELATED TO THE TEAP AND ITS SUBSIDIARY BODIES

Co-Chair Alkemade introduced this agenda item, noting that TEAP had prepared a matrix with existing and needed expertise among its members as well as proposed revisions to its TOCs. TEAP said it had revised the matrix and prepared a discussion paper. TEAP also stated its intent to continue to work on re-organization plans over the next year. On behalf of the OEWG32 contact group co-chairs, COLOMBIA said some progress had been made but recommended forming a contact group. Co-Chair Alkemade said a contact group on the procedural issues would be formed. The US offered to work with interested delegations to draft a decision on TEAP nominations, which CHINA welcomed. Co-Chair Alkemade asked interested parties to collaborate with the US and China.

PROPOSAL ON TRADE OF CONTROLLED SUBSTANCES WITH SHIPS SAILING UNDER A FOREIGN FLAG

Co-Chair Odat introduced the agenda item. The EU described a CRP that it had prepared, noting that it focuses on fact-finding and monitoring. The US said the CRP did not reflect all OEWG 32 discussions but welcomed discussions on the CRP. Co-Chair Odat formed a contact group on the issue.

EVALUATION OF THE FINANCIAL MECHANISM OF THE MONTREAL PROTOCOL

Co-Chair Odat introduced the issue. Mark Wagner, ICF International, described the evaluation findings, noting that the final report incorporates comments from OEWG 32 and written submissions. CANADA, AUSTRALIA, BRAZIL, the EU, CHINA and INDIA welcomed the report, with several delegates noting that it recognizes the MLF as an effective, efficient funding mechanism for implementing the Protocol. CANADA suggested preparing a decision on the report. AUSTRALIA recommended implementing a more regular schedule of evaluations. COLOMBIA said funding is not sufficient, compared to the past. Co-Chair Odat asked Canada to prepare a draft decision in collaboration with interested parties.

IN THE CORRIDORS

MOP24 discussions began with a quick start, judging by the impressive attendance at Sunday's 25th anniversary seminar, hosted by the Swiss government. Participants praised the seminar for easing delegates into the technicalities of the negotiations at hand. Several delegates noted that the seminar's agenda and its speakers list indicated MOP24's emerging focus, on links between ozone and climate issues. One observer welcomed the presence of Connie Hedegaard, European Commissioner for Climate Action as a sign of increasing realization that the Montreal Protocol can make substantial contributions to obtaining climate benefits.

Seminar participants feted the TEAP Co-Chair Stephen Andersen who received an award from the Russian government for his devotion to making the Protocol a success and for forging a pioneering US-Soviet space technology partnership in ozone mapping. Delegates also welcomed the commitment of Switzerland to making the Geneva meeting a success, recognizing its role in implementing the Protocol.

However, the good feelings were dampened at the Monday morning session, when several delegations threatened to strike several items from the MOP24 official agenda (especially the controversial issue of HFCs) that, in their opinion, are outside the purview of the Protocol, while others strongly supported their consideration. The charged exchange on the agenda was, in the view of a participant, a portent of things to come later in the week.



MOP-24 HIGHLIGHTS: TUESDAY, 13 NOVEMBER 2012

The preparatory segment of MOP-24 reconvened in Geneva, Switzerland, on Tuesday, 13 November 2012. In the morning, delegates discussed proposals on: clean production of HCFC-22; additional MLF funding to implement the Protocol to maximize the climate benefit of the accelerated phase-out of HCFCs; and funding of production facilities for HCFCs.

During the afternoon and evening, delegates took up amendments to the Montreal Protocol and the proposal on the implications of the outcome of the UN Conference on Sustainable Development (UNCSD or Rio+20) held earlier this year. Contact groups met on the budget, QPS, ODS on ships, alternatives to ODS, feedstocks and TEAP administrative.

PROPOSAL ON CLEAN PRODUCTION OF HCFC-22 THROUGH BY-PRODUCT EMISSION CONTROL

Co-Chair Alkemade opened discussion on this issue. The US introduced the proposal on the clean production of HCFC-22, and, with MEXICO, noted that HCFC-22 production is expected to continue for another two decades, possibly longer as a feedstock. The US, supported by MEXICO, recommended undertaking demonstration projects to better understand the effects of HCFC-22 production. ARGENTINA preferred accelerated elimination of HCFC-22.

Responding to queries from INDIA, the US said, *inter alia*: clean production is general terminology reflecting environmental responsibility; the proposal does not detract from accelerated phase-out; and the proposed study focuses on the costs, benefits, environmental implications and climate impacts of HCFC-22 production.

CHINA said the Protocol is not mandated to cover HFC-23. INDIA, opposing further discussion, said the Protocol is not the appropriate forum for controlling by-product emissions. JAPAN prioritized HCFC-22 phase-out but was prepared to discuss the issue.

NIGERIA supported a study on the environmental effects of HCFC-22 conducted by TEAP, in consultation with SAP, and preferred delaying decision on a demonstration project until after completion of the study. He stressed that parties have a moral duty to address HCFC-22 production because of the environmental impacts.

CANADA prioritized phasing out HCFC-22 production. He supported the proposal, suggested the ExCom take a decision and proposed considering a cost effective phase-out of HCFC-22 production, alongside issues under the agenda item on funding of HCFC production facilities. EIA, supporting the pilot study, said the Protocol has an obligation to ensure HCFC-22 production does not harm the global climate.

Co-Chair Alkemade proposed, and delegates agreed, to delay decision until after discussions on the agenda item on funding of HCFC production facilities.

PROPOSAL ON ADDITIONAL FUNDING OF THE IMPLEMENTATION OF THE MONTREAL PROTOCOL TO MAXIMIZE THE CLIMATE BENEFIT OF THE ACCELERATED PHASE-OUT OF HCFCs

Co-Chair Odat introduced the proposal, which was put forward by Switzerland. SWITZERLAND outlined intersessional discussions, stating that the proposal: does not create new obligations; and seeks additional voluntary funds to enhance climate benefits of accelerated HCFC phase-out. INDIA, COLOMBIA, KUWAIT, URUGUAY, CHINA, BRAZIL and MOROCCO voiced concern on the proposal's lack of clarity. INDIA noted that Decision XIX/6 states funding shall be stable and sufficient for ODS phase-out. URUGUAY encouraged focusing on ODS. The US, CANADA, NORWAY, the EU and INDONESIA supported the draft, noting its voluntary nature. BRAZIL recommended taking up the proposal within other MLF discussions. BURKINA FASO said more efforts are needed to improve funding. Co-Chair Odat established a contact group chaired by Philippe Chemouny (Canada) and Peter Enoh (Cameroon).

PROPOSAL ON FUNDING OF PRODUCTION FACILITIES FOR HCFCs

Co-Chair Odat introduced a draft decision put forward by India during OEWS-32, which aims to reiterate the intent of decision XIX/6. He said it urges the ExCom to finalize the guidelines for funding production facilities and requests the ExCom to take into account proactive regulatory actions to limit HCFC production beyond the required control schedule.

INDIA said the decision is in response to the deadline for Article 5 parties to comply with ODS control schedules, and that it seeks to counteract negative effects that compliance may have on the economy, as well as possible non-compliance.

AUSTRALIA opposed, noting it only reiterates decision XIX/6. The US questioned the intent of the decision, and queried how it relates to eligible incremental costs. JAPAN said the draft decision was expanding the MLF beyond its scope.

INDIA stressed that the decision addresses the fact that the phase-out guidelines have not been finalized. The Chair proposed forming a contact group. NIGERIA, the US, CHINA and others said they would only consider the proposal if discussions are held in conjunction with those on clean production of HCFC-22 through by-product emission control.

Co-Chair Odat formed two separate groups to discuss agenda items 10 and 12, with the US coordinating the agenda item 10 group.

PROPOSED AMENDMENTS TO THE MONTREAL PROTOCOL

Co-Chair Alkemade introduced this agenda item, asking the proponents to present their proposals. The FEDERATED STATES OF MICRONESIA (FSM) proposed a gradual phase-down in the consumption and production of HFCs. He said

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the Protocol has expertise in phasing down production and consumption of gases chemically similar to HFCs. He further emphasized that parties have a legal obligation to address adverse effects on the ozone layer, including on the climate system. FSM and the US reminded delegates that the Rio+20 outcome document supports a phase-down of HFCs. The US said the benefits of the North American proposal amount to nearly 100 gigatonnes of carbon dioxide equivalent in direct benefits. He stressed that decisions taken by the Montreal Protocol have implications for climate and urged action to avoid depleting the climate benefits achieved under the Protocol. Canada addressed frequently asked questions on the proposal, which are also contained in document UNEP/OzL.Pro.24/INF/7. The US and MEXICO said the Protocol is the appropriate institution to address this issue, with the US stressing the expertise of TEAP, SAP and the MLF. MEXICO emphasized the Protocol's recognition of common responsibilities, and called for urgent action.

Co-Chair Alkemade then opened the floor for questions. Noting that it still uses HFCs, MONGOLIA expressed concern about technologies. AUSTRALIA asked the proponents how they saw their proposals working together. KUWAIT queried the global warming contribution of HFCs compared to other global warming gases. IRAN expressed concern about alternatives for developing countries. The EU asked how the proponents calculated the costs and availability of alternatives. FSM hoped to have a contact group discussion on the proposals to agree on schedules, financing and other differences between the two proposals. They further noted that UN experts have estimated that addressing HFCs would prevent 0.1 degree Celsius of warming by 2050, with MEXICO adding that SIDS are already affected. The US said the amendment will not undermine the UNFCCC's efforts and described reports on availability of alternatives, noting that some alternatives will move down the "ladder" from high GWP to lower GWP.

INDIA questioned: the effect of the proposals on modifying the ozone layer; expertise within the Protocol and the UNFCCC and its subsidiary bodies; and the binding nature of the Rio+20 outcomes document. He stressed that HFCs are covered under the Kyoto Protocol "basket of gases." In response, the US said, *inter alia*, that the proposals do not have an effect on modifying the ozone layer but stressed the link between actions on the ozone side and effects on the climate side. He recognized expertise in many bodies but felt the Protocol has a greater expertise in phasing down production and consumption of such substances.

The RUSSIAN FEDERATION, NIGERIA, ISRAEL, BRAZIL, AUSTRALIA, BANGLADESH, JAPAN, MACEDONIA, and others called for establishing a contact group to discuss the proposed amendment. IRAN, IRAQ and TUNISIA expressed uncertainty in discussing this topic, citing, *inter alia*: patent ramifications; lack of ODS alternatives; legal and procedural issues; and wider political problems. ARGENTINA, INDIA, CUBA, URUGUAY, MALAYSIA, SAUDI ARABIA, CHINA and others opposed establishing a contact group, stating that HFCs are within the Kyoto Protocol's purview. CHINA said it remains open to discussion.

Following some debate, Co-Chair Alkemade established a discussion group.

PROPOSAL ON THE IMPLICATIONS OF THE UNCSD OUTCOME DOCUMENT FOR SIDS WITH REGARD TO THE IMPLEMENTATION OF THE MONTREAL PROTOCOL

Co-Chair Odat introduced this issue, noting that ST. LUCIA and TRINIDAD AND TOBAGO, the proposal's proponents, were not present. GRENADA said it had communicated with ST. LUCIA on the matter and that they preferred deferring the agenda item to the next OEWG. Following clarification questions on procedure and responses by the Secretariat, delegates agreed to defer the agenda item to OEWG-33.

COMPLIANCE AND DATA REPORTING ISSUES

PROPOSAL ON THE DIFFERENCES BETWEEN DATA REPORTED ON IMPORTS AND DATA REPORTED ON EXPORTS: Co-Chair Alkemade introduced the issue and asked the EU to provide an update on intersessional work. The EU described its work, noting it had circulated a revised text, and requested time to finalize the proposal. Co-Chair Alkemade asked India and the US to co-chair the contact group.

PRESENTATION ON AND CONSIDERATION OF THE WORK AND RECOMMENDED DECISIONS FORWARDED BY THE IMPLEMENTATION COMMITTEE UNDER THE NON-COMPLIANCE PROCEDURE FOR THE MONTREAL PROTOCOL:

Co-Chair Odat introduced the issue and gave the floor to SRI LANKA, on behalf of the ImpCom. SRI LANKA presented the progress on data reporting, noting, *inter alia*, that 192 out of 196 parties have reported their consumption and production data for 2011 and described efforts made by Parties to ratify all amendments to the Protocol. Delegates agreed to forward the report and associated decisions to the high-level segment.

OTHER MATTERS

On ratification of the Beijing amendment, ECUADOR described a CRP it prepared with BOLIVIA. CANADA introduced a CRP on methyl bromide exemptions put forward by the US, CANADA and AUSTRALIA. Both issues will be returned to during plenary.

CONTACT GROUP ON ALTERNATIVES TO ODS

The contact group met in the morning to address the draft decision on additional information on alternatives to ODS (UNEP/OzL.Pro.24/8; draft decision XXIV/[E]). INDIA suggested addressing the request to prepare a report to TEAP, without specifying that a temporary subsidiary body or task force will be established. BRAZIL proposed dropping reference to experts with additional expertise. The US and the EU proposed retaining mention of the latter, as well as of the task force option.

CONTACT GROUP ON FEEDSTOCKS

The EU clarified their CRP on feedstock use, stating its purpose is not to prohibit feedstock uses but rather examine different uses. He said the proposal's intention is to have a dataset to facilitate a sound TEAP assessment. INDIA, CANADA, the US and CHINA questioned the timing of the discussion. The EU clarified that there is an article in the Montreal Protocol that deals with feedstock uses, but a lack of knowledge remains. The US highlighted a case-study approach, as a different way of addressing feedstock uses. SAP and CTOC (Chemical Technical Options Committee) members were asked to share their findings regarding data discrepancies from top-down and bottom-up emissions.

IN THE CORRIDORS

"A golden opportunity to celebrate the silver anniversary of the Montreal Protocol!" – this was how a delegate referred to the possibility of a decision on phasing out HFCs. However, debate over the thorny issues ran an expected course. Proponents of the North American and Micronesian amendments delivered comprehensive presentations during the afternoon plenary. Clearly, they and their opponents had done their homework as the pros and cons of a possible phase-out were debated by both sides; economic, legal (links to Kyoto and UNFCCC) and even "moral" arguments were evoked, causing, in the words of one observer, "sparks to fly." To another delegate, it seemed to be a replay of old battles. One seasoned delegate, however, detected a slight shift in alliances, pointing to Russia's suggestion to establish a contact group to address HFCs, with several other delegations toning down objections to "discussing" the problem.

However, the very idea of "discussing" met a passionate retort from India, whose objections persisted throughout the evening, including over the status of the Rio+20 outcome document and the meaning of the terms "co-chair" and "convener" (of the contact group). This left many participants frustrated and concerned whether a meaningful exchange would be at all possible in the remaining days.



MOP-24 HIGHLIGHTS:

WEDNESDAY, 14 NOVEMBER 2012

The preparatory segment of MOP-24 reconvened for its final day on Wednesday, 14 November 2012, in Geneva, Switzerland. In the morning, delegates joined a number of contact and discussion groups on: alternatives to ODS; budget; additional funding for climate benefits; and amendment proposals.

Contact group discussions continued in the afternoon, with discussions on: feedstock uses; TEAP procedural and administrative issues; differences between imports and exports; QPS uses of methyl bromide; and ODS on ships.

Plenary resumed in the evening.

ALTERNATIVES TO ODS CONTACT GROUP

The contact group continued discussion of the initial operative paragraphs of draft decision XXIV/[E] (UNEP/OzL.Pro.24/8). SWITZERLAND proposed removing brackets around the characteristics of possible alternatives to be identified and described by TEAP, including being low GWP, commercially available, technically proven and environmentally friendly, to maintain focus. INDIA objected to mentioning GWP or climate. The group decided to use the term environmentally “sound” instead of “friendly”. Participants then discussed whether to keep the descriptive list. While SWITZERLAND, the EU and AUSTRALIA preferred retaining the list, INDIA insisted on a general reference to “taking into account environmental considerations”. BRAZIL recognized India’s concerns and highlighted its open position. The US indicated it would accept either option.

Delegates agreed to the Co-Chairs’ proposal to prepare a draft streamlined compromise decision. INDIA agreed on the understanding that both options will remain in the new text.

BUDGET COMMITTEE

The budget contact group continued its discussion of the CRP on administrative and financial matters. Participants discussed outstanding budget items, including line items for a webmaster, an administrative assistant and meeting support.

ADDITIONAL FUNDING FOR CLIMATE BENEFITS CONTACT GROUP

Donor countries emphasized that this decision could facilitate donors to mobilize additional funding. SWITZERLAND, with the US and the EU, noted that ozone and climate change fall under two different budgets. The US, and the EU highlighted a “funding window” approach for activities not traditionally funded by MLF. The EU queried transaction costs. Parties requested more information about proposal methodologies.

DISCUSSION GROUP ON AMENDMENT PROPOSALS

Delegates elected GRENADA and SWITZERLAND as co-conveners of the informal discussion group. GRENADA proposed organizing the discussion around topics such as alternatives to HFCs, science and institutional aspects and

finance. CHINA, supported by INDIA, but opposed by the EU, the US and CANADA, objected to discussion of specifics, particularly on technical issues, preferring a general exchange of views.

The US said it proposed a phase-down due to alternatives not being available in every sector, such as for MDIs. He suggested that schedules could be adjusted later if alternatives are identified. The EU agreed that an HFC phase-down approach allows additional alternatives to emerge over time. He added that bans and taxes can push consumers and producers in the right direction. CANADA highlighted commercialized alternatives available in the foam sector, noting there is still time for alternatives to emerge in other sectors.

The FSM explained that, because the Kyoto Protocol addresses “baskets of gases,” the UNFCCC may not address HFCs if addressing carbon dioxide or other gases that is cheaper. He stressed that the most mitigation would occur by using the Montreal Protocol as an additional approach. CANADA requested that parties who advocate addressing HFCs under the climate regime provide details on how they propose to do so.

NORWAY asked if parties had concerns about areas where there are no alternatives. SINGAPORE said its primary concern is the availability of alternatives. INDIA said there was uncertainty on emerging technologies. JAPAN said it is important to control GWP levels, noting that some HFCs have high GWP while others have low GWP.

The SAP commented on observed increases of HFCs in the atmosphere, which are ten to fifteen percent per year. In response to queries by the US and the EU, the SAP said, *inter alia*: observations are based on measurements at ground stations that are averaged to give global concentrations; and differences among different HFCs are calculated and reported.

CHINA and NEW ZEALAND stated that more information is needed, with CHINA stressing the UNFCCC as the suitable forum for discussion. NEW ZEALAND said current growth in HFC use indicates that action needs to be taken.

INDIA suggested that SAP projections are not valid as the penetration of HFCs has not occurred in the manner used by the SAP. SOUTH AFRICA noted that the technical debates taking place presuppose the existence of an agreement wherein Article 5 countries are willing to take on commitment without a defined phase-down pathway. He noted the debates also preempt how the Kyoto and Montreal Protocols and their respective financial mechanisms would interact with each other. Calling for further discussion, he outlined a number of policy issues, including that: a phase-down would result in developing countries taking on quantified targets for the first time, albeit at a sector level; and issues of CDR and capabilities, which have particular consequences in the climate regime.

FEEDSTOCK USES CONTACT GROUP

The US outlined a case-study approach where TEAP would select countries to assess their feedstock data gathering and assessment procedures. He said this approach would provide

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TEAP with different methodologies from which countries could learn. INDIA highlighted its approach involving scientific, government and industrial actors. The EU noted they often consult CTOC. CHINA asked if parties would be requested to conform to certain approaches. The US, with the EU, and opposed by INDIA, said this approach would be voluntary and serve as a learning mechanism.

QPS USES OF METHYL BROMIDE CONTACT GROUP

Parties discussed text on reporting of methyl bromide for QPS to TEAP (UNEP/OzL.Pro.24/8). TEAP noted Article 7 data is ready. NEW ZEALAND, with AUSTRALIA, the US and TEAP, said data provided on a voluntary nature is not sufficient to conduct a robust analysis or develop a clear conclusion on QPS and methyl bromide. SWITZERLAND, the US and others suggested providing more regular TEAP reports, including trend data. The US stressed there are necessary exemptions for methyl bromide. IPPC explained their 'system approach application' to tackle pests, where parties are encouraged to reduce or reuse methyl bromide.

PLENARY SESSION

Plenary reconvened in the evening.

ADMINISTRATIVE MATTERS: Consideration of membership of Montreal Protocol bodies for 2013: The Secretariat informed parties that nominations for new bureau positions were received from Eastern Europe and Western Europe and others. The Secretariat stated a nomination for a Co-Chair from a non-Article 5 party was received from Australia; they are waiting on a second Co-Chair nomination from the Latin America & Caribbean region. These must be approved for the high level segment. INDIA, ECUADOR, BENIN and others stated they will provide names before Thursday's high level segment.

EVALUATION OF THE FINANCIAL MECHANISM OF THE MONTREAL PROTOCOL: AUSTRALIA introduced its draft decision on the evaluation of the financial mechanism (UNEP/OzL.Pro.24/CRP.6), stating it: notes the report with appreciation; requests the ExCom to consider the report; and recommends evaluating the financial mechanism on a periodic basis. Noting that it has worked with some parties but not all, he welcomed additional time for consultations. COLOMBIA called for including clear terms of reference, and with BRAZIL, CHINA, and the EU supported further discussions on the document. Co-Chair Alkemade established a contact group.

PROCEDURAL ISSUES RELATED TO TEAP AND ITS SUBSIDIARY BODIES: JAPAN reported on the progress of the contact group on TEAP administrative issues and requested more time.

The US introduced the CRP on TEAP membership changes (UNEP/OzL.Pro.24/CRP.8). He thanked Stephen Andersen for his service and highlighted the nominations and re-appointments in the decision. Delegates agreed to forward the decision to the high-level segment.

CHINA introduced its CRP on endorsing a new co-chair of the Environmental Effects Assessment Panel (EEAP) (UNEP/OzL.Pro.24/CRP.5). Delegates agreed to forward the decision to the high-level segment.

PROPOSAL ON TRADE OF CONTROLLED SUBSTANCES WITH SHIPS SAILING UNDER A FOREIGN FLAG:

The BAHAMAS presented progress in the contact group, noting that additional time was needed to complete its work. Delegates agreed to allow the group to continue.

ISSUES RELATED TO EXEMPTIONS FROM ARTICLE 2 OF THE MONTREAL PROTOCOL:

Nominations for essential-use exemptions for 2013: CHINA reported on its discussions with CTOC on its TCM exemption. The RUSSIAN FEDERATION agreed with its allotted exemption. Parties will meet for further discussion.

Nominations for critical-use exemptions for 2014: The Co-Chair proposed to discuss CUE for methyl bromide, introduced by Canada, and invited comments (UNEP/OzL.Pro.24/CRP.4). The EU expressed "puzzlement" that several parties ignored scientific advice from MBTOC on CUEs, and responded with figures different from those recommended. CANADA reiterated its respect for MBTOC recommendations,

and said that it was the first time Canada had made this request in a critical situation, and it is ready to discuss with the EU. The US explained the complicated situation of house-smoked ham and strawberry producers and the absence of alternatives to methyl bromide. AUSTRALIA also explained the different soil and other conditions in different parts of the country.

The EU said it had a number of specific questions to ask on nominations, and Co-Chair Odat suggested that the delegates meet to reach consensus on the matter, to which they agreed.

QPS issues: NORWAY presented the contact group on QPS uses of methyl bromide, stating that meetings were constructive, but requested more time to which delegates agreed.

Feedstock uses: The EU presented the contact group on feedstocks, recognizing useful discussion, but needed more time, to which delegates agreed.

ADDITIONAL INFORMATION ON ALTERNATIVES TO ODS: GRENADA described the group's progress and requested additional time, to which delegates agreed.

PROPOSAL ON THE REVIEW BY THE SCIENTIFIC ASSESSMENT PANEL OF RC-316C: Delegates forwarded the decision to the high-level segment.

PROPOSAL ON ADDITIONAL MLF FUNDING FOR IMPLEMENTING THE PROTOCOL TO MAXIMIZE THE CLIMATE BENEFIT OF THE ACCELERATED PHASE-OUT OF HCFCs: CAMEROON presented the contact group on Additional Funding for Climate Benefits, noting that many parties participated, but requested more time.

OTHER MATTERS: Co-Chair Odat introduced the agenda item. He expressed gratitude to Paul Horwitz, the outgoing Deputy Executive Secretary of the Montreal Protocol, and Maria Nolan, outgoing chief officer of the MLF, and stressed the importance of maintaining the level of expertise in the Montreal Protocol to face the difficult period ahead. Tribute was also paid by the US.

Application of paragraph 8 of Article 4 of the Montreal Protocol with respect to the Beijing Amendment to the Montreal Protocol: KENYA introduced this item. ECUADOR said it had presented similar text under CRP7 (UNEP/OzL.Pro.24/CRP.10 and 7). CANADA, supported by the EU, suggested including Kenya and Chad in CRP 7. BAHRAIN, BOLIVIA and others said they are taking steps to ratify the Beijing Amendments. BAHRAIN, AUSTRALIA, BELARUS and KUWAIT noted that some parties have not signed the Beijing Amendment. BELARUS highlighted the impacts of free-trade agreements, noting the potential for non-signatory countries to compromise the status of their neighbors. The US, TUNISIA, AUSTRALIA and the EU requested additional time to consider merging CRP 7 and 10.

Status of the Bali Declaration: INDONESIA updated the meeting on the status of the Declaration, which calls for the most effective means under the Montreal Protocol of achieving the transition to low GWP alternatives to ODS. She noted that 105 countries support the Declaration and several have given oral support and encouraged others to join.

IN THE CORRIDORS

Much unfinished business was crammed into the remaining hours of the preparatory segment's final day. A dozen contact groups met continuously, straining the room capacity of the conference center. India complained of an inability to adequately discuss important issues for lack of rooms. Several parties reported in plenary that there had been no time for needed bi-lateral and multi-lateral discussions, forcing them to request additional time. At times, tempers ran high: the EU spoke ominously of countries that "ignored scientific advice" from MBTOC to cut on their CUE nominations. This comment provoked angry responses from Canada, the US and Australia, who, after explaining the critical situation of their farmers, sat down with the EU to sort out mutual grievances. The item that received the most favorable comment was the cooling equipment in the reception area, which uses alternatives such as propane and CO₂. The stall managers employed an ingenious method of attracting participants' interest by providing complimentary ice cream and beer, resulting in large numbers of informal consultations, though one skeptic suggested such methods are "rather premature."



MOP-24 HIGHLIGHTS:

THURSDAY, 15 NOVEMBER 2012

The high-level segment of MOP-24 opened on Thursday, 15 November 2012, in Geneva, Switzerland. In the morning, delegates met for the opening session of the high-level segment, while others joined contact and discussion groups on: alternatives to ODS; budget; QPS uses of methyl bromide; and evaluation of financial mechanisms.

Contact group discussions on alternatives to ODS, ODS policy information and funding climate benefits resumed in the afternoon. Both the preparatory segment plenary and the high-level segment plenary sessions reconvened in the afternoon.

In the evening, the Swiss Government hosted a reception. The contact group on TEAP procedures met following the reception.

HIGH-LEVEL SEGMENT PLENARY SESSION

ORGANIZATIONAL MATTERS: Doris Leuthard, Head of Department of Environment, Transport, Energy and Communications, Switzerland, cited reasons for celebrating the Montreal Protocol's 25th anniversary, including that 98% of ODS have been phased-out. Leuthard said Switzerland supports the proposed HFC amendments.

Marco Gonzalez, Executive Secretary, Ozone Secretariat, highlighted principles of the Montreal Protocol, *inter alia*: a firm scientific foundation; the precautionary principle; CDR; cooperation; and an effective data system to monitor compliance. Gonzalez hoped these same principles will contribute to overcoming current challenges.

Amina Mohamed, Deputy Executive Director (ED), UNEP, asked for a moment of silence for Angela Cropper, former UNEP Deputy ED and Special Advisor to the UNEP ED. Mohamed highlighted the spirit of cooperation between governments, civil society, academia, NGOs and the private sector in implementing the Protocol and stressed inter-generational responsibility. She underscored UNEP's commitment to the Vienna Convention and the Montreal Protocol.

Syanga Abilio, MOP-23 President, said Article 5 Parties are taking initial steps towards the accelerated phase-out of HCFCs and lauded South Sudan for becoming a party to the Protocol.

ORGANIZATIONAL MATTERS: MOP-24 elected by acclamation Mahmood Alam (Pakistan) as President, Dmytro Mornul (Ukraine), Leslie Smith (Grenada) and Alain Wilmart (Belgium) as Vice Presidents, and Wilbur Simuusa (Zambia) as Rapporteur. Delegates also adopted the agenda (UNEP/OzL Pro.24/1).

PRESENTATIONS BY THE ASSESSMENT PANELS ON THE STATUS OF THEIR WORK, INCLUDING THE LATEST DEVELOPMENTS:

SAP: Paul Newman (US) presented a report on behalf of the SAP, including the status of the 2014 assessment report. He said the amount of time CTC remains in the atmosphere has been revised upwards from 35 to 50 years, which has narrowed, but not closed, the discrepancy between top-down and bottom-up emission estimates. He said R-316C is a powerful ODS and GHG.

EEAP: Nigel Paul (UK) described the EEAP's work on examining the effects of ozone depletion and climate change on, *inter alia*, ultraviolet (UV) radiation in relation to human health, terrestrial and aquatic ecosystems, materials, and ODS and replacements. He highlighted a significant advance in understanding the relationship between UV radiation and key receptors, noting that UV can result in negative health effects but may have beneficial impacts on Vitamin D status.

TEAP: Lambert Kuipers (the Netherlands) presented the key conclusions of the TEAP. He said 80% of the methyl bromide use in Article 5 parties has been phased out from the aggregate baseline, in advance of the 2015 deadline. Daniel Verdonik reported on the Halons TOC. He described an International Civil Aviation Organization (ICAO) study on the use of halons in the aviation industry. He said there is little evidence that States, civil aviation and ozone offices work together and underscored that it is not yet possible to determine long-term halon needs.

PRESENTATION BY THE MLF: Xiao Xuezhong (China) highlighted progress on assistance to developing countries for HCFC management plans (HPMPs). He said the MLF focused on ensuring funding for HPMPs in as many countries as possible and noted that 126 Article 5 countries now have the infrastructure to implement HCFC phase-out activities. He said the MLF has approved 101 additional projects, amounting to US\$ 46 million. He outlined institutional efforts, including: UNDP's activities on the viability of different climate-friendly alternatives to blowing agents; UNEP's efforts on HCFC phase-outs, the UN Industrial Development Organization's activities on ODS destruction; and the World Bank's assistance to China in developing their HCFC phase-out for the production sector.

STATEMENTS BY HEADS OF DELEGATION: In a video message, Queen Jetsun Pema of BHUTAN described efforts to encourage popular support to reduce ODS. MADAGASCAR urged continued financial support for the MLF to facilitate ODS reduction. CHINA highlighted three elements for the Protocol's continued success: stable and sufficient funding; continued exempted uses of ODS; and strengthening cooperation for alternative technology.

The US stated that the Protocol has the institutions, experience and methodologies to address an HFC phase-out, stressing that this will support and assist the efforts of the UNFCCC. The EU called for further progress on: limiting CUE nominations for methyl bromide; and reducing methyl bromide use in QPS. ZAMBIA outlined efforts in phasing-out ODS, noting the assistance of the Ozone Action Programme and the MLF.

BOLIVIA noted the importance of establishing a licensing system in its phase-out of CFCs. JAPAN stated that HCFC phase-out needs to avoid high GWP alternatives. UKRAINE described UNDP and GEF support for HCFC phase-out and replacing CFC coolants. INDONESIA called for assistance in transitioning to new technologies. The HOLY SEE applauded the Protocol for involving all stakeholders in ODS phase-out. BURUNDI underscored its commitment and readiness to work with others to achieve international environmental goals.

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FIJI welcomed trials on possible alternatives to methyl bromide. CAMBODIA highlighted events, seminars and meetings held to facilitate the implementation of the Montreal Protocol. ZIMBABWE noted the need for finding common approaches to address environmental challenges. NIGERIA highlighted the development of indigenous technologies to address ODS.

BRAZIL recommended additional financial support and information on ODS alternatives. JORDAN highlighted its participation in Ozone Day and its implementation of a national strategy to eliminate ODS in addition to the MLF. VENEZUELA noted remaining challenges to reduce HCFCs. IRAN mentioned three concerns: the adoption of a sound mechanism for ODS disposal; the management of HCFC phase-out; and the illegal trade in ODS.

KENYA supported scaling down and eventually phasing out HFCs and cooperation between the Protocol and the UNFCCC. UGANDA stressed the need for affordable ozone-friendly and climate-friendly alternatives. The MALDIVES called for parties to find climate-friendly alternatives, stressing that actions under the Protocol should not degrade the global climate system. She said every forum is the right forum to address these issues.

PREPARATORY SEGMENT PLENARY SESSION

ISSUES RELATED TO EXEMPTIONS FROM ARTICLE 2 OF THE MONTREAL PROTOCOL: Nominations for essential-use exemptions for 2013: CHINA requested more time for consultation, which Co-Chair Odat approved.

Nominations for critical-use exemptions for 2014: CANADA reported that discussions took place between the EU, Australia, Canada and the US on CUEs of methyl bromide (UNEP/OzL.Pro.24/CRP.4). He requested more time for additional consultation, which was approved.

QPS issues: NORWAY presented the draft decision (UNEP/OzL.Pro.24/CRP.11), noting, *inter alia*, the next OEWG could ask TEAP to analyze Article 7 (Reporting of data). On methyl bromide, she invited Parties to provide voluntary information and establish procedures to monitor its use.

ADDITIONAL INFORMATION ON ALTERNATIVES TO ODS: GRENADA stated that the group has made substantial progress, despite difficult negotiations on the draft decision XXIV/[E] (UNEP/OzL.Pro.24/8). He asked for more time, which was approved.

PROPOSAL ON ADDITIONAL MLF FUNDING FOR IMPLEMENTING THE PROTOCOL TO MAXIMIZE THE CLIMATE BENEFIT OF THE ACCELERATED PHASE-OUT OF HCFCs: CANADA said the co-conveners prepared a text that was available for review. INDIA said an informal group cannot reach consensus. Following discussion, Co-Chair Odat suggested India provide feedback or participate in the group.

OTHER MATTERS: Information on ODS Transition Policy Measures: The US reported on discussions, noting that simplified text had been agreed on (UNEP/OzL.Pro.24/CRP.9). He requested time to finalize deliberations, which was approved.

ALTERNATIVES TO ODS CONTACT GROUP

The contact group continued negotiating draft decision XXIV/[E] (UNEP/OzL.Pro.24/8) throughout the day. The Co-Chairs presented a shortened compromise text, which parties accepted as a basis for further discussion. In text requesting TEAP to prepare a draft report for OEWG-33, INDIA suggested consulting with outside experts, "if necessary," to update information on alternatives and technologies in various sectors. The US proposed a task force be established. A discussion ensued on whether to refer to the RAC sector, add foams, or say "RAC in particular."

In text describing current and emerging alternatives to HCFCs and CFCs, taking into account their efficacy and other characteristics, INDIA, supported by ARGENTINA, bracketed CFCs. CHINA preferred using "ODS" throughout the text, to which delegates agreed. INDIA objected to mentioning alternatives "under development," and, supported by BRAZIL, suggested referencing commonly available, technically proven and environmentally sound alternatives. BRAZIL proposed alternatives' efficacy taking into account water use, waste disposal and flammability. Delegates accepted the paragraph.

After discussing whether to qualify alternatives as those identified, commercially available, close to market, emerging, or updated, the contact group agreed on "available." It also agreed to a short paragraph from CANADA requesting TEAP to provide information on the likely time frames of the market entry of emerging alternatives. INDIA objected to the paragraph, which refers to international standards for flammable substances and trends in national standard setting while BRAZIL expressed doubt about standards set in other fora. CHINA supported it with minor changes. The Co-Chair asked India, China and Brazil to try to resolve this text.

INDIA and ARGENTINA opposed text asking TEAP to estimate the proportion of alternatives that can be avoided or eliminated, with India proposing text on "could have been avoided in non-Article 5 countries." CANADA added reference to high GWP alternatives.

In text proposed by the EU encouraging parties to submit "available information," INDIA proposed deletion of the paragraph while BRAZIL called for more time to reflect. Two final paragraphs were deleted: on encouraging parties to review domestic policies of enterprise access to alternatives; and on continuing giving effect to decision XIX/6.

ADDITIONAL FUNDING FOR CLIMATE BENEFITS CONTACT GROUP

SWITZERLAND introduced the text, noting that it remains focused on minimizing environmental impacts, notably climate change. The EU and the US stressed the voluntary nature of the funding. COLOMBIA, supported by BRAZIL and CHINA, questioned if this funding could influence MLF replenishments. SWITZERLAND, the EU, and the US stated this will not happen. ITALY suggested voluntary contributions from other sources. COLOMBIA proposed text ensuring voluntary contributions do not weaken the MLF.

INFORMATION ON ODS TRANSITION POLICY MEASURES CONTACT GROUP

Delegates informally discussed the draft decision on information on ODS transition policy measures (UNEP/OzL.Pro.24/CRP.9). The US introduced the text, noting that the aim is to avoid the transition from ODS to high GWP technologies, and that proposed reporting is voluntary. The EU added that the decision seeks to gather information on existing voluntary measures, legislation and policies. Several delegates said compiling information and showcasing experiences would be useful. A few expressed concerns about climate linkages. Noting that parties report on policies to the UNFCCC, one delegate said this decision should ensure that there is no overlap in reporting. Participants agreed to delete reference to HFCs.

IN THE CORRIDORS

As the high-level plenary opened to harmonious traditional Swiss music on Thursday morning, the mood in several contact groups remained discordant. Rather than moving closer to final decisions, progress was excruciatingly slow. One participant pointed to several delegations that seemed to be erecting "blockades," preventing anything from moving forward. Another suggested that certain parties seemed to be "filibustering," even on benign preambular text. A widespread complaint was that parties were indulging in long-winded explanations of their positions rather than engaging in work on draft text by suggesting concrete language. This situation led one party, during the high-level segment, to urge the international community to devise a system preventing "one or two countries from stopping the world from taking appropriate steps." Many delegates expressed concern that some negotiators were oblivious of the high-level plenary and that the contact groups and bi-lateral informal consultations would likely continue into Friday, resulting in yet another late night session. According to a participant, some hope was placed on informal huddles on the margins of the Thursday night Swiss reception at the Intercontinental.

ENB SUMMARY AND ANALYSIS: The *Earth Negotiations Bulletin* summary and analysis of MOP-24 will be available on Monday, 19 November 2012 online at: <http://www.iisd.ca/ozone/mop24/>

SUMMARY OF THE TWENTY-FOURTH MEETING OF THE PARTIES TO THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE LAYER: 12-16 NOVEMBER 2012

The twenty-fourth Meeting of the Parties (MOP 24) to the Montreal Protocol on Substances that Deplete the Ozone Layer took place in Geneva, Switzerland, from 12-16 November 2012. The meeting was attended by over 550 participants representing governments, UN agencies, intergovernmental and non-governmental organizations, academia, industry and the agricultural sector.

MOP 24 opened with a preparatory segment from Monday to Wednesday, 12-14 November, which addressed the MOP's substantive agenda items and related draft decisions. This segment was followed by a high-level segment on Thursday and Friday, 15-16 November, which adopted the decisions forwarded by the preparatory segment. As the preparatory segment did not conclude its work by Wednesday, it reconvened several times during the high-level segment to address a number of outstanding issues.

MOP 24 adopted 14 substantive and 11 procedural decisions, including on: the review by the Scientific Assessment Panel (SAP) of RC-316c; procedural issues related to the Technology and Economic Assessment Panel (TEAP) and its subsidiary bodies; budget; and data and compliance issues. MOP 24 did not reach agreement on the draft decision on clean production of HCFC-22 through by-product emission control or on the draft decision to amend the Montreal Protocol to include hydrofluorocarbons (HFCs).

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 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 (ODS). The Convention now has 197 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

IN THIS ISSUE

A Brief History of the Ozone Regime	1
Summary of MOP 24	3
Preparatory Segment	3
High-Level Segment	3
MOP 24 Outcomes and Decisions:	5
A Brief Analysis of MOP 24	11
Upcoming Meetings	13
Glossary	14

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<http://enb.iisd.mobi/>

(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, which represents universal membership.

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, 192 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, 182 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 EX-MOP 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, 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. 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 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.

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 lacking feasible alternatives.

SUMMARY OF MOP 24

PREPARATORY SEGMENT

The preparatory segment of MOP 24 was opened by Ghazi Odat (Jordan), who co-chaired the meeting with Gudi Alkemade (the Netherlands).

Bruno Oberle, Secretary of State for the Environment, Switzerland, highlighted the Protocol's scientific foundation, governments' willingness to act quickly and the Multilateral Fund (MLF) as factors contributing to the Protocol's success. He expressed Swiss support for the HFC amendment proposal.

Marco González, Executive Secretary, Ozone Secretariat, highlighted the Protocol's success and noted outstanding challenges, including decisions on, *inter alia*, critical-use exemptions (CUEs) and quarantines and feedstock uses. González called on delegates to discuss the HFC amendment proposals in the spirit of the Protocol's original negotiations, which based decisions on science, recognized industry's ability to innovate and accepted the principle of common but differentiated responsibilities (CBDR).

Awards were presented to Stephen Andersen (US) and Lambert Kuijpers (Netherlands) for their work as the longest serving Co-Chairs of the TEAPs.

ORGANIZATIONAL MATTERS: Co-Chair Alkemade introduced the provisional agenda (UNEP/OzL.Pro.24/1). The US suggested additions to the agenda, including: TEAP membership; improved information on policy and control measures of ODS transition; and transition of the MLF chief officer. India, supported by China, Bahrain and Kuwait, objected to raising the following issues, stating their belief that they do not fall within the mandate of the Montreal Protocol: feedstock uses; clean production of HCFC-22 through by-product emission control; additional funding for the MLF to maximize the climate benefit of the accelerated phase-out of HCFCs; and new HFC amendments. The European Union (EU) noted feedstock use is controlled by the Montreal Protocol and this item, as well as proposals for amendments, should be retained on the agenda.

Haiti, Indonesia, Bolivia, Ecuador, Bahrain and Nicaragua said that they have not yet ratified the Beijing Amendment. Indonesia proposed discussing the status of the Bali Declaration, which was introduced at MOP 23.

Co-Chair Alkemade proposed that issues related to TEAP membership, raised by the US and China, be added as a sub-item to the existing agenda item on TEAP procedures. Regarding the proposed amendments to the Protocol, Alkemade acknowledged that while this topic was discussed at previous meetings, no agreement was reached and thus it remains on the agenda.

Alkemade proposed, and parties agreed, to include several items under "other matters," including: policies and controls influencing transition of ODS; transition of the chief MLF officer; ratification status of the Beijing Amendment; and the status of the Bali Declaration.

OTHER MATTERS: Co-Chair Odat expressed gratitude to Paul Horwitz, the outgoing Deputy Executive Secretary of the Montreal Protocol, and Maria Nolan, outgoing chief officer of the MLF. The US also paid tribute to the outgoing officers.

HIGH-LEVEL SEGMENT

Doris Leuthard, Head of the Department of Environment, Transport, Energy and Communications, Switzerland, opened the high-level segment of MOP 24 on Thursday. She lauded the Montreal Protocol's twenty-fifth anniversary, noting that 98% of ODS have been phased out. She said Switzerland supports the proposed HFC amendments.

Marco Gonzalez, Executive Secretary, Ozone Secretariat, highlighted principles of the Montreal Protocol, *inter alia*: a

firm scientific foundation; the precautionary principle; common but differentiated responsibilities (CDR); cooperation; and an effective data system to monitor compliance. He expressed hope that these principles will contribute to overcoming current challenges.

Amina Mohamed, Deputy Executive Director, UNEP, asked for a moment of silence for Angela Cropper, former UNEP Deputy Executive Director and Special Advisor to the UNEP Executive Director. Mohamed highlighted the spirit of cooperation between governments, civil society, academia, NGOs and the private sector in implementing the Protocol and stressed inter-generational responsibility. She underscored UNEP's commitment to the Vienna Convention and the Montreal Protocol.

Syanga Abilio, MOP 23 President, said Article 5 parties are taking initial steps toward the accelerated phase-out of HCFCs, and lauded South Sudan for becoming a party to the Protocol.

ORGANIZATIONAL MATTERS: MOP 24 elected by acclamation Mahmood Alam (Pakistan) as President, Dmytro Mormul (Ukraine), Leslie Smith (Grenada) and Alain Wilmart (Belgium) as Vice Presidents, and Wilbur Simuusa (Zambia) as Rapporteur. Delegates also adopted the agenda (UNEP/OzL.Pro.24/1) with parties agreeing to follow customary procedures.

PRESENTATIONS BY THE ASSESSMENT PANELS ON THE STATUS OF THEIR WORK, INCLUDING THE LATEST DEVELOPMENTS: **SAP:** Paul Newman (US) presented the report on behalf of the SAP, including the status of the 2014 assessment report. He said the amount of time CTC remains in the atmosphere has been revised upward from 35 to 50 years, which has narrowed, but not closed, the discrepancy between top-down and bottom-up emission estimates. He noted that R-316C is a powerful ODS and greenhouse gas.

EEAP: Nigel Paul (UK) described the Environmental Effects Assessment Panel's (EEAP) work on examining the effects of ozone depletion and climate change on, *inter alia*, ultraviolet (UV) radiation in relation to human health, terrestrial and aquatic ecosystems, materials, and ODS and replacements. He highlighted a significant advance in understanding the relationship between UV radiation and key receptors, noting that UV can result in negative health effects but may have beneficial impacts on Vitamin D status.

TEAP: Lambert Kuijpers (Netherlands) presented the key conclusions of the TEAP. He said 80% of the methyl bromide use by Article 5 parties has been phased out from the aggregate baseline, in advance of the 2015 deadline. Daniel Verdonik reported on the Halons Technical Options Committee (TOC). He described an International Civil Aviation Organization study on the use of halons in the aviation industry, noting there is little evidence that states, civil aviation and ozone offices work together, and that it is not yet possible to determine long-term halon needs.

PRESENTATION BY THE CHAIR OF THE MLF EXECUTIVE COMMITTEE ON THE WORK OF THE MLF AND ITS RELATED BODIES: Delegates considered the report (UNEP/OzL.Pro.24/9). Xiao Xuezhi (China) highlighted

efforts to ensure funding for HCFC phase-out management plans, noted that 101 additional projects have been approved, and outlined a number of institutional efforts from the UN Development Programme (UNDP), UNEP, UN Industrial Development Organization (UNIDO) and the World Bank.

Additional information can be found at: <http://www.iisd.ca/vol19/enb1991e.html>.

STATEMENTS BY HEADS OF DELEGATION: A number of heads of delegation made statements during the high-level segment, highlighting, *inter alia*, national efforts to implement the Protocol, possible obstacles to implementation, and recent successes.

Several parties commended the MLF for its critical support in helping Article 5 parties to meet their obligations under the Protocol, including Nepal, Kiribati, Madagascar, Timor Leste and Côte d'Ivoire. New Zealand urged continued support for Article 5 countries. Tanzania, with India, commended the Protocol for being a model of cooperation between developed and developing countries, based on CBDR.

Mozambique and others provided overviews of national actions to raise awareness on and implement the Protocol. Bangladesh noted its active role in different committees of the Montreal Protocol and the Secretariat's recognition of its efforts. The Democratic Republic of Congo highlighted efforts to improve ODS monitoring and technical capacity. Guinea and Malawi noted efforts to eliminate HCFCs. Panama highlighted mechanisms to reduce HCFCs, *inter alia*, implementing annual import quotas and import monitoring. The Philippines described its efforts to phase-out ODS but noted compliance concerns related to illegal ODS trade and non-documented use of ODS in shipping and other sectors.

Sudan, Timor Leste and Croatia described national efforts to eliminate ODS use. Serbia described its efforts to phase-out HFCs, including its work to minimize illegal trade by cross-checking data as part of its licensing procedure. Mongolia described its progress on phasing out ODS and HCFCs. Palau stressed its commitment to phasing out ODS and reducing the illegal importation of ODS equipment and substances. Nicaragua said it has phased out CFCs and will now focus on phasing out HFCs. The Dominican Republic urged a smooth transition to substances that have a low Global Warming Potential (GWP).

On the proposed amendments, Kenya and others expressed their full support and favored cooperation between the Protocol and the United Nations Framework Convention on Climate Change (UNFCCC). Nepal said any process that creates new obligations for parties should be judged against their capacities to meet obligations. Canada recognized the many achievements of the Protocol while stressing the need to address new challenges, including the negative influence of HFCs on climate. Uganda and the Maldives stressed the need for affordable ozone-friendly and climate-friendly alternatives. Iraq, noting its high summer temperatures, asked that this concern be taken into account with regards to appropriate substitution technologies.

On obstacles to be addressed in the future, Nigeria and Bangladesh highlighted developing indigenous technologies

to address ODS. Pakistan expressed concern about the illegal cross-boundary movement of ODS. Benin, for the African region, identified technology concerns, especially for parties with hot climates, legal problems and fragile economic environments as challenges in implementing and achieving Protocol obligations. He expressed Côte d'Ivoire's interest in hosting the next meeting of the Protocol.

The International Plant Protection Convention (IPPC) said it had signed a Memorandum of Understanding with the Protocol to formalize mutual cooperation. Greenpeace, the Natural Resources Defense Council and the Environmental Investigation Agency (EIA) urged addressing HFC emissions.

A summary of the statements can be found at: <http://www.iisd.ca/vol19/enb1991e.html>.

DATES AND VENUE FOR THE TWENTY FIFTH MEETING OF THE PARTIES TO THE MONTREAL PROTOCOL: In the closing plenary, González announced that MOP 25 will be held in Ukraine, commencing in the last week of October 2013.

CLOSURE OF THE MEETING: On Friday, delegates adopted the reports of the meeting (UNEP/OzL.Pro.24/L.1, L.1/Add.1/, L.1/Add.2. and L.1/Add.3) with minor amendments. Delegates also adopted the decisions forwarded from the preparatory segment (UNEP/OzL.Pro.24/L.2, L.2/Add.1. and L.2/Add.3).

President Alam, in closing, noted the need to reflect not only on the achievements of the Montreal Protocol but also on the challenges ahead. He said that as improved technologies are widely-available and scientific evidence exists in the face of an increasingly dramatic environmental crisis, the Protocol needs to act and embrace its responsibility to deal with HFCs. He urged parties to join discussions on the availability of alternatives to HCFCs and HFCs.

President Alam closed the meeting at 10:05 pm.

MOP 24 OUTCOMES AND DECISIONS:

ADMINISTRATIVE MATTERS: Consideration of membership of Montreal Protocol bodies for 2013: The Secretariat introduced the item, noting that the preparatory segment will recommend the membership to the high-level segment.

Financial reports of the trust funds and budgets for the Montreal Protocol: The Secretariat introduced this item (UNEP/OzL.Pro.24/7 and 7/Add.1). A budget group was established to further discuss the documents and prepare a draft decision for consideration by the parties.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1989e.html> and <http://www.iisd.ca/vol19/enb1991e.html>.

Final Outcome: In its decision (UNEP/OzL.Pro.24/CRP.13), the MOP approves:

- a budget of US\$4,927,420 for 2013;
- total contributions to be paid by the parties of US\$4,276,933 for 2012 and 2013; and
- an operating cash reserve at 15% of the annual budget for meeting the final expenditures under the Trust Fund.

It further requests the Secretariat to indicate, in future financial reports, the amounts under “total reserves and fund balances” of contributions that have not yet been received and authorizes the Executive Secretary to enter into discussions with any party whose contributions are outstanding for two or more years.

ISSUES RELATED TO EXEMPTIONS FROM ARTICLE 2 OF THE MONTREAL PROTOCOL: Nominations for essential-use exemptions for 2013: Delegates considered draft decisions XXIV/[A] and XXIV/[B] on essential-use exemptions for 2013 (UNEP/OzL.Pro.24/8).

Discussions focused on, *inter alia*, the use of CFCs for manufacturing traditional Chinese medicine (TCM) MDIs. The TEAP said the Medical Technical Options Committee (MTOC) noted that the improved efficacy for the treatment of asthma using TCM MDIs was not proven and thus not considered an essential use. China said that refusing the nomination would have negative implications for Chinese companies and communities and requested reconsideration.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1989e.html>, <http://www.iisd.ca/vol19/enb1991e.html> and <http://www.iisd.ca/vol19/enb1992e.html>.

Final Outcome: In its decision (UNEP/OzL.Pro.24/CRP.15), the MOP:

- authorizes the levels of production and consumption for 2013 needed for using CFCs for MDIs as set out in the annex to the decision;
- requests nominating parties to supply the MTOC with information to assess essential-use nominations;
- encourages parties with essential-use exemptions in 2013 to consider sourcing required CFCs, initially from stockpiles;
- further encourages parties with potentially available stockpiles to notify the Ozone Secretariat of quantities and a contact point by 31 December 2012 and requests the Secretariat to post details on its website;
- further requests parties to consider domestic regulations to ban the launch or sale of new CFC-based MDIs; and
- requests China to provide more information about the absence of alternatives in the region, the phase-out efforts undertaken for this use, and other relevant information necessary to the MTOC for full evaluation of the case.

Nominations for critical-use exemptions for 2014: Delegates considered a draft decision put forward by the US, Canada and Australia on critical-use exemptions for 2014.

Discussions focused on, *inter alia*, methyl bromide exemption nominations put forward by the US, Canada and Australia.

The Methyl Bromide Technical Options Committee (MTOC) Co-Chairs presented their recommendations on methyl bromide critical-use nominations (CUNs). Co-Chair Ian Porter noted decreasing CUN trends and outlined nominations from Australia, Canada and the US for strawberry production. Co-Chair Marta Pizano described revisions to the CUN handbook including, *inter alia*, removal of the code of conduct and clarification of economic indicators.

The EU, highlighting soilless cultures available for strawberry runners, asked if bigger reductions are not possible for Australia and Canada. Mexico recommended using existing methyl bromide stocks and fully eliminating methyl bromide use in the future.

Australia requested flexibility to use its 2014 CUE for fumigation of packaged rice in 2013, noting this would allow Australia to complete its transition one year earlier and result in no additional methyl bromide use. Canada said it will not request an exemption for flour mills in 2015. The EU said parties should respect the MBTOC recommendations.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1989e.html>, <http://www.iisd.ca/vol19/enb1991e.html> and <http://www.iisd.ca/vol19/enb1992e.html>.

Final Outcome: In the decision (UNEP/OzL.Pro.24/CRP.4/Rev.1), the MOP:

- allows the agreed critical-use categories for 2014 set out in the annex for each party, subject to the conditions set forth in the decision and in decision Ex.I/4;
- approves Australia's request to bring forward up to 1.187 tonnes of methyl bromide from its 2014 CUE to 2013 for fumigating packaged rice, with any quantity brought forward to 2013 deducted from its allocation in 2014;
- recognizes the continued contribution of the expertise of the MBTOC; and
- requests Canada, Australia and the US to take steps to explore the possibility of transitioning to technically and economically feasible alternatives and ensure the MBTOC is aware of these efforts.

Quarantine and pre-shipment issues: Delegates considered draft decision XXIV/[C] on the QPS uses of methyl bromide (UNEP/OzL.Pro.24/8).

Discussions focused on, *inter alia*: QPS uses in trade; TEAP reporting; and methyl bromide exemptions.

On reporting of methyl bromide for QPS, TEAP and others noted that data provided under Article 7 (data reporting) is voluntary and insufficient to analyze or provide a conclusion on QPS and methyl bromide. Switzerland and the US suggested providing more regular TEAP reports, including trend data.

The IPPC explained their "system approach application" to tackle pests, where parties are encouraged to reduce or reuse methyl bromide. Japan noted methyl bromide use in trade to minimize pests and disease.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1989e.html>, <http://www.iisd.ca/vol19/enb1991e.html> and <http://www.iisd.ca/vol19/enb1992e.html>.

Final Outcome: In its decision (UNEP/OzL.Pro.24/CRP.11), the MOP invites the 33rd meeting of the Open-ended Working Group (OEWG 33) to request the TEAP to analyze trends in data provided under Article 7 (reporting of data) on methyl bromide use for QPS. It invites parties to establish data collection procedures for methyl bromide use in QPS. It also requests the Secretariat to remind parties that they are invited to submit information by 31 March 2013, on a voluntary basis, and make the forms available on its website.

Feedstock uses: Delegates considered draft decision XXIV/[D] on feedstock uses (UNEP/OzL.Pro.24/8).

Discussions focused on whether the TEAP should conduct a study on ODS use in feedstocks. The EU presented the proposal, noting anticipated increases and a need for monitoring. India, supported by China, stated that feedstocks are not controlled under the Montreal Protocol. The US, with the EU, and opposed by India, said this approach would be voluntary and provide opportunities for learning. Delegates also addressed inviting experts with additional expertise; and qualifying the characteristics of new alternatives to ODS, in particular, emerging, under development, or commonly available and environmental.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1989e.html>, <http://www.iisd.ca/vol19/enb1990e.html>, <http://www.iisd.ca/vol19/enb1991e.html> and <http://www.iisd.ca/vol19/enb1992e.html>.

Final Outcome: In its decision (UNEP/OzL.Pro.24/CRP.3), the MOP decides to, *inter alia*:

- remind parties that reporting on ODS quantities used as feedstock is obligatory under Article 7;
- urge parties to take steps to minimize ODS emissions in feedstock uses;
- encourage parties to replace ODS in feedstock uses with alternatives to the extent possible;
- request parties to report, by 31 January 2014, whether feedstock uses are taking place in their territory and to provide information on the processes identified; and
- invite parties to provide information to the Secretariat on new alternatives replacing any feedstock uses reported, where such information is not considered confidential.

ADDITIONAL INFORMATION ON ALTERNATIVES

TO ODS: Delegates considered draft decision XXIV/[E] on additional information on alternatives to ODS (UNEP/OzL.Pro.24/8).

The Co-Chairs introduced a shortened compromise text of the decision, which was taken as a basis for further negotiations. Discussions focused on whether the TEAP should conduct a study on ODS use in feedstocks. The EU presented the proposal, noting anticipated increases and a need for monitoring. India, supported by China, stated that feedstocks are not controlled under the Montreal Protocol. The US, with the EU, and opposed by India, said this approach would be voluntary and provide opportunities for learning. Discussion centered on: how to specify the terms of reference for TEAP to prepare a report, namely whether to establish a task force, which was supported by the US and the EU, but opposed by India; inviting experts with additional expertise; and how to define the characteristics of new alternatives to ODS.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1990e.html>, <http://www.iisd.ca/vol19/enb1991e.html> and <http://www.iisd.ca/vol19/enb1992e.html>.

Final Outcome: In its decision (UNEP/OzL.Pro.24/CRP.17), the MOP requests TEAP, in consultation with outside experts with relevant expertise, if necessary, to update information on

alternatives and technologies in various sectors and to prepare a draft report for consideration by OEWG 33 and a final report to be submitted to MOP 25. The report, taking into account any relevant information provided by parties, would:

- describe all available alternatives to ODS that are commercially available, technically proven, and environmentally-sound, taking into account their efficacy, health, safety and environmental characteristics, cost-effectiveness, and their use including in high ambient temperatures and high urban density cities;
- update information provided by previous TEAP reports on alternatives under development;
- identify barriers and restrictions to the adoption and commercial use of certain environmentally-sound alternatives to ODS;
- estimate the approximate amount of alternatives with negative environmental impacts that could be or could have been avoided or eliminated by both non-Article 5 and Article 5 parties in the process of phasing-out ODS; and
- identify the opportunities for the selection of environmentally-sound alternatives to HCFCs in the future.

PROCEDURAL ISSUES RELATED TO TEAP AND ITS SUBSIDIARY BODIES: Delegates considered draft decision XXIV/[F] in section II of document UNEP/OzL.Pro.24/8.

Delegates discussed the procedural issues related to the TEAP and its subsidiary bodies in a closed contact group, which considered, *inter alia*: the code of conduct; procedures to address conflicts of interest; and disclosure guidelines, including on advisory bodies. The guidelines include procedures to deal with conflicts of interest.

Final Outcome: In its decisions (UNEP/OzL.Pro.24/CRP.5, CRP.8, CRP.12 and CRP.14), the MOP, *inter alia*:

- endorses the selection of Shao Min (China) as the new Co-Chair of the EEAP;
- endorses the selection of Co-Chairs of TEAP, and its associated TOCs;
- approves the membership of the MLF Executive Committee;
- endorses the Co-Chairs of the OEWG;
- requests the TEAP to make recommendations on the future configuration of its TOCs to OEWG 33, bearing in mind anticipated workloads;
- approves the terms of reference and the conflict of interest and disclosure policy for the TEAP, its TOCs and any Temporary Subsidiary Bodies (TSBs) set up by those bodies, as contained in the annex to the decision; and
- requests that the TEAP and its TOCs make available to the parties their standard operating procedures.

The annex to the decision outlines, *inter alia*: the scope of work; the size and balance of TEAP and its TOCs and TSBs; nominations and appointments of members to TEAP and its TOCs and TSBs; termination of appointment; replacement; TEAP functioning, including language, meetings, scheduling, operating procedures, rules of procedure and observers; report of TEAP, TOCs and TSBs, including procedures, access, review,

public comment and code of conduct; conflicts of interest; disclosure; recusal; and conflict resolution advisory body.

PROPOSAL ON TRADE OF CONTROLLED SUBSTANCES WITH SHIPS SAILING UNDER A FOREIGN FLAG: Delegates considered draft decision XXIV/[G] in section II of document UNEP/OzL.Pro.24/8.

Delegates discussed, *inter alia*: monitoring issues, particularly when flag ships do not enter the waters of the party they are registered under; data discrepancies between reported export and import data; issues of prior informed consent; and monitoring. They also considered what type of information is already available and accessible and whether requests would be within or beyond the mandate of TEAP. Delegates requested additional time to discuss this issue at the next meeting.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1989e.html> and <http://www.iisd.ca/vol19/enb1991e.html>.

Final Outcome: In its decision (UNEP/OzL.Pro.24/CRP.2/Rev.1), the MOP, *inter alia*:

- requests the TEAP to provide an updated version of the information provided in its previous progress reports on transport refrigeration in the maritime sector with its 2013 progress report; and
- invites parties to encourage relevant stakeholders to minimize the use of controlled substances in newly built ships and to consider environmentally benign and energy-efficient alternatives wherever they are available.

INVESTIGATION OF CTC DISCREPANCY: The SAP reported that discrepancies between “top-down” and “bottom-up” estimates of CTC have narrowed but not closed, as a result of new information. They also stated that the atmospheric concentration of CTC is decreasing. Canada and Australia suggested that TEAP and SAP participate in the feedstocks contact group. India expressed doubt about the necessity of such action.

EVALUATION OF THE FINANCIAL MECHANISM OF THE MONTREAL PROTOCOL: Delegates discussed the final report of the evaluation of the financial mechanism of the Montreal Protocol (UNEP/OzL.Pro.24/INF/4).

Mark Wagner, ICF International, described the evaluation findings, noting that the final report incorporates comments from OEWG 32 and written submissions. Many delegates welcomed the report, with several noting that it recognizes the MLF as an effective and efficient funding mechanism for implementing the Protocol. Delegates also discussed, *inter alia*, implementing a more regular schedule of evaluations and developing clear terms of reference for future evaluations.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1989e.html> and <http://www.iisd.ca/vol19/enb1991e.html>.

Final Outcome: In its decision (UNEP/OzL.Pro.24/CRP.6/Rev.1), the MOP, *inter alia*:

- notes that the MLF is an efficient and effective instrument for enabling compliance with the Protocol by Article 5 parties;

- recognizes that parties consider periodic evaluations of the MLF an important means of ensuring its continued efficiency and effectiveness;
- recognizes also the role of the MLF as a cornerstone of the Protocol and a key mechanism for the success of the ozone layer regime;
- notes with appreciation the report on the 2012 evaluation of the MLF; and
- requests the MLF Executive Committee, within its mandate, to consider the report on the 2012 evaluation of the MLF in the process of continuously improving the MLF management.

PROPOSAL ON CLEAN PRODUCTION OF HCFC-22 THROUGH BY-PRODUCT EMISSION CONTROL:

Delegates discussed the draft decision XXIV/[H] in section II of document UNEP/OzL.Pro.24/8.

Participants discussed, *inter alia*: the continuation of HCFC-22 production for another two decades, and possibly longer as a feedstock; and prioritizing the phase-out of HCFC-22.

The US, supported by Mexico and Canada, recommended conducting demonstration projects on the costs, benefits, environmental implications and climate impacts of HCFC-22 production. Nigeria supported a study on HCFC-22 conducted by TEAP in consultation with SAP, but preferred delaying a decision on a demonstration project until after completion of the study. EIA said the Protocol has an obligation to ensure HCFC-22 production does not harm the global climate. India said the Protocol is not the appropriate forum for controlling by-product emissions. China said the Protocol is not mandated to cover HFC-23. India and China opposed forwarding the draft decision to the high-level segment.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1990e.html>.

Final Outcome: This topic will be taken up by parties at OEWG 33.

PROPOSAL ON ADDITIONAL FUNDING FOR THE MLF TO MAXIMIZE THE CLIMATE BENEFIT OF THE ACCELERATED PHASE-OUT OF HCFCs: Delegates considered draft decision XXIV/[I] on additional funding for the MLF to maximize the climate benefit of the accelerated phase-out of HCFCs (UNEP/OzL.Pro.24/8).

Discussions addressed, *inter alia*: the voluntary nature of the funding; that it would be additional to the MLF financial assistance; and funding sources.

Colombia, Brazil, China and others asked if this would influence existing MLF replenishments. China, opposed by Japan, the EU and others, stressed that funding should come from non-Article 5 parties. Parties did not reach agreement.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1990e.html>, <http://www.iisd.ca/vol19/enb1991e.html> and <http://www.iisd.ca/vol19/enb1992e.html>

Final Outcome: This item will be taken up by parties at OEWG 33.

PROPOSAL ON FUNDING OF PRODUCTION FACILITIES FOR HYDROCHLOROFLUOROCARBONS: Delegates considered draft decision XXIV/[L] on funding of production facilities for HCFCs (UNEP/OzL.Pro.24/8).

Discussion focused on regulatory actions to limit HCFC production and 2013 deadlines for phase-outs. India proposed that the MLF expedite funding for HCFC phase-out in the production sector, noting ODS control schedules for Article 5 parties. Australia, the US and Japan questioned the decision. Parties differed concerning how many Annex 5 countries would be affected by this pending deadline. No consensus was reached on the draft document.

A summary of the discussion can be found at: <http://www.iisd.ca/download/pdf/enb1990e.pdf>.

Final Outcome: This issue will be forwarded to OEWG 33, for consideration by parties.

PROPOSAL ON THE REVIEW BY THE SCIENTIFIC ASSESSMENT PANEL OF RC-316C: Delegates considered draft decision XXIV/[J] in document UNEP/OzL.Pro.24/8, which called for the SAP to review the ozone depletion potential (ODP) and GWP of RC-316c, a newly identified ozone-depleting substance.

Delegates discussed the findings of two studies, one by the SAP and an independent study on which the Russian Federation reported, both of which verified the high ODP and GWP of RC-316c. The Russian Federation informed delegates these properties make RC-316c an unfeasible alternative for aerospace uses. He emphasized the Russian Federation is seeking new alternatives, including imported ones. India said this substance is not controlled by the Protocol, and that requests are not made to SAP to assess the GWP.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1989e.html> and <http://www.iisd.ca/vol19/enb1991e.html>.

Final Outcome: Following discussions and informal consultations, delegates welcomed the findings.

PROPOSAL ON THE IMPLICATIONS OF THE OUTCOME DOCUMENT OF THE UNCSD FOR SIDS WITH REGARD TO THE IMPLEMENTATION OF THE MONTREAL PROTOCOL: Delegates considered draft decision XXIV/[K] on the implications of the outcome document on the UN Conference of Sustainable Development (UNCSD or Rio+20) for small island developing states' (SIDS) implementation of the Montreal Protocol (UNEP/OzL.Pro.24/8).

Grenada, on behalf of St. Lucia and Trinidad and Tobago, introduced the document and proposed delaying discussion until OEWG 33. Following clarification questions on procedure and responses by the Secretariat, delegates agreed to defer the agenda item to OEWG 33.

Final Outcome: This issue will be forwarded to OEWG 33 for consideration by parties.

PROPOSED AMENDMENTS TO THE MONTREAL PROTOCOL: Delegates discussed proposals to amend the Montreal Protocol to control hydrofluorocarbons, among other

things, submitted by the Federated States of Micronesia (FSM) (UNEP/OzL.Pro.24/5) and Canada, Mexico and the US (UNEP/OzL.Pro.24/6).

The proponents of the amendments presented their proposals. The FSM proposed a gradual phase-down in the consumption and production of HFCs, noting that the Protocol has expertise in phasing down production and consumption of gases that are chemically similar to HFCs. The FSM emphasized that parties have a legal obligation to address adverse effects on the ozone layer and on the climate system, and further noted that UN experts have estimated that addressing HFCs would prevent 0.1 degree Celsius of warming by 2050. The US said the benefits of the North American proposal amount to nearly 100 gigatonnes of carbon dioxide equivalent in direct benefits. He stressed that decisions taken by the Protocol have implications for climate and urged action to avoid reducing the climate benefits achieved under the Protocol. Canada addressed frequently asked questions on the proposal (UNEP/OzL.Pro.24/INF/7). The US and Mexico said the Protocol is the appropriate institution to address this issue, and the US stressed the expertise of TEAP, SAP and the MLF. Mexico emphasized the Protocol's recognition of common responsibilities and called for urgent action.

Delegates discussed a number of questions about the proposed amendments, including, *inter alia*: availability of technologies; calculation of the costs and availability of alternatives; the effect of the proposals on modifying the ozone layer; and expertise within the Protocol and the UNFCCC and its subsidiary bodies.

The Russian Federation, Nigeria, Israel, Australia, Bangladesh, Japan, the Former Yugoslav Republic of Macedonia, the EU, Egypt, Morocco, Samoa, Norway, Switzerland, Maldives, Mozambique, Cameroon, Costa Rica, Colombia, Chile, Turkey and the Bahamas called for establishing a contact group to discuss the proposed amendment. Iran, Iraq and Tunisia expressed uncertainty in discussing the topic. Argentina, India, Cuba, Uruguay, Malaysia, Bahrain, China and others opposed establishing a contact group. India, China and Venezuela questioned whether the Montreal Protocol is the right legal framework to address HFCs. Bahrain noted ongoing use of HFCs in many processes, and Qatar stated that there are not yet clear alternatives. Following discussion on whether to form a contact group, Co-Chair Alkemade proposed establishing an informal discussion group, to which delegates agreed. Delegates then elected Grenada and Switzerland as co-conveners of this group.

The US said it proposed a phase-down due to alternatives not being available in every sector, such as for MDIs. He suggested that schedules could be adjusted later if alternatives are identified. The EU agreed that an HFC phase-down approach allows additional alternatives to emerge over time. He added that bans and taxes can push consumers and producers in the right direction. Canada highlighted commercialized alternatives available in the foam sector, noting there is still time for alternatives to emerge in other sectors.

Singapore said its primary concern is the availability of alternatives. India said there was uncertainty on emerging technologies. Japan said HFCs have varying levels of GWP and should not be grouped together, and expressed support for controlling GWP levels.

The FSM explained that because the Kyoto Protocol addresses "baskets of gases," the UNFCCC may not address HFCs if addressing carbon dioxide or other gases is cheaper. He stressed that the most mitigation would occur by using the Protocol as an additional approach. Canada requested that parties who advocate addressing HFCs under the climate regime provide details on how they propose to do so. South Africa outlined a number of policy issues, including: concerns that a phase-down would result in developing countries taking on quantified targets for the first time, albeit at a sector level; and issues of CBDR and capabilities and their interaction with the climate regime.

The SAP commented on observed increases of HFCs in the atmosphere, which are 10 to 15% per year. The SAP also said, *inter alia*, that observations are based on measurements at ground stations that are averaged to give global concentrations, and differences among different HFCs are calculated and reported.

New Zealand said current growth in HFC use indicates that action needs to be taken. India suggested that SAP projections are not valid as the penetration of HFCs has not occurred in the manner used by the SAP.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1990e> and <http://www.iisd.ca/vol19/enb1991e.html>.

COMPLIANCE AND DATA REPORTING ISSUES:
Proposal on the differences between data reported on imports and data reported on exports: Delegates discussed the draft decision XXIV/[M] in section II of document UNEP/OzL.Pro.24/8.

Delegates felt that the existing reporting system generally works well but noted there is room for improvement. Delegates also recognized multiple reasons for differences between data reported on imports and data reported on exports and discussed, *inter alia*, how to modify the current reporting system.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1990e.html>.

Final Outcome: In its decision (UNEP/OzL.Pro.24/CRP.18), the MOP, *inter alia*:

- notes differences in data on imports and exports of controlled substances submitted by parties under Article 7 (data reporting), and recognizes that while such shipments may have plausible explanations, such as shipments over the end of a calendar year or the submission of incomplete data, they may also result from illegal trade activities or from not complying with domestic legislation without criminal intent;
- notes also that in the Article 7 data reporting format, parties exporting controlled substances are requested to submit to the Ozone Secretariat information on countries of destination, while there is no request for parties importing controlled substances with regard to the country of origin;

- notes further that the absence of a request for importing countries to submit information on source countries makes the process of clarification of differences complex and burdensome for both importing and exporting countries;
- requests the Ozone Secretariat to revise, before 1 January 2013, the reporting format resulting from decision XVII/16 to include in the Data Forms an annex indicating the exporting party for the quantities reported as import, and noting that this annex is excluded from the reporting requirements under Article 7, and provision of the information in the annex would be done on a voluntary basis;
- requests the Ozone Secretariat to compile every January aggregated information on controlled substances by annex and group received from the importing/re-importing party and to provide this uniquely and solely to the exporting party concerned, when requested, in a manner that maintains confidentiality;
- invites parties to clarify any differences in import and export data as provided by the Ozone Secretariat; and
- invites parties to consider participating in the informal prior informed consent scheme as a means to improve information about their potential imports of controlled substances.

Presentation on and consideration of the work and recommended decisions forwarded by the Implementation Committee under the Non-Compliance Procedure for the Montreal Protocol: Delegates considered the draft decision on the status of ratification included as draft decision XXIV/[AA] in section III of document UNEP/OzL.Pro.24/8.

Sri Lanka, on behalf of the ImpCom, presented the progress on data reporting, noting, *inter alia*, that 192 out of 196 parties have reported their consumption and production data for 2011. He also described efforts made by parties to ratify all amendments to the Protocol.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1990e.html>.

Final Decision: In its decision (UNEP/OzL.Pro.24/CRP.1), the MOP decides, *inter alia*:

- to urge Israel, Mali, Niger, Sao Tome and Principe, South Africa and Tajikistan to work closely with the implementing agencies to report the required data to the Secretariat as a matter of urgency;
- to request the ImpCom to review the situation of those parties at its fiftieth meeting;
- that Algeria, Ecuador, Equatorial Guinea, Eritrea, Haiti, Niger, the former Yugoslav Republic of Macedonia and Turkey have presented sufficient information to justify their requests for the revision of their consumption data for HCFCs for 2009, 2010 or both and approves the requests to revise their baseline;
- to request parties, when reporting production, imports, exports or destruction, to enter a number in each cell in the data reporting forms that they submit;
- to urge Bhutan, Democratic People's Republic of Korea, Marshall Islands, Qatar, South Africa and Yemen to submit information on process agent uses as a matter of urgency; and

- to record with appreciation the submission by Ukraine of a plan of action to ensure its prompt return to compliance with the Protocol's HCFC control measures.

OTHER MATTERS: Application of paragraph 8 of Article 4 of the Montreal Protocol with respect to the Beijing Amendment to the Montreal Protocol: Delegates considered the application of Article 4 (Control of Trade with non-parties) to parties that are in the process of ratifying the Beijing Amendment and are in full compliance with the Protocol's control measures. During discussion, participants noted the similarity between two draft decisions (UNEP/OzL.Pro.24/CRP.7) and (UNEP/OzL.Pro.24/CRP.10).

Canada, supported by the EU, proposed merging the documents by including Kenya and Chad in CRP.7. Participants discussed, *inter alia*: actions to ratify the Beijing Amendment; how to create a process that would allow countries that have not ratified it to submit something to avoid trade sanctions; and reviewing exceptions on an annual basis. Belarus expressed concern about allowing exceptions on an annual basis. Several delegations noted that time is needed to ratify amendments due to ratification procedures. Ecuador, Bolivia, Nicaragua, Kenya, Bahrain and others supported combining the two CRP documents, and delegates agreed to forward the document to the high-level segment.

A summary of the discussions can be found at: <http://www.iisd.ca/vol19/enb1990e.html> and <http://www.iisd.ca/vol19/enb1991e.html>.

Final Decision: In its decision (UNEP/OzL.Pro.24/CRP.7/Rev.1), the MOP, *inter alia*:

- acknowledges that Bahrain, Bolivia, Chad, Ecuador, Haiti, Kenya and Nicaragua have notified the Secretariat that their ratification of the Beijing Amendment is under way and that they will complete the procedures as expeditiously as possible;
- notes that Bahrain, Bolivia, Chad, Ecuador, Haiti, Kenya and Nicaragua are in full compliance with Articles 2A to 2I (Control Measures) and Article 4 (Control of Trade with non-Parties) of the Protocol, including its Beijing Amendment, on the basis of the data submitted under Article 7 (data reporting) of the Protocol;
- notes also that the exceptions provided for in paragraph 8 of Article 4 of the Protocol shall apply to Bahrain, Bolivia, Chad, Ecuador, Haiti, Kenya and Nicaragua from 1 January 2013 and will expire at the end of MOP 25; and
- notes further that any state that has not agreed to be bound by the Beijing Amendment and that seeks an exception beyond MOP 25 may do so by submitting a request to the Ozone Secretariat prior to the beginning of the ImpCom meeting that immediately precedes the MOP, that the Committee will review relevant data submitted in accordance with Article 7 and develop a recommendation for consideration by the parties and that such requests for exception will be considered on an annual basis.

Status of the Bali Declaration: Indonesia updated the meeting on the status of the Bali Declaration, which calls for the most effective means under the Protocol of achieving the transition to low GWP alternatives to ODS. She noted that 105 countries support the Declaration and several have given oral support. She encouraged others to join.

A summary of the discussions can be found at <http://www.iisd.ca/vol19/enb1991e.html>.

Information on ODS Transition Policy Measures:

Delegates considered draft decision (UNEP/OzL.Pro.24/CRP.9/Rev.1). The US said the informal group had agreed to delete “reporting systems” from the draft decision. Co-Chair Alkemada proposed to forward the document to the high-level segment, which India opposed. Canada, the EU, Australia, New Zealand, Norway and the US expressed concern and disappointment with India’s opposition, given that India did not participate in the discussions. They further stressed the voluntary nature of the information gathering exercise and emphasized ways in which the proposed activities would be useful. India responded that it is not required to participate in an informal group and said it did not understand the sense of collecting the information. The US said it was difficult to rationalize how working procedures can result in successful conclusions when countries that do not participate in discussion can block decisions, a sentiment supported in statements by several others. Brazil appreciated the positive spirit of discussion but noted the decision involves aspects of technical and political sensitivity, including possible overlap with reporting obligations in other fora. Brazil and China proposed considering the decision at the next meeting. Co-Chair Alkemada proposed intersessional discussions.

A summary of the discussions can be found at <http://www.iisd.ca/vol19/enb1992e.html>.

A BRIEF ANALYSIS OF MOP 24

On the Montreal Protocol’s twenty-fifth anniversary, participants had a chance to look back on the Protocol’s achievements; they also realized the serious difficulties it faces today. MOP 24 proved to be a watershed, both in terms of the Protocol’s future agenda of phasing down specific chemicals, and the generational change the ozone expert community is undergoing.

The Protocol is a uniquely successful international environmental agreement. Its membership of 197 countries is universal, which means that every nation in the world has agreed to implement its objectives. The Protocol’s record is no less impressive, as its original and regularly updated objectives illustrate. The Protocol set precise, time-bound targets and achieved practical results by eliminating entire classes of chemicals and vastly reducing emissions of ozone depleting substances (ODS). An impressive 98% of controlled substances have been destroyed or taken off the market. According to health experts, the Protocol has helped to avoid tens of millions of non-fatal skin cancers and cataracts, and will prevent millions of cancer deaths in this century, thus saving trillions of dollars for health-care services. Furthermore, the Protocol has achieved

these results by operating mostly on trust among parties, without an intrusive verification system to ensure parties’ compliance with their obligations. Finally, the Protocol’s Multilateral Fund (MLF) has provided necessary financial assistance in such an efficient and effective manner that some suggest it should serve as a financial model for future environmental conventions, including the mercury convention, which is currently being negotiated.

Despite these impressive achievements, the twenty-fourth Meeting of the Parties (MOP 24) shed light on some serious problems that will have to be addressed if the Protocol is to continue to represent a model agreement and contribute to environmental improvement. This brief analysis will focus on several controversial issues that came to the fore in the debates, and that pose new challenges for the Protocol and may serve as markers of its future successes. One of the most significant and controversial questions is whether the Protocol should take up a whole class of currently used chemicals—HFCs (hydrofluorocarbons)—a move that may lead the Montreal Protocol into uncharted territory.

AT A CROSSROADS

As in the previous three MOPs, the problem of controlling HFCs took center stage at MOP 24. Touted as an inexpensive and safe alternative to hydrochlorofluorocarbons (HCFCs) for use in refrigeration, foams, fire extinguishers and solvents, HFCs have turned out to pack a disturbingly high global warming potential (GWP), many times more than carbon dioxide. In fact, if no controls are introduced, HFC emissions into the atmosphere may negate the reductions of greenhouse gases pledged or anticipated under the UNFCCC. Thus, strictly speaking, HFCs are not ozone-depleting, but they have a direct bearing on the climate regime.

Many delegates point out that because the Montreal Protocol introduced HFCs as a substitute, parties have a responsibility to address the harmful climatic effects of these chemicals. One party cited Protocol text as justification, saying the Protocol obliges parties to “take appropriate measures to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer.” Others argue that tackling HFCs goes too far beyond the Protocol’s mandate.

The problem of HFCs emerged as the single most important and controversial issue of the meeting, to the extent that it overshadowed other debates at times. HFCs are now at the center of a tangled web of economic, political and technical issues. The US, Canada, Mexico and the Federated States of Micronesia (FSM) once again tabled their Protocol amendments to make HFCs a controlled substance. Supported by a sizable number of parties—one participant put the total of supporters at 106 parties and counting—proponents of the amendment emphasized the climate benefits of phasing down HFCs. They emphasized that since this group of chemicals originated from the Protocol’s agenda, phasing them down would be in line with the Protocol’s objectives and would not affect the UNFCCC and Kyoto Protocol mandates, nor preempt any measures the latter

might take. The proponents note that the Montreal Protocol has already phased out more ozone depleting greenhouse gases than the Kyoto Protocol. The FSM and the US also cited the Rio+20 Outcome Document, which recommended “a gradual phase-down in the consumption and production of HFCs.” Other parties made a number of additional arguments in support of the amendments, highlighting economic, environmental and moral concerns. Niger and the Maldives, for instance, stressed that parties have a moral imperative to take action, with the Maldives pointing out that if parties are committed to environmental protection and global safety, it is not moral not to address the challenge within the Protocol.

However, the case for phasing out HFCs, judged by the tenor of the debate and informal exchanges in the corridors, is not so straightforward. The opponents of the proposal, including the members of the BRICS group (Brazil, Russia, India, China and South Africa), produced counterarguments that drew on economic, financial, legal, social, and technological issues. Their main proposition was that HFCs are not ODS and thus do not fall under the Montreal Protocol’s mandate, and instead relate to the UNFCCC and Kyoto Protocol. One delegate wryly wondered why a country that is not among the ardent supporters of the Kyoto Protocol is now arguing for ambitious climate measures “through the backdoor of the Montreal Protocol.”

Some delegates quietly suggested in informal discussions that they harbored suspicions that the HFC proponents might be motivated by industry interests. For instance, 3M, Honeywell, DuPont and other multinational companies are at the cutting edge of new technology and chemical substances, and are in a position to reap profits from the expected transition, at least after an initial phase of heavy investment. In fact, these companies are already turning to new alternatives and technologies in advance of regulation they expect (and possibly hope for). A BRICS delegate recalled that some countries are still reeling from the shock of the destruction of whole industries based on CFCs, and said some parties’ hesitation regarding HFCs stems from concern that dealing with HFCs might siphon funds from the work to phase out HCFCs.

India was particularly vociferous in its opposition to the HFC amendments, and delegates highlighted several concerns. India repeatedly questioned the legality of addressing HFCs under the Montreal Protocol, emphasizing while HFCs have a high GWP, they are not an ODS. They referred to the huge investments made in their national industry, employing substances that would otherwise be earmarked for oblivion by the “chemically advanced” parties. India also pointed to what they viewed as inconsistencies, such as the continued use of HFCs in the US and the EU when no alternatives are available. Safety concerns were emphasized: alternatives like propane are flammable and toxic, and can pose major problems in high ambient temperature developing countries (noted for slack government regulation and lax safety standards). India, supported by fellow BRICS members, succeeded in blocking action on the HFC amendments as well as HFC-associated items, such as a proposal on clean production of HCFC-22, and one to compile voluntarily-

reported information on ODS transition policy measures, which led several parties to express deep disappointment in the final plenary sessions.

These outcomes might have been predicted, given that the amendment proposals have been tabled at several previous MOPs. Still, many suggested that this outcome is not the final decision on the HFC amendments. As weary delegates added up the results of the debate over HFCs, a shrewd observer of the proceedings expressed hope, saying “We are five yards closer to the walls of the fort...” Admittedly, some worried inhabitants peer over the walls and see a Trojan horse poised to outwit the fort defenders. It is still an open question whether chipping off the fort walls will take another year or two, or five, but the drive towards an HFC phase-out might gather speed, particularly if strong incentives are available. One participant suggested that if India’s fears of their companies losing a sizable chunk of the home market if HFCs are put under control could be dispelled, then it will move quickly. In this connection, Switzerland’s initiative to maximize climate benefits in the MLF will be an important factor, as will be the possibility of voluntary contributions.

Furthermore, the agreement to discuss the amendment during plenary and in an informal group represented progress, considering that India and others successfully blocked any discussion at MOP 23. But this time they conceded to informally “discussing” ODS alternatives, albeit under the title “Co-Conveners,” rather than Co-Chairs, which they regarded as a notch lower in formality. While Russia did not support the proposed amendments, its suggestion that a special group be established to address the issue was seen as an important development. China and Brazil, while ready to voice their solidarity with India in principle, also showed a willingness to engage in further discussions. Some detected signs that China, with its export-oriented economy, might be in the process of taking a long-term strategic look at HFCs.

A BIFURCATED HIGHWAY

The meeting was an occasion for lauding several distinguished scientists, whose role in the Protocol’s history was seminal. Stephen Andersen received a special award from the Russian government, and the outgoing chief officers of the ozone secretariat and the MLF were feted. But as congratulatory speeches were delivered, some veteran participants felt nostalgia. The Montreal Protocol is in transition and a change of guard is taking place, with some negotiators stating that they may not be around for the final ODS phase-out. As one delegate observed, the anniversary meeting in Geneva marked the passing of the torch to a younger generation. Against this background, there was poignancy in calls for maintaining the networks and the bonds built over the years among scientists and national institutions and focal points. Several participants recalled the comradeship and cooperation from previous years: the hard bargaining and the late night sessions in which delegates were driven by a commitment to compromise in order to reach agreement. Some thought this commitment to compromise was

evaporating, and expressed concern about too much politicization and intolerance in recent MOPs. However, optimists argued that the overhaul of membership on TEAP and its associated organs will inject the “new blood” that will be necessary to pull the Protocol through the difficult times ahead. At the end of the day, the new areas of substantial work, especially on HFCs, are the ones that will give the Protocol a new lease on life, posing critical decisions for delegates in the meetings ahead.

Several participants emphasized that the debate about HFCs should not obscure the Protocol’s original focus. Both the Scientific Assessment Panel and one NGO noted that the ozone layer recovery is yet to be detected: indeed, it might not be restored to 1980 levels before 2050. Funding for background observation stations, which do critical ozone monitoring, is running dangerously low, and some national ozone units have ceased functioning after World Bank grants petered out.

However, the biggest challenge lies in strategic decisions. The HFC dilemma has again demonstrated the interconnectedness of the global ecosystem; it has also shown the real-life synergies between multilateral environmental agreements, where problems spill over and beg to be resolved in a practical way, overcoming man-made legalistic restrictions.

This challenge was evident when the normally simple procedure of adopting the agenda resulted in debate among parties regarding the re-tabling of proposed amendments to the Protocol, as well as the addition of TEAP membership and improved information on policy and control of ODS transition. Much emphasis was placed on process and procedure by parties opposing the adoption of amendments to the Protocol. For instance, some parties argued that since previous discussions on the proposed amendments had not concluded with agreement, they should not be reopened. However, the current procedures allow for agenda items to be forwarded to the OEWG or the next MOP for further discussion. This allows intersessional work to reach agreement on contentious issues, such as those described above. At the same time, such a strategy raises the question about the point at which parties may decide to “call time” on an issue that is proving difficult to resolve.

Several participants described the Montreal Protocol as arriving at a crossroads, a sentiment that has been expressed with increasing frequency in recent years. One participant invoked the words of Robert Frost, noting that perhaps the Protocol will take “the road less traveled.” the amendments may not be achieved at MOP 25, but the long road of discussions and sometimes acerbic debates may enable delegates to discover a way to reach consensus. In a sense the Protocol is approaching a bifurcated highway, partly obscured by fog, and hard decisions will need to be taken. The HFC phase-down represents a historical opportunity for the Protocol to revitalize and renew its life span. The Protocol is a powerful driver for beneficial environmental change and it can once again show itself as a model agreement by imposing a concrete phase-out schedule, without preempting what the UNFCCC and the Kyoto Protocol can accomplish. In

fact, several parties emphasized the Protocol is already doing more than the climate regime to address climate change, torn as the mechanisms are by political strife.

It was indicative that in the closing minutes of the meeting MOP 24 President Mehmood Alam of Pakistan issued a call for strong and immediate action on climate change, saying “it is time to act on HFCs.” MOP 24 focused the parties’ attention on issues crucial for the Protocol; the vigorous debate in Geneva has bared the political fissures and alliances, and, consequently, the framework for upcoming negotiations. While delegates may not yet be ready to commit to addressing HFCs at MOP 25, in the view of majority of the participants, this issue provides the opportunity to define the future of the Montreal Protocol.

UPCOMING MEETINGS

UNFCCC COP 18: The 18th session of the Conference of the Parties (COP 18) to the UNFCCC and the eighth session of the Conference of the Parties serving as the Meeting of Parties to the Kyoto Protocol (CMP 8), among other associated meetings, are scheduled to take place in Doha, Qatar. **dates:** 26 November - 7 December 2012 **location:** Doha, Qatar **contact:** UNFCCC Secretariat **phone:** +49-228-815-1000 **fax:** +49-228-815-1999 **email:** secretariat@unfccc.int **www:** http://unfccc.int/meetings/doha_nov_2012/meeting/6815.php

World Climate Summit 2012: The third annual World Climate Summit, which is organized alongside UNFCCC COP 18, will bring together government leaders and representatives from the business and finance community to discuss issues related to a low-carbon economy and industrial, financial, political and innovation drivers to accelerate progress in mitigating and adapting to climate change. The meeting will focus specifically on Qatar and the Middle East. Topics of discussion include: public-private partnerships; renewable energy; agriculture and water; emission reductions; transportation; carbon pricing; and energy efficiency. **dates:** 1-2 December 2012 **location:** Doha, Qatar **contact:** Michael Mathres **phone:** +44-7427-307730 **email:** michael@wclimate.com **www:** <http://www.worldclimatesummit.org/>

68th Meeting of the Executive Committee of the Multilateral Fund for the Montreal Protocol: The Executive Committee will meet to approve projects and review implementation of existing projects. **dates:** 3-7 December 2012 **location:** Montreal, Canada **contact:** Multilateral Fund Secretariat **phone:** +1-514-282-1122 **fax:** +1-514-282-0068 **email:** secretariat@unmfs.org **www:** <http://www.multilateralfund.org/>

Joint Meeting of the Bureaux of the Conferences of the Parties (COPs) to the Basel, Rotterdam and Stockholm Conventions: The Joint Meeting will review arrangements for the extraordinary meeting of the COPs to the three conventions, the proposal for the organization of their secretariats, joint activities for the 2014-2015 biennium, the budget and possible necessary amendments to the budgets of the three conventions for the 2014-2015 biennium, and information received from the UNEP’s Executive Director on the outcome of the consultative

process on financing options for chemicals and wastes. **dates:** 13-14 December 2012 **location:** Geneva, Switzerland **contact:** Secretariat of the Basel, Rotterdam and Stockholm Conventions **phone:** +41-22-917-8729 **fax:** +41-22-917-8098 **email:** synergies@unep.org **www:** <http://synergies.pops.int/>

Fifth Session of the INC to Prepare a Legally Binding Instrument on Mercury: This meeting is the last of five Intergovernmental Negotiating Committee (INC) meetings to negotiate a legally binding instrument on mercury. **dates:** 13-18 January 2013 **location:** Geneva, Switzerland **phone:** +41-22-917-8192 **fax:** +41-22-797-3460 **email:** mercury.chemicals@unep.org **www:** <http://www.unep.org/hazardoussubstances/MercuryNot/MercuryNegotiations/tabid/3320/language/en-US/Default.aspx>

Expert Meeting on POPS in Articles in Use and “POPS-Free” Initiative: Experts will provide input for a publication on POPs in articles in use and the Stockholm Convention’s POPs-free initiative. **dates:** 4-6 February 2013 **location:** Geneva, Switzerland **contact:** Stockholm Convention Secretariat **phone:** +41-22-917-8729 **fax:** +41-22-917-8098 **email:** ssc@pops.int **www:** <http://www.pops.int>

Coordinated Ordinary and Extraordinary Meetings of the COPs to the Basel, Rotterdam and Stockholm Conventions: The ordinary and extraordinary meetings of the Conferences of the Parties (COPs) to the Basel, Rotterdam and Stockholm Conventions will convene in Geneva, Switzerland. **dates:** 28 April - 10 May 2013 **location:** Geneva, Switzerland **phone:** +41-22-917-8729 **fax:** +41-22-917-8098 **email:** synergies@unep.org **www:** <http://synergies.pops.int/Implementation/ExCOPs/ExCOPs2013/tabid/2747/language/en-US/Default.aspx>

Eleventh International Conference on Mercury as a Global Pollutant: Convened under the theme “Science informing global policy,” the conference will celebrate the official launch of the UNEP Global Legally Binding Treaty on Mercury, and consider how to put the treaty into practice. The meeting aims to exchange information on the science of mercury behavior and release, and its effect on ecosystems. **dates:** 28 July - 2 August 2013 **location:** Edinburgh, United Kingdom **contact:** Marcus Pattison **phone:** +44-1727-858840 **fax:** +44-1727-840310 **email:** info@mercury2013.com **www:** <http://www.mercury2013.com/>

Ninth Meeting of the Persistent Organic Pollutants Review Committee (POPRC-9): POPRC-9 will review chlorinated naphthalenes, hexachlorobutadiene, hexabromocyclododecane, and pentachlorophenol and its salts and esters, as well as discuss other technical work such as the impact of climate change on the POPRC’s work and common issues in applying Annex E criteria. A joint meeting with the Rotterdam Convention’s Chemical Review Committee (CRC) may be held on 19 October 2013, if approved by the joint Basel/Rotterdam/Stockholm COPs. **dates:** 14-18 October 2013 **location:** Rome, Italy **contact:** Stockholm Convention Secretariat **phone:** +41-22-917-8729 **fax:** +41-22-917-8098 **email:** ssc@pops.int **www:** <http://www.pops.int>

Ninth Meeting of the Rotterdam Convention CRC: This subsidiary body of the Rotterdam Convention reviews chemicals and pesticide formulations according to the criteria set out by the Convention in Annexes II and IV, respectively, and makes recommendations to the COP for listing these chemicals in Annex III. A joint meeting with the POPRC may be held on 19 October 2012, if approved by the joint Basel/Rotterdam/Stockholm COPs. **dates:** 21-25 October 2013 **location:** Rome, Italy **contact:** Rotterdam Convention Secretariat **phone:** +41-22-917-8296 **fax:** +41-22-917-8082 **email:** pic@pic.int **www:** <http://www.pic.int/>

25th Meeting of the Parties to the Montreal Protocol: MOP 25 is scheduled to consider a number of issues, including nominations for critical- and essential-use exemptions. **dates:** 28 October - 1 November 2013 **location:** Ukraine **contact:** Ozone Secretariat **phone:** +254-20-762-3851 **fax:** +254-20-762-4691 **email:** ozoneinfo@unep.org **www:** http://ozone.unep.org/new_site/en/historical_meetings.php

GLOSSARY

CBDR	Common but differentiated responsibilities
CFCs	Chlorofluorocarbons
COP	Conference of the Parties
CRP	Conference room paper
CTC	Carbon tetrachloride
CUEs	Critical-use exemptions
CUNs	Critical-use nominations
EEAP	Environmental Effects Assessment Panel
EIA	Environmental Investigation Agency
ExMOP	Extraordinary Meeting of the Parties
FSM	Federated States of Micronesia
GWP	Global Warming Potential
HFCs	Hydrofluorocarbons
HCFCs	Hydrochlorofluorocarbons
ImpCom	Implementation Committee
IPPC	International Plant Protection Convention
ODP	Ozone depletion potential
ODS	Ozone depleting substances
OEWG	Open-ended Working Group
MDIs	Metered dose inhalers
MLF	Multilateral Fund
MOP	Meeting of the Parties
MTOC	Medical Technical Options Committee
MBTOC	Methyl Bromide Technical Options Committee
QPS	Quarantine and pre-shipment
SAP	Scientific Assessment Panel
TEAP	Technology and Economic Assessment Panel
TOC	Technical Options Committee
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change