

SUMMARY OF THE THIRTY-SECOND MEETING OF THE OPEN-ENDED WORKING GROUP OF THE PARTIES TO THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE LAYER: 23-27 JULY 2012

The thirty-second meeting of the Open-ended Working Group (OEWG 32) of the parties to the Montreal Protocol on Substances that Deplete the Ozone Layer convened in Bangkok, Thailand from 23-27 July 2012. Over 400 delegates representing governments, UN agencies, Montreal Protocol expert panels and committees, non-governmental organizations and industry attended.

At OEWG 32, delegates considered several issues arising from the 2012 Progress Report of the Technology and Economic Assessment Panel (TEAP), including: a review of nominations of essential-use exemptions for 2013 and 2014; a review of nominations for methyl bromide critical-use exemptions for 2013 and 2014; and methyl bromide use for quarantine and pre-shipment (QPS). Parties also discussed the treatment of ozone depleting substances (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. Contact group discussions were held on data discrepancies between imports and exports, alternatives to ODS, QPS uses of methyl bromide, TEAP administrative issues, and the treatment of ODS supplied to ships.

OEWG 32 also considered two proposals to amend the Montreal Protocol related to hydrofluorocarbons (HFCs): the first by the Federated States of Micronesia, and the second by the US, Canada and Mexico. Parties were unable to reach consensus on establishing a contact group on the proposals.

Throughout the week, many delegates referenced the upcoming 25th anniversary of the Montreal Protocol, in September 2012. This milestone prompted reflection on the features of the Protocol that have made it a success: its sound funding mechanism, robust institutions for scientific and technical advice, and targeted controls on the production and consumption of ODS. In each of these areas the OEWG did the groundwork that not only sets the stage for the decisions to be taken at the 24th Meeting of the Parties, scheduled to take place in November 2012, but also for the Protocol's next 25 years.

A BRIEF HISTORY OF THE OZONE REGIME

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

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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 currently 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 currently has 197 parties.

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

LONDON AMENDMENT AND ADJUSTMENTS:

Delegates to the second Meeting of the Parties to the Montreal Protocol (MOP 2), which took place in London, UK, in 1990, tightened control schedules and agreed to add ten more CFCs to the list of ODS, as well as carbon tetrachloride (CTC) and methyl chloroform. To date, 196 parties have ratified the London Amendment. MOP 2 also established the Multilateral Fund for the Implementation of the Montreal Protocol (MLF), which meets the incremental costs incurred by Article 5 parties in implementing the Protocol's control measures and finances clearinghouse functions, including technical assistance, information, training and the costs of the MLF Secretariat. The Fund is replenished every three years, and has received contributions of over US\$2.91 billion since its inception.

COPENHAGEN AMENDMENT AND ADJUSTMENTS:

At MOP 4, held in Copenhagen, Denmark, in 1992, delegates tightened existing control schedules and added controls on methyl bromide, hydrobromofluorocarbons and hydrochlorofluorocarbons (HCFCs). MOP 4 also agreed to enact non-compliance procedures and to establish an Implementation Committee. The Implementation Committee examines cases of possible non-compliance by parties, and makes recommendations to the MOP aimed at securing full compliance. To date, 196 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, 190 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, 178 parties have ratified the Beijing Amendment.

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

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

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

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

MOP 19: MOP 19 took place in Montreal, Canada, in September 2007. Delegates adopted 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 in Doha, Qatar, in November 2008. Parties agreed to replenish the MLF with US\$490 million for 2009-2011 and adopted other

decisions concerning, *inter alia*: the environmentally sound disposal of ODS; approval of 2009 and 2010 CUEs for methyl bromide; and compliance and reporting issues. This meeting was the Protocol's first paperless meeting.

MOP 21: MOP 21 took place in Port Ghalib, Egypt, in November 2009 and adopted decisions on: alternatives to HCFCs; institutional strengthening; essential uses; environmentally sound management of ODS banks; methyl bromide; 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, 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 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 the other 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.

OEWG 32 REPORT

The thirty-second session of the Open-ended Working Group of the parties to the Montreal Protocol on Substances that Deplete the Ozone Layer (OEWG 32) was opened on Monday, 23 July 2012, by Ghazi Odat (Jordan), who co-chaired the meeting with Gudi Alkemade (the Netherlands).

Pongthep Jaru-ampornpan, Deputy Director General, Department of Industrial Works, Ministry of Industry, Thailand, welcomed delegates and noted with disappointment the decision

by the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol (MLF) at its 67th meeting to defer Thailand's HCFC Phase-Out Management Plan (HPMP) funding proposal until its 68th meeting in December 2012, but said his government remained committed to implementing the provisions of the Protocol. Marco González, Executive Secretary, Ozone Secretariat, then presented a plaque to the Government of Thailand commemorating the 25th anniversary of the Montreal Protocol and appreciating Thailand's efforts in implementing the Protocol.

González then welcomed delegates to OEWG 32, noting that the 25th anniversary of the Protocol's adoption provided occasion to look back at the Protocol's history and assess its current situation. González led delegates in observing a moment of silence to honor the memory of the late F. Sherwood Rowland, underscoring Rowland's role in raising the alarm about the danger of CFCs and contributing to the adoption of the Montreal Protocol.

Co-Chair Alkemade then introduced the provisional agenda (UNEP/Oz.L.Pro.WG.1/32/1). She suggested, and delegates agreed, that the agenda item on proposed adjustments be removed as no specific adjustment proposals had been put forward.

Several parties suggested subjects to be considered under the item on other matters: India called for a draft decision on funding of production facilities for hydrochlorofluorocarbons (HCFCs); Saint Lucia called for considering the implications of the Rio+20 outcome for the Montreal Protocol's implementation; the US called for discussion on the review of the new ODS identified in the report of the Technology and Economic Assessment Panel (TEAP) and on the clean production of HCFC-22 through by-product emission control; Switzerland called for a discussion on maximizing the climate benefit of the accelerated HCFC phase-out; Indonesia called for updating the status of the Bali Declaration on transitioning to low global warming potential (GWP) ODS alternatives, which opened for signature at the twenty-third Meeting of the Parties to the Montreal Protocol (MOP 23); and the European Union (EU) called for a draft decision on reporting issues and notably the data discrepancies between exports and imports.

The EU also asked that OEWG consider, under the agenda item on process agents, a discussion of feedstock uses, notably in connection with the use of carbon tetrachloride (CTC) in vinyl chloride monomer (VCM) production. India preferred considering the issue under other matters.

Delegates agreed to consider all the suggested items under other matters, and adopted the agenda as amended.

During OEWG 32, delegates convened daily in plenary, and in contact groups and bilateral and informal consultations, to make progress on the agenda. This summary report is organized according to the agenda of the meeting.

2012 PROGRESS REPORT OF THE TECHNOLOGY AND ECONOMIC ASSESSMENT PANEL

On Monday in plenary, the TEAP presented its 2012 Progress Report (TEAP May 2012 Progress Report, Volume 1).

Medical Technical Options Committee (MTOC) Co-Chair Ashley Woodcock (UK) presented MTOC's report on essential use nominations for CFCs. He noted that Argentina, Bangladesh, Egypt, Iran, India, Pakistan and Syria did not make essential use

nominations for 2013, and that the Russian Federation and China submitted essential use nominations. Woodcock detailed China's nominations and MTOC Co-Chair Helen Tope (Australia) summarized the Russian Federation's nominations. Tope stressed the importance of tracking and trading CFCs to avoid the need for new production.

Chemical Technical Options Committee (CTOC) Co-Chair Biao Jiang (China) noted that only 14 process agents remain in use, that three of these process agents use CTC, and that chloroform may replace CTC in some uses. CTOC Co-Chair Ian Rae (Australia) noted that there is no new information on the plasma arc destruction of methyl bromide, but that destruction trials being funded under the MLF are expected to provide information about destruction efficiency. Rae explained that the Russian Federation had proposed the use of a new substance, RC-316c, which appears to be a CFC, and the CTOC has requested an opinion from the Scientific Assessment Panel on its environmental evaluation.

Foams Technical Options Committee (FTOC) Co-Chair Paul Ashford (UK) noted that the key challenge facing the foam sector is that users of HCFCs are generally small enterprises, leading to logistical challenges. He highlighted that hydrofluoroolefins (HFOs) are attracting interest and require further investigation.

Halon TOC (HTOC) Co-Chair Daniel Verdonik (US) outlined that development and testing continues for a halon-211 alternative in the aviation market, and said China and France are producing halon-1301 for feedstock use.

Methyl Bromide Technical Options Committee (MBTOC) Co-Chair Mohamed Besri (Morocco) noted that in non-Article 5 parties challenges remain for pre-plant soil uses, further noting that information on economic infeasibility of alternatives would be necessary for requests for critical use exemptions. For Article 5 countries, he highlighted remaining challenges as, *inter alia*, the need for further research into chemical alternatives to fumigants, and the continued use of methyl bromide in the production of strawberries in some countries.

Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee (RTOC) Co-Chair Lambert Kuijpers (the Netherlands) noted that for refrigeration, low GWP and very low GWP alternatives are being examined, and for domestic refrigeration, the focus is now on energy efficiency. On air conditioning in vehicles, he noted that the commercialized alternatives to HFC-22 are poor and mentioned the decision to use HFC-1234y-f as the new refrigerant for cars and light trucks. On air conditioning, he drew attention to the availability of non-ODS alternatives available in some developing countries.

TEAP Co-Chair Stephen Andersen (US) reported on organizational issues, including on the membership of TEAP and its TOCs, noting that a third of the experts are from Article 5 parties. He discussed the funding of members' travel to meetings, explaining the Montreal Protocol Trust Fund supports travel by experts from Article 5 parties and that several parties sponsor travel by some non-Article 5 experts. He noted non-Article 5 experts are also sponsored by companies, industry associations and other non-governmental organizations, and underscored the consequences of inadequate funding for non-Article 5 expert participation in the TEAP.

During the discussion on the TEAP progress report, several parties sought clarifications and indicated their interest in bilateral consultations with TEAP.

Noting Baghdad had recently been experiencing 55°C weather, Iraq stressed the need for suitable alternatives for HCFCs used in air-conditioning in developing countries. RTOC Co-Chair Kuijpers underscored there is no "one solution fits all" alternative.

Burkina Faso raised concerns regarding illegal and mislabeled imports, and TEAP Co-Chair Andersen suggested this was the purview of the Secretariat and the Green Customs programme.

Responding to questions about alternatives to methyl bromide use in strawberry production, MBTOC Co-Chair Besri noted that techniques of applications, their efficacy, and the availability of alternatives vary across parties.

On the composition of TEAP, Brazil and Cuba requested information on concrete efforts by TEAP to increase participation by Article 5 experts. TEAP Co-Chair Andersen underscored the importance of balance, especially with regard to the phase-out of HCFCs and methyl bromide by Article 5 parties and to the potential for "South-North" cooperation as Article 5 parties are often on the cutting edge of technology development. He outlined methods for increasing participation by Article 5 experts, notably posting calls for experts to fill specific gaps in scientific and regional expertise on the Ozone Secretariat website, and highlighted ongoing discussions under the agenda item on the TEAP nomination and operational processes.

ISSUES RELATED TO EXEMPTIONS FROM ARTICLE 2 OF THE MONTREAL PROTOCOL

NOMINATIONS FOR ESSENTIAL-USE EXEMPTIONS FOR 2013 AND 2014: In plenary on Monday, Co-Chair Odat noted the nominations for essential-use exemptions of CFCs in metered-dose inhalers (MDIs) for China and the Russian Federation, and for aerospace uses for the Russian Federation.

On Tuesday in plenary, the Russian Federation introduced a draft decision on an exemption for CFC-113 for aerospace applications (UNEP/OzL.Pro.WG.1/32/CRP.4), which requests parties to allow 95 tons of CFC-113 for this purpose. The EU, with the US, noted that the information contained in the TEAP 2012 Progress Report highlighted that CFC-113 would be phased out by 2016, and requested that the draft decision be amended to reflect this deadline. The US also requested clarification on the alternatives being considered by the Russian Federation, particularly if these alternatives include RC-316c. Co-Chair Odat called on interested parties to meet informally on the issue.

On Wednesday in plenary, China introduced a draft decision, submitted with the Russian Federation, on essential-use authorizations for CFC-MDIs for 2013 (UNEP/OzL.Pro.WG.1/32/CRP.9), noting it reflected the outcome of bilateral discussions with TEAP. China underscored manufacturers of traditional Chinese medicine in remote areas required additional time to complete their transition away from CFCs in MDIs.

Canada suggested the draft decision include, in brackets, both the amount nominated by China and the Russian Federation, and the exemptions granted by MTOC in the TEAP progress report.

The Russian Federation drew attention to the fact that the exemption will require his country to import CFCs from China, which in turn will require China to request, from the Executive

Committee of the MLF, an adjustment from its phase-out plan to allow such production. With these amendments, OEWG 32 agreed to forward the draft decision to MOP 24.

Outcome: On Friday in plenary, the Russian Federation explained agreement on the draft decision on essential-use exemption for CFC-113 for aerospace applications in the Russian Federation (UNEP/OzL.Pro.WG.1/32/CRP.4/Rev.1). OEWG 32 agreed to send the draft decision, in square brackets, to MOP 24 for further consideration.

Co-Chair Alkemade introduced the draft decision on essential-use nominations for controlled substances for 2013 reflecting the amendments agreed on Thursday (UNEP/OzL.Pro.WG.1/32/CRP.9/Rev.1), and OEWG 32 agreed to send it, in square brackets, to MOP 24 for further consideration.

NOMINATIONS FOR CRITICAL-USE EXEMPTIONS

FOR 2013 AND 2014: In plenary on Monday, MBTOC Co-Chair Ian Porter (Australia) highlighted the continued downward trend from 20 critical use nominations (CUNs) in 2011 to eight CUNs in 2012. He explained that only three non-Article 5 parties submitted CUNs, namely the US, Australia and Canada, and highlighted that Japan is no longer submitting CUNs. Porter cited the need to review the Handbook on CUNs, and said this could be completed in time for MOP 24 if parties so desired. He also reported on the minority view on the interim recommendations.

Porter then summarized the interim recommendations from the soils sub-committee and MBTOC Co-Chair Michelle Marcotte (Canada) presented the interim recommendations from the structures and commodities sub-committee.

The US underscored its transition from methyl bromide is becoming increasingly challenging and reported that, since it had submitted its nominations, the alternative, methyl iodide, has been withdrawn from the US market.

Canada, the EU and Australia supported revising the Handbook for CUNs by the end of 2012. OEWG 32 agreed parties could take up issues relating to CUNs with the MBTOC on a bilateral basis.

QUARANTINE AND PRE-SHIPMENT (QPS) ISSUES: In plenary on Monday, MBTOC Co-Chair Marta Pizano (Colombia) presented the report on QPS uses of methyl bromide, explaining that these are concentrated in the US, Japan, Australia and New Zealand, and that US consumption is increasing. She described related work by the International Plant Protection Convention (IPPC), explaining an IPPC expert panel is currently evaluating methyl bromide alternatives.

Opening the floor for discussion, Co-Chair Odat drew attention to the information document concerning cooperation with the IPPC (UNEP/OzL.Pro.WG.1/32/INF/3).

The EU lamented the continued use of methyl bromide, noting its ozone-depleting aspects as well as its health and trade implications. In plenary on Tuesday, the EU presented a draft decision, submitted with Australia, Croatia and Switzerland, on QPS uses of methyl bromide (UNEP/OzL.Pro.WG.1/32/CRP.5), noting that it, *inter alia*, requests: the TEAP to provide an updated report on the issue; parties to provide information on QPS uses of methyl bromide; and the Secretariat to upload examples of forms on procedures for data collection on QPS uses of methyl bromide.

The US, Colombia, Japan, Brazil and New Zealand proposed a contact group to further discuss this draft decision. A contact group, co-chaired by Alice Gaustad (Norway) and Agustín Sánchez (Mexico), met on Wednesday and Thursday. In the contact group, delegates recognized that finalization of the decision was contingent on decisions by the Implementation Committee, scheduled to meet following OEWG 32, and contact group Co-Chair Sánchez reported to plenary on Thursday his hope that following intersessional work after the Implementation Committee's meeting, the draft decision will be ready to be finalized early at MOP 24.

Outcome: On Friday in plenary, Co-Chair Alkemade presented the revised draft decision on QPS uses of methyl bromide (UNEP/OzL.Pro.WG.1/32/CRP.5/Rev.1). Delegates agreed to send it, in square brackets, to MOP 24 for further consideration.

GLOBAL LABORATORY AND ANALYTICAL USE

EXEMPTIONS: In plenary on Monday, Co-Chair Alkemade introduced the issue, noting that the panel had been requested to provide information on means of achieving a transition to the use of non-ODS for laboratory and analytical uses and had also been asked to report on progress made in assisting parties in this transition. Australia called on parties to furnish the Secretariat with the information required to complete the work on laboratory and analytical uses. OEWG 32 took note of the information presented.

PROCESS AGENTS: In plenary on Monday, Co-Chair Odat introduced this item, calling on delegates to suggest ways to transition away from ODS as process agents. OEWG 32 took note of the information presented.

MONTREAL PROTOCOL TREATMENT OF ODS USED TO SERVICE SHIPS

In plenary on Monday, Co-Chair Odat introduced the Secretariat's report on information on ODS used to service ships (UNEP/OzL.Pro.WG.1/32/3) and submissions from countries on the issue (UNEP/OzL.Pro.WG.1/32/INF/4). RTOC Co-Chair Kuijpers provided a brief overview, noting that HCFC-22 is the most commonly used refrigerant on ships.

The Secretariat noted the report includes: a review of historical Montreal Protocol guidance related to ships; a review of party responses; and the results of consultations with the World Customs Organization and the International Maritime Organization (IMO).

The Secretariat noted that, under the IMO, ships over 400 tons are required to maintain records of ODS, but that the IMO lacks a mandate to review these logs.

On Tuesday in plenary, the EU introduced a draft decision, submitted with Croatia, on trade of controlled substances with ships sailing under a foreign flag (UNEP/OzL.Pro.WG.1/32/CRP.6), explaining it aimed to ensure consistency with other international bodies, such as the Revised Kyoto Convention on Simplification and Harmonization of Customs Procedures.

OEWG 32 established a contact group on the issue, co-chaired by Philippe Chemouny (Canada) and Marissa Gowrie (Trinidad and Tobago), which met on Tuesday evening, Thursday and Friday.

The contact group focused its discussions on establishing a consistent approach and common understanding to what

constitutes an export and import to ships. Parties noted the intention of the discussion was not to bring parties into non-compliance, but to close the loophole for illegal trade.

Basing their work on the EU's draft decision, parties agreed in principle to language clarifying that "for the reporting of controlled substances used to service equipment onboard ships, sailing under foreign flags, shall qualify as servicing and as consumption of the port state even if the actual servicing is not taking place in the port."

The contact group also focused on clarifying that controlled substances from ships not covered in the agreed language should be reported under Article 7 (Reporting of data), and initiated consideration of how to request the Secretariat to undertake this. Several parties underscored the need to avoid creating new exemption categories.

Outcome: In plenary on Friday, contact group Co-Chair Chemouny introduced a revised draft decision reflecting the contact group's work (UNEP/OzL.Pro.WG.1/32/CRP.6/Rev.1) and OEWG 32 agreed to forward the heavily bracketed draft decision, in square brackets, to MOP 24 for further consideration.

TEAP REPORT ON ADDITIONAL INFORMATION ON ODS ALTERNATIVES

Co-Chair Alkemade introduced this issue on Tuesday in plenary, noting that Decision XIII/9 requested TEAP to prepare a report on ODS alternatives, including on, *inter alia*: the cost of technically proven, economically viable and environmentally benign HCFC alternatives; HCFC alternatives suitable for use in high temperatures; and an assessment of the feasibility of alternative options.

Decision XXIII/9 Task Force Co-Chair Lambert Kuijpers introduced the TEAP's report (2012 TEAP Progress Report, Volume 2). Task Force members then reported on their key findings. On alternative refrigerant technologies, the Task Force explained that for air-cooled air conditioning applications most alternative technologies are not close to commercial viability and said that, other than for niche applications, market penetration is unlikely.

On the assessment of technical, economic and environmental feasibility of refrigerant technologies, the Task Force noted it was not possible to estimate the specific relative costs for each alternative, but that estimates were provided for specific elements. On stationary air conditioning in areas with high ambient temperatures, the Task Force concluded that HCFC-22 is more efficient than alternatives. On foams, the task force estimated that HFOs with GWP values lower than 10 will be commercially available in 2014-2015.

On fire protection, the Task Force explained that ODS alternatives exist for all total flooding fire extinguishing applications with the exception of aircraft cargo bays.

On solvents, the Task Force concluded that unsaturated HFCs and HCFCs, with a lower GWP, are under development and have the potential to replace normal HCFCs.

In the general discussion, the EU: noted that the TEAP report contains alternatives to HFCs in countries with high ambient temperatures; expressed uncertainty that all the benefits of phasing out ODS are incorporated into the costing of alternatives; and called for a further consideration on the continuation of the work in the TEAP on this issue. Canada expressed interest in a deeper study by the TEAP on means to

phase out high-GWP HFCs in an environmentally-sound manner. Greenpeace called for the TEAP to acknowledge the rapid rate of conversion from HCFC-22 to hydrocarbons in various sectors such as in air-conditioning.

Co-Chair Alkemade requested that those interested in discussing this issue work together "in the corridors."

In plenary on Thursday, delegates considered a draft decision on additional information on alternatives to ODS (UNEP/OzL.Pro.WG.1/32/CRP.12) proposed by the US and Mexico. In her introduction, the US explained the draft decision requests the TEAP to prepare an updated report on ODS alternatives for consideration at OEWG 33 and a final report for MOP 25.

India stressed the draft decision should not make reference to low- and high-GWP alternatives. Reflecting on the "unrealistic" requests to TEAP contained in the draft decision, China did not support the draft decision.

Supporting the draft decision, the EU proposed establishing a contact group to take this matter forward, and delegates agreed to establish a group co-chaired by Annie Gabriel (Australia) and Leslie Smith (Grenada). The contact group met on Thursday and Friday.

In the contact group, discussion centered on what the information to be provided to the TEAP would be, and whether it was to be of a voluntary or obligatory nature, with some delegates stressing that parties should not be obliged to provide this information. Delegates also discussed at length the inclusion of any reference to HFCs, with some proposing that the decision deal only with alternatives to CFCs and HCFCs. Opposing a paragraph calling on the TEAP to estimate the proportion of high GWP alternatives that could be avoided in key sectors that use or used ODS, one delegate instead proposed that the TEAP evaluate the availability of environmentally-sound alternatives. Discussion also dealt with obligations of Article 5 and non-Article 5 parties regarding domestic policies aimed at avoiding the uptake of high GWP alternatives in cases where viable, technically proven alternatives are available.

Outcome: In plenary on Friday, contact group Co-Chair Smith introduced a heavily bracketed revised draft decision reflecting the contact group's work (UNEP/OzL.Pro.WG.1/32/CRP.12/Rev.1). OEWG 32 agreed to send it, in square brackets, to MOP 24 for further consideration.

PERFORMANCE AND VERIFICATION CRITERIA RELATED TO THE DESTRUCTION OF ODS

Introducing the issue on Tuesday in plenary, Co-Chair Odat noted that the TEAP had been tasked to evaluate destruction and removal efficiency criteria for the destruction of ODS, including methyl bromide. He explained that due to the lack of available additional information, the work had not yet been carried out. Co-Chair Odat also highlighted a Colombian project approved by the MLF on the destruction of CFC-11, CFC-12 and CFC-11-containing foam.

Togo called for guidance on the destruction of ODS containing blends. Co-Chair Odat noted that no more was required from the TEAP at this stage, and closed the discussion.

EVALUATION OF THE FINANCIAL MECHANISM OF THE MONTREAL PROTOCOL

This item was addressed in plenary on Monday and Tuesday. Co-Chair Odat introduced the evaluation of the

financial mechanism of the Montreal Protocol (UNEP/OzL.Pro. WG.1/32/4), noting that this was the third such evaluation, with the last evaluation having been carried out in 2004-2005. He pointed out that this evaluation focused on, *inter alia*, the results of the financial mechanism and the lessons learned.

Javier Camargo (Colombia), Co-Chair of the steering panel for the evaluation, said the panel's members included Austria, Canada, Colombia, India, Japan, Nigeria, the Former Yugoslav Republic of Macedonia, and the US. He noted that their terms of reference (ToR) stated that they were to present the report to the OEWG, and that the report would then be forwarded to MOP 24, with any additional comments.

Husamuddin Ahmadzai (Austria), Co-Chair of the steering panel, introduced the independent evaluator, ICF International, to present the results of the evaluation.

Mark Wagner, ICF International, outlined the evaluation process and the evaluation timeline (July 2011 to June 2012). He explained the methodology involved desk studies, and individual interviews with Article 5 and non-Article 5 parties, and presented the key findings. He highlighted that the projects to phase out ODS under the MLF were more successful than had been initially projected, and stated that the MLF's evaluation function was appropriate given its scope. On lessons learned, he noted that the MLF may be an appropriate model for other multilateral environmental agreements (MEAs), further noting the need for the Protocol to develop synergistic relationships with the UN Framework Convention on Climate Change (UNFCCC) on climate benefits, and with the Stockholm Convention on Persistent Organic Pollutants (POPs) on destruction activities.

Several delegates thanked ICF International and the steering panel for their work. Denmark, for the EU, noted that the ToR for the evaluation called for lessons learned from other MEAs and the Global Environment Facility (GEF) and how these can be applied to the MLF. Norway called for the report to reflect lessons learned from other MEAs.

Grenada expressed concern that funding allocated to low-volume consuming countries is insufficient to promote compliance with the Protocol. Lamenting the time spent by the MLF in developing guidelines instead of focusing on implementation activities, China called on the MLF to increase funding for institutional strengthening activities, and also urged the Executive Committee to approve more HPMPs. India noted that the steering panel had not made specific recommendations on synergies with the POPs and climate regimes. Brazil acknowledged the important role that the MLF has played in ensuring compliance with the Protocol, but called for new, additional and predictable financial resources for Article 5 countries to comply with future obligations. Japan noted that the report's recommendations are not legally binding. Burkina Faso requested that the next evaluation specify the rationale for choosing the countries to be consulted. Cuba requested that the report include recommendations on capacity building for Article 5 parties.

In response to some of the questions raised, Wagner noted budgetary constraints had prevented the evaluator from considering lessons learned from other MEAs and incorporating these into the report. He said that the report was evidence-based and could not include individual opinions, and reminded delegates of the ToR for the evaluation.

Co-Chair Odat suggested that parties submit written comments to the evaluator through the Secretariat by 1 September 2012, saying that this would give the evaluator time to consider the submissions and decide by October 1 2012, at the evaluator's discretion, how to address them in the report. Brazil expressed concern that this process may undermine the original ToR for the evaluation set by the MOP, but the Secretariat clarified that the evaluator had agreed to this "concession," even though it is not in the original ToR. Brazil, Burkina Faso and others called for a contact group to discuss submissions to be forwarded to the evaluator, but the EU and Japan disagreed, noting that this would interfere with the independence of the report. The Working Group then agreed to Co-Chair Odat's proposal.

This issue was the subject of further debate in Friday's plenary as delegates reviewed the report of the meeting. Parties eventually agreed to "parties would submit comments on the final draft report to the Secretariat by 1 September 2012; and the Secretariat will forward comments to the consultant, who will review comments, determine if they relate to the ToR, and if so, address them in the body or annexes of the final report."

NOMINATION AND OPERATIONAL PROCESSES OF THE TEAP AND ITS SUBSIDIARY BODIES AND ANY OTHER ADMINISTRATIVE ISSUES

On Tuesday in plenary, the Co-Chairs of the Task Force to address Decision XXIII/10 on updating the nomination and operational processes of the TEAP, its TOCs and its subsidiary bodies, reported on their work in response to the MOP's requests (2012 TEAP Progress Report, Volume 3).

Task Force Co-Chair Bella Marañon (US) presented a matrix reflecting the need for additional experts, specified by field of expertise and/or by geographic origin, and underscored the need for a nomination process that ensures continuity and minimizes disruption. She noted the Task Force had developed a form to standardize the information submitted when experts are nominated and recommended the development of an online handbook of operating procedures for new TEAP members.

Task Force Co-Chair Marta Pizano (Colombia) addressed proposed revisions to membership numbers in TEAP's subsidiary bodies, underscoring that funding problems are increasingly common among non-Article 5 experts, sometimes preventing them from attending meetings.

Task Force Co-Chair Alistair McGlone (UK) outlined an initial draft of the updated ToR and discussed draft recusal guidelines developed by drawing from similar guidelines under other processes, notably the Intergovernmental Panel on Climate Change (IPCC). He explained these also provide for declarations of interest and the establishment of a three-member ethics advisory body to be appointed by TEAP members by consensus.

In the ensuing discussion, India and China expressed concern at the imbalance between experts from Article 5 and non-Article 5 parties.

Switzerland and Australia expressed concern at the inconsistency of information provided in the matrices and called for harmonization. The US stressed the need for clear guidance on the nominations process.

Canada, Australia and Switzerland stressed the importance of the recusal guidelines, with Switzerland proposing to consider the issue further in a contact group, and Australia expressing

interest in considering the potential ethics advisory body. The EU underscored the need for the size of TOCs to reflect current workloads.

OEWG 32 agreed to establish a contact group, co-chaired by Javier Camargo (Colombia) and Masami Fujimoto (Japan), to further consider the issue. In plenary on Wednesday, the US introduced a draft decision on ToR, code of conduct and disclosure and conflict of interest guidelines for the TEAP, its TOCs and subsidiary bodies (UNEP/OzL.Pro.WG.1/32/CRP.11), to be discussed in the contact group. The contact group met on Wednesday, in morning and evening sessions, and on Thursday and Friday.

In the contact group, delegates considered both the text of the draft decision and the annex that details the ToR. The contact group completed a first review of the document, inserting notes and placeholders for further consideration at MOP 24. Participants discussed, *inter alia*: size and balance; the functioning of the TEAP and its bodies; a code of conduct for members of the TEAP and its bodies; and conflict of interest and disclosure guidelines. On the latter, delegates discussed the suitability of establishing an ethics advisory body or conflict resolution body and whether the document should make reference to illegal activities or corruption.

Outcome: Reporting to plenary on Friday, contact group Co-Chair Fujimoto introduced a revised draft decision reflecting the contact group's work (UNEP/OzL.Pro.WG.1/32/CRP.11/Rev.1), and OEWG 32 agreed to send the draft decision, in square brackets, to MOP 24 for further consideration. OEWG 32 also agreed to request TEAP to carry out additional work prior to MOP 24, including on: further refining the matrices of expertise, future science and needs of TOCs, and how a conflict resolution body might operate.

PROPOSED AMENDMENTS TO THE MONTREAL PROTOCOL

On Wednesday in plenary, Co-Chair Alkemade introduced the item and invited presentations on the proposed amendments to the Protocol.

Introducing the North American proposal (UNEP/OzL.Pro.WG.1/32/6), submitted jointly with Canada and Mexico, the US explained the proposal is to implement a comprehensive phase-down of HFCs by adding HFCs as a controlled substance to the Montreal Protocol. He noted the proposal is similar to the proposal submitted in 2011 but includes two revisions: the initial compliance dates have been moved back one year and the number of step-downs have also been reduced by one; and the proposal now recognizes the by-product controls being undertaken under the UNFCCC's Clean Development Mechanism (CDM).

The US drew attention to the recent UN Conference on Sustainable Development (UNCSD or Rio+20) outcome document that recognizes "the phase-out of ODS is resulting in a rapid increase in the use and release of high-GWP HFCs to the environment" and supports "a gradual phase-down in the consumption and production of HFCs" (paragraph 222). He said the outcome document provides high-level articulation of the HFC problem and endorses the amendment proposal.

Canada drew attention to the work of the UNEP Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants, and Mexico underscored the amendment proposal provides an

innovative technical and financial model for addressing HFCs, calling on fellow Article 5 parties to participate in an exchange of views.

Introducing its proposal (UNEP/OzL.Pro.WG.1/32/5), the Federated States of Micronesia highlighted this proposal has been tabled for four years, that the increase in HFC consumption and production was caused by the phase-out of HCFCs under the Protocol, and that it would be "immoral" to pass the problem to the UNFCCC. He urged parties to avoid development models based on consumption.

In the ensuing discussion, Cameroon, Costa Rica, the Former Yugoslav Republic of Macedonia, Guinea, Japan, Kenya, Australia, New Zealand, Nigeria, Norway, Saint Lucia, Senegal, Morocco, Colombia and Serbia supported establishing a contact group under this agenda item. The EU supported the amendment proposals, noting that alternatives to HFCs exist. He highlighted that a phase-down approach would allow the market to respond adequately, and for innovation from industry. He said that the Kyoto Protocol deals with emissions, but that the Montreal Protocol deals with issues of production and consumption, and stated the two bodies could act in a complementary manner.

The Dominican Republic questioned if the amendment proposals would cause a conflict of interest with the UNFCCC, and the potential financial cost to Article 5 countries, and said a contact group was necessary to further consider these issues.

Cuba did not support amending the proposal under the Protocol, and said the issue of HFCs should be taken up under the UNFCCC in collaboration with the Montreal Protocol, resulting in synergies between the two instruments. Supporting Cuba, South Africa stressed the Rio+20 outcome document does not specify which convention should address HFCs, and suggested considering voluntary HFC phase-down.

Brazil preferred HFCs be addressed by Annex 1 parties under the UNFCCC, explaining the amendment proposals are inadequate as they suggest an approach applicable to both developed and developing countries. He underscored the current financial constraints of the Montreal Protocol, citing the "small" replenishment agreed at MOP 23, which he said indicated little ambition on the part of non-Article 5 parties, and urged parties to focus limited resources on existing commitments. Brazil supported complementary approaches, which he said could include: promoting low-GWP alternatives through increasing the climate friendly threshold under the MLF; technology transfer; and non-Article 5 parties focusing domestic policies on promoting market infiltration of low-GWP alternatives to HCFCs.

India preferred addressing HFCs under the UNFCCC, stating parties to the Montreal Protocol can move away from high-GWP alternatives without the proposed amendments. He stressed the urgent need to address ODS banks, which, unlike HFCs, fall within the scope of the Protocol.

Stressing that economically-feasible and environmentally-friendly alternatives to HFCs are available, Switzerland said that the preconditions for a formal contact group on the proposals are in place. Burkina Faso was concerned that the formation of a contact group was being considered by some countries as tantamount to accepting the proposed amendments, and requested clarification on whether there is a precedent for prolonging discussions on the formation of a contact group. In

response, Co-Chair Gudi noted that, in the last four years, the proposed amendments had never been discussed in a formal contact group due to lack of consensus among parties.

China stressed that HFCs are controlled under the UNFCCC's Kyoto Protocol and should not be discussed under the Montreal Protocol, and cautioned against undermining the legal jurisdiction of the UNFCCC. He noted that alternatives to HFCs presented during the technologies workshop held immediately prior to OEWG 32 did not yield obvious results.

Argentina urged parties not to burden the MLF with additional financial obligations by including HFCs under the Montreal Protocol, and called for greater support for Article 5 parties in the accelerated phase out of HCFCs. Bahrain stressed that: HFCs are not ODS; an HFC phase down is currently not technically or financially feasible; and more studies need to be carried out on alternatives to HFCs. Malaysia said this discussion should be held under the auspices of the UNFCCC and, with Bahrain and Iraq, opposed the formation of a contact group.

Responding to jurisdictional concerns, the US underscored climate is already addressed under a range of decisions under the Montreal Protocol, notably in the context of the MLF and in the guidelines for stage 1 HPMP preparation, which provides for incremental funding as an incentive for climate-friendly technologies. With the Federated States of Micronesia, he called for continuing discussions in a contact group, underscoring such discussions are necessary and would not present a commitment to agree to the amendments.

Responding to concerns about the availability of alternative technologies, Canada underscored the proposal calls for step-by-step reductions and highlighted that the availability of alternatives for small air conditioning equipment presents a significant opportunity, citing the example of a recently approved project in China to convert production of such equipment to hydrocarbons. He also emphasized the North American amendment proposal calls on non-Article 5 parties to start addressing HFCs several years ahead of Article 5 parties.

Recognizing concerns about financing, Canada highlighted the MLF's successful 20-year record and noted that currently additional financing is available to avoid high-GWP HFC alternatives in phasing out HCFCs. Acknowledging that additional funding would be required to implement the amendment proposal, he suggested a study could be carried out to assess such costs.

Responding to policy issues raised, Canada underscored the amendment proposal estimates HFC phase down would lead to 96 billion tons of avoided carbon dioxide equivalent by 2050, and questioned how such a climate benefit could be seen as undermining the climate regime.

Citing the Montreal Protocol's provision for environmentally sustainable alternatives, the Environmental Investigation Agency underscored the necessity of addressing climate impacts of alternatives under the Montreal Protocol. Greenpeace called on countries to enact domestic measures to reduce HFC emissions, and called on parties, should they fail to further protect the climate, to reconsider the need for annual meetings as the HCFC phase-out is well under way.

The China Association of Fluorine and Silicone Industry underscored that the Chinese fluorine production sector is complying with the expedited phase-out of HCFCs, and noted

that, since HFCs are not ODS, priority should be given to meeting HCFC phase-out commitments.

Co-Chairs Alkemade and Odat proposed that, as a way forward, OEWG 32 establish a contact group on "a dialogue on possible actions by the Montreal Protocol to minimize the introduction of high-GWP HFC alternatives relating to the phasing-out of HCFCs." Co-Chair Alkemade explained the contact group would engage parties in dialogue considering, without any prejudice to possible outcomes in any other MEA, potential actions under the Montreal Protocol to address: the need for scientific information on trends of introducing high-GWP HFC alternatives, taking into account recent measures and policies of the Protocol and at the national level; the technical and economic feasibility of low-GWP alternatives, taking into account discussions under the agenda item on ODS alternatives; legal questions relating to the extent to which the Protocol could address low-GWP alternatives relating to the phase-out of HCFCs; possible policies and procedures under the Protocol to minimize the introduction of high-GWP alternatives relating to the phasing-out of HCFCs; and financing and cost considerations of such actions.

India raised procedural concerns regarding the establishment of such a contact group. Supported by Cuba, he added that such a contact group would have "no merit" as the TEAP has already produced a report on alternatives. China underscored such a group should engage in conversation as opposed to negotiation and sought clarification on what the outcome of the group would be. Brazil said that aspects of the group's proposed mandate are reflected under other agenda items at OEWG 32, notably the TEAP report on ODS alternatives and the proposal by Switzerland on maximizing climate benefit, and favored discussing these two matters in a formal contact group and allowing for informal dialogue on other issues.

Co-Chair Alkemade proposed that the small group of countries concerned with the Co-Chairs' proposal meet with the Co-Chairs on the sidelines in order to overcome the impasse.

On Thursday in plenary, Co-Chair Alkemade reported on these informal consultations, and announced that consensus had not been reached on the establishment of this contact group, and the proposed amendments will be forwarded to MOP 24 as fully bracketed text. Canada, the EU, the US, the Federated States of Micronesia, Mexico, Mozambique, Saint Lucia, and Togo expressed disappointment that an agreement to establish a contact group had not been reached, and registered their interest in discussing the matter at MOP 24. Emphasizing the amount of interest in discussing this matter, the EU noted that 108 parties had signed the Bangkok Declaration on the global transition away from HCFCs and CFCs and 94 had so far signed the Bali Declaration on transitioning to low GWP ODS alternatives.

The US reiterated that the intent of the proposed amendment is climate protection, stressing that the Montreal Protocol is best placed to address the phase down of HFCs. The Federated States of Micronesia expressed hope that a formal contact group will be established at MOP 24. Mozambique lamented that, as the body responsible for accelerating the production of HFCs through the phase-out of HCFCs, the Montreal Protocol is trying to transfer the responsibility of controlling the further production of HFCs to the Kyoto Protocol.

Cuba noted that the issue will only be resolved with political will from parties under both the Montreal Protocol and the UNFCCC. India expressed concern over the number of times the proposed amendments have been presented to the parties even though these proposals deal with issues outside the Protocol's ambit. Brazil urged those delegates who have been most vocal on this issue to show similar enthusiasm during discussions at UNFCCC meetings. Highlighting that this issue constitutes a "sensitive matter of principle" for his country, China called on delegates to respect the mandate of the UNFCCC in managing greenhouse gases.

Outcome: OEWG 32 agreed to forward the amendment proposals, in square brackets, to MOP 24.

OTHER MATTERS

DATA DISCREPANCIES: On Tuesday in plenary, the EU introduced a draft decision, submitted with Croatia, on discrepancies between data reported on imports and data reported on exports (UNEP/OzL.Pro.WG.1/32/CRP.1), explaining it provides for a revised reporting format and requests parties to take action to clarify reasons for discrepancies and consider introducing preventive measures to avoid such discrepancies.

Delegates agreed to establish a contact group, co-chaired by Arumugam Duraisamy (India) and Frederico San Martini (US), which met on Wednesday and Thursday.

The contact group discussed all operative paragraphs of the draft decision and briefly considered the preamble. Discussions addressed, *inter alia*: requesting the Secretariat to revise the reporting format so as to specify the exporting party for quantities reported as import; and encouraging or inviting parties to check for differences between import and export data and to consider introducing preventive measures.

Outcome: In the final plenary on Friday, contact group Co-Chair San Martini presented the revised draft decision (UNEP/OzL.Pro.WG.1/32/CRP.1/Rev.1), and OEWG 32 agreed to send the heavily bracketed revised draft decision, in square brackets, to MOP 24 for further consideration. OEWG 32 also agreed to invite parties to provide comments on the draft decision to the EU by the end of September 2012.

FUNDING OF HCFC PRODUCTION FACILITIES: On Tuesday in plenary, India, supported by China, introduced a draft decision on funding of production facilities for HCFCs (UNEP/OzL.Pro.WG.1/32/CRP.3), which, *inter alia*, urges the Executive Committee of the MLF (ExCom) to finalize the guidelines for funding of production facilities for HCFCs and requests the ExCom, while finalizing such guidelines, to take into consideration the proactive regulatory actions taken by some Article 5 parties to limit production of HCFCs ahead of the relevant control schedule.

Canada, with the US, Japan, the EU, Mexico and Australia, raised concerns as to how such a decision might impact the ExCom's work. Co-Chair Alkemade called on interested parties to consult informally.

Outcome: In plenary on Friday, India reported on these brief consultations and OEWG 32 agreed to forward the draft decision (UNEP/OzL.Pro.WG.1/32/CRP.3), in square brackets, to MOP 24 for further consideration.

REVIEW OF NEW ODS: In plenary on Wednesday, the US introduced a draft decision on the review of the substance RC-316c, identified by TEAP as a potential alternative to the

Russian Federation's exempted use of CFC-113 in aerospace (UNEP/OzL.Pro.WG.1/32/CRP.7), noting that it invites parties to provide information on RC-316c, and requests the Scientific Assessment Panel to conduct a preliminary assessment of RC-316c and report on its ozone-depleting potential and GWP to OEWG 33.

Noting that the draft decision refers to the substance as a CFC, the Russian Federation said if it is a CFC, then it is already addressed under the Montreal Protocol. He explained that his government, under the advice of the Ozone Secretariat, is looking into the composition of RC-316c, and stressed that if it is not a CFC, only the substance's developer has the mandate to investigate its attributes.

Co-Chair Odat suggested that the Russian Federation and the US discuss this informally

Outcome: In plenary on Friday, the US reported on these consultations and OEWG 32 agreed to send the draft decision (UNEP/OzL.Pro.WG.1/32/CRP.7), in square brackets, to MOP 24 for further consideration.

MAXIMIZING CLIMATE BENEFIT OF ACCELERATED HCFC PHASE-OUT: In plenary on Wednesday, Switzerland introduced a draft decision on mobilization of financing from sources other than the MLF for maximizing the climate benefit of the accelerated phase-out of HCFCs (UNEP/OzL.Pro.WG.1/32/CRP.8), noting the interest expressed by some parties to fund activities specifically related to the minimization of climate impacts. He explained that the proposal requests the ExCom to consider establishing a MLF funding window for interested parties and others to earmark contributions to activities that maximize climate co-benefits of the HCFC phase-out.

Brazil noted that some elements of the proposal may not be consistent with the mandate of the Protocol, but expressed interest in further discussing the matter. Noting the potential merit of the proposal, the US expressed interest in further discussions. India requested clarification on whether the additional funds alluded to in the proposal would be in addition to existing contributions by non-Article 5 parties. Colombia expressed interest in further discussions, particularly on the implications for future replenishments of the MLF, the potential for climate funding under the climate window of the GEF, and the implications for HPMPs approved by the ExCom that contained activities that maximize climate benefits. He also highlighted that no decision had been reached on the MLF Climate Impact Indicator.

Expressing doubts at the usefulness of the proposal, China noted that ExCom guidelines already call on parties to explore other funds to maximize climate benefits, and that these funds have proven scarce and difficult to access. Co-Chair Alkemade requested interested parties to consult informally with Switzerland on this proposal.

Outcome: On Friday in plenary, Switzerland reported that it had undertaken bilateral and informal discussions on the proposal. He said although there were some "red lights," interested participants had agreed to continue discussions intersessionally. Brazil confirmed that the title of the draft decision had been altered to draft decision on additional funding for the MLF to maximize the climate benefit of the accelerated phase-out of HCFCs (UNEP/OzL.Pro.WG.1/32/CRP.8/Rev.1)

to reflect ongoing discussions. Delegates agreed to forward the draft decision, in square brackets, to MOP 24 for further consideration.

FEEDSTOCK USES: On Wednesday in plenary, the EU introduced a draft decision on feedstock uses, submitted with Croatia (UNEP/OzL.Pro.WG.1/32/CRP.2). He explained that ODS for feedstock uses are estimated to be in excess of one million metric tons and are expected to increase. Without close monitoring, he said there is a risk of these ODS being diverted for banned uses.

China called into question the benefits of addressing feedstocks, and said China has neither the “time, nor the energy” for this work, and said it would discuss its concerns with the EU. India said the draft decision was uncalled for and further discussion was unwarranted.

Canada recalled recent ExCom discussions considering the redirection of funds remaining from India’s CTC phase-out plan to monitoring emissions from feedstocks, and concluded it was legitimate for OEWG 32 to consider a decision related to monitoring. India clarified that the discussion at the ExCom was instigated by the World Bank as the implementing agency for the project, without the approval of India. He stressed that feedstocks are not controlled under the Protocol, reasserting India’s right to use ODS for feedstocks.

Australia cautioned against “blindly dismissing” the draft decision and, with the US, called for further discussion of the proposal.

Co-Chair Odat requested India, China, Australia, Canada, the EU and the US, to consult informally and report back to plenary.

Outcome: In the final plenary on Friday, the EU reported on these consultations and OEWG 32 agreed to send the draft decision (UNEP/OzL.Pro.WG.1/32/CRP.2), in square brackets, to MOP 24 for further consideration. OEWG 32 also agreed to invite parties to provide comments on the draft decision to the EU by the end of September 2012.

CLEAN PRODUCTION OF HCFC-22 THROUGH BY-PRODUCT EMISSION CONTROL: On Thursday in plenary, OEWG 32 considered a draft decision, co-sponsored by Burkina Faso, Canada, Comoros, Egypt, Mexico, Senegal and the US, on clean production of HCFC-22 through by-product emission control (UNEP/OzL.Pro.WG.1/32/CRP.10). Introducing the draft decision, Mexico highlighted that HFC-23 is a key by-product of HCFC-22 production, and that the draft decision calls on the ExCom to establish demonstration projects to eliminate by-product emissions of HFC-23 during the production of HCFC-22 for facilities and production lines not under the CDM. He said the draft decision calls on the TEAP and the Scientific Assessment Panel to carry out a study on the potential costs and environmental benefits of the implementation of HFC-23 by-product control measures related to HCFC-22 production.

Opposing discussion on this draft decision, India, with China, emphasized that HCFCs are already being phased out under the Montreal Protocol, and that HFC-23 is not an ODS and is under the mandate of the UNFCCC’s Kyoto Protocol. Argentina said that the Montreal Protocol should not spend its limited funds to address a substance outside its ambit.

The EU observed linkages between the ideas contained in the draft and the discussion on feedstocks. Japan noted that the draft had implications for the use of MLF funds. The US clarified that

the draft calls for demonstration projects to provide countries with opportunities for clean production of HCFC-22, and that the intent of the draft decision is not to impose controls on HFC production. Canada stressed that clean production of HCFC-22 is under the purview of the Montreal Protocol, and underscored that the draft was only requesting demonstration projects. Mexico clarified that the demonstration projects would assist plants with no access to CDM funding to control emissions of HCFC-22, and clarified that the draft was unrelated to feedstocks.

Co-Chair Odat suggested, and delegates agreed, that interested parties meet informally to continue discussions.

Outcome: In plenary on Friday, the US reported on these informal consultations and indicated it would continue bilateral consultations on the issue prior to MOP 24. OEWG 32 agreed to forward the draft decision, in square brackets, to MOP 24 for further consideration.

IMPLICATIONS OF RIO+20 OUTCOME: In plenary on Thursday, delegates considered a proposal by Saint Lucia and Trinidad and Tobago on the implications of the Rio+20 outcomes for the implementation of the Protocol (UNEP/OzL.Pro.WG.1/32/CRP.13). Saint Lucia introduced the draft decision, explaining it aims to bring the Rio+20 outcomes to the attention of the Protocol, in particular Rio+20’s reaffirmation of the special case of small island developing states (SIDS) in view of their unique vulnerabilities, and calls on parties to take these into account.

Supporting the draft decision, Colombia proposed broadening the scope to all Article 5 parties. Highlighting the specific vulnerabilities of SIDS, Mexico, the Dominican Republic and Cuba welcomed further discussion of the draft decision. Grenada and Barbados underscored the need for SIDS to be afforded “due recognition” under the Protocol. Acknowledging the special situation of SIDS, the EU, the US and Australia proposed bilateral discussions to further understand the intent of the draft decision.

India sought clarification on the links between the draft decision and the work of the Protocol, and South Africa noted that paragraph 178 of the Rio Outcome Document on SIDS does not reference the Montreal Protocol.

Delegates agreed to discuss the draft decision informally and report back to plenary.

Outcome: In plenary on Friday, Saint Lucia introduced a revised draft decision, explain the title clarifies that it relates to the implications of the Rio+20 outcome for SIDS for the implementation of the Montreal Protocol (UNEP/OzL.Pro.WG.1/32/CRP.13/Rev.1). OEWG 32 agreed to forward the draft decision, in square brackets, to MOP 24 for further consideration.

UPDATING STATUS OF THE BALI DECLARATION: In plenary on Thursday, Indonesia provided an update on the Bali Declaration on transitioning to low GWP ODS alternatives, noting that 94 countries had signed it since it opened for signature at MOP 23, demonstrating the high level of interest in transitioning to low GWP alternatives to ODS. She highlighted that the control of HFCs is the newest challenge facing the Protocol, and called on all parties to sign the Declaration, explaining that it would remain open until MOP 24. The US called on all parties to consider signing the Declaration.

PRESENTATION BY SWITZERLAND: On Friday in plenary, Switzerland presented an overview and slideshow on

the upcoming meetings of the ExCom, Bureau and the MOP in November 2012 in Geneva, and announced preparations for a scientific seminar for the celebration of the 25th anniversary of the Montreal Protocol would be organized immediately preceding MOP 24 on 11 November 2012.

CLOSURE OF THE MEETING

On Friday afternoon, Co-Chair Odat led delegates through the reports of the meeting (UNEP/Oz.L.Pro.WG.1/32/L.1 and Add.1) by paragraph and section, and delegates adopted these with several amendments, notably with respect to the outcome of the discussion on the final draft report of the evaluation of the financial mechanism. After extensive discussion, OEWG 32 agreed the meeting report would reflect that: parties would submit comments on the final draft report to the Secretariat by 1 September 2012; and the Secretariat will forward comments to the consultant, who will review comments, determine if they relate to the ToR, and if so, address them in the body or annexes of the final report.

Parties also extensively debated a reference in the report noting that several representatives expressed disappointment at the outcome on the item on the proposed amendments, “particularly given that a clear majority of the parties had expressed support for the proposals.” India, China, South Africa and Brazil opposed reference to “a clear majority,” while Canada underscored the text referred to the content of statements made in plenary at the time. In the end, Australia suggested, and parties agreed that the report reflect that several expressed disappointment at the outcome, indicating that the proposals had been properly introduced, fully explained, and many parties had expressed support for them. India then requested an insertion noting that several representatives strongly opposed the proposals and were equally disappointed that the proposals were repeatedly brought forward as they are not within the mandate of the Montreal Protocol.

India expressed strong reservations to the report, noting that concerns by most of the parties are not reflected in the report. Co-Chair Odat invited India to submit to the Secretariat, in writing, text reflecting his ideas put forward in the meeting and not reflected in the report of the meeting.

Co-Chair Odat closed the meeting at 7:13 pm.

A BRIEF ANALYSIS OF OEWG 32

On 16 September 2012, the Montreal Protocol will celebrate the 25th anniversary of its adoption—a unique milestone for a treaty that stands out for its universal ratification and broadly proclaimed success in phasing out a wide array of ozone depleting substances (ODS). As the Protocol’s 197 parties prepare to mark this achievement, the 32nd session of the Open-Ended Working Group (OEWG 32) presented an opportunity to engage in technical discussions and lay the groundwork for the upcoming 24th Meeting of the Parties (MOP 24) in November 2012.

This brief analysis will examine work carried out at OEWG 32 through the lens of the three features of the ozone regime most often heralded as the key to the ozone regime’s success, namely: a sound financial mechanism, robust technical and scientific advice, and targeted chemical controls.

STABLE AND SUFFICIENT FINANCE

Since its establishment in 1991, the Multilateral Fund for the Implementation of the Protocol (MLF) has been central to the effectiveness of the Protocol, providing Article 5 parties (developing countries) with technical assistance to phase out ODS. Unique in its nature as a dedicated Protocol-specific financial mechanism, the MLF has clear objectives, universal participation, and direct links between funding and compliance. It is replenished every three years (the replenishment agreed at MOP 23 means over US\$3 billion has now been pledged), and much admired, and even envied, by other multilateral environmental agreements (MEAs).

Parties have periodically reviewed the MLF to ensure the institution remains effective and fit for the purpose of supporting Article 5 parties in achieving the Protocol’s goals. Both the 1994-1995 and 2003-2004 reviews focused on the MLF’s management. At OEWG 32 parties considered the draft findings and recommendations of a review, called for at MOP 22, focused on the results of the MLF, its policies and procedures, and lessons learned.

Not surprisingly, the draft review, undertaken by an independent consultant, points to the “truly remarkable success” of the Protocol in ODS phase-out across various chemicals and industrial sectors. However, the report also notes some key weaknesses of the MLF, including that the strong links between compliance and finance have prevented the MLF from addressing issues key to protecting the ozone layer, but which fall outside compliance requirements, namely destruction and other end-of-life ODS controls.

The review also draws attention to the MLF’s future, raising questions on the ability of the MLF to provide the funding required to successfully complete the HCFC phase-out, especially since parties agreed to an accelerated phase-out of HCFCs on the occasion of the Protocol’s 20th anniversary. Further, the Technology and Economic Assessment Panel (TEAP) has predicted that funding requirements for the 2015-2017 and 2018-2020 triennia will be higher than for any previous triennium, and some Article 5 parties underscored at OEWG 32 that the MLF replenishment agreed at MOP 23 was insufficient to set the stage for continuing the Protocol’s successful track record of meeting its targets.

While OEWG 32 discussed the evaluation report, its focus was on further input required to finalize the evaluation at MOP 24, where substantive debate on the report’s findings is expected.

ROBUST TECHNICAL AND SCIENTIFIC ADVICE

Another widely heralded asset of the ozone regime is the technical and scientific expertise provided to parties through the work of the Scientific Assessment Panel, the TEAP and its Technical Options Committees (TOCs) and subsidiary bodies. Over the years, the experts brought together in these bodies have played a pivotal role, including in advising parties on the technical feasibility of phase-outs, in providing informed cost estimates to the MLF, and in evaluating parties’ nominations for critical- and essential-use exemptions from phase-out deadlines.

Working on a voluntary basis, these experts churn out an immense amount of scientific, technical and economic advice for presentation at each meeting. In addition to TEAP’s annual progress report, parties heard the results of several reports commissioned from the experts. A significant component of

TEAP's work at OEWG 32 was presenting a report on ODS alternatives commissioned by MOP 23. This report contained a "hot button" topic that is intrinsically tied to the issue that has divided parties for the last four years: the proposed amendments to the Protocol that would institute a phase-down of high global warming potential (GWP) HFCs, which are not in themselves ozone-depleting, but to which parties are increasingly transitioning as they comply with the accelerated HCFC phase-out.

In discussing ODS alternatives, there is a long-standing tradition under the Montreal Protocol for the TEAP to assess whether they are not only technically and economically feasible, but also environmentally friendly. The TEAP special report presented to OEWG 32 on additional information on alternatives to ODS prompted extensive discussion on the promise of alternatives and the method for the assessment, for example the method through which climate-benefits might be accounted for in assessing the incremental costs of available alternatives. As delegates considered renewing the TEAP's mandate to prepare a further report on the alternatives next year, the extent to which explicit reference could be made to HFCs became central, highlighting the continued deep divide among parties on the appropriateness of addressing these substances, which are not ODS, under the Protocol.

The second special task force report related to the TEAP itself since MOP 23 had requested a review of the procedures and nominations processes for the TEAP and its subsidiary bodies. Delegates scrutinized the question of balance between Article 5 and non-Article 5 experts in the TEAP's work and paid attention to identifying both under-represented regions and under-represented areas of expertise among the current membership. A contact group met throughout the week to discuss how to revise the TEAP's terms of reference and operating procedures, with many participants looking to advances made in other international bodies for scientific and technical advice, especially the Intergovernmental Panel on Climate Change, for inspiration.

Even while recognizing that these science panels have provided essential guidance to the parties over the past two decades, many underscored the need to update and cement administrative issues. Delegates also highlighted the need to diversify membership, especially as in coming years the TEAP will increasingly be tasked with reviewing exemption nominations from Article 5 parties. The need for clear conflict of interest procedures was repeatedly underscored, especially amidst warnings that it was becoming increasingly difficult to find funding to cover participation by non-Article 5 experts. Some said there was a risk that experts funded by groups, with an interest in specific outcomes, may undermine the TEAP's objectivity.

Interestingly, even as parties recognize the need for reform, TEAP itself was tasked with furthering work on identifying membership needs and developing these revised terms of reference and conflict of interest procedures. This illustrated to some the significant goodwill TEAP's contribution to the Protocol's success has fostered among parties.

CHEMICAL CONTROLS

The combination of the TEAP's authority and credibility and the MLF's resources and responsiveness is widely acknowledged as having facilitated the phase-out of 98% of the historic levels

of production and consumption of ODS. Indeed, the Montreal Protocol is unique in its approach among MEAs in mandating the phase-out of production and consumption of substances listed as "controlled." Working together with parties, the MLF provides financing for establishing baselines on a party-by-party basis. It then works with parties and the industrial sectors within parties' territories, funding the transition away from controlled substances, in accordance with the Protocol's agreed control schedule. Unlike the Kyoto Protocol, under which developed country parties (Annex 1) work towards achieving national emissions targets, the Montreal Protocol requires both Article 5 and non-Article 5 to phase-out controlled substances, with differentiated timelines and targets.

Indeed, this approach to chemical controls was put forward by the proponents of the proposed amendments to the Protocol in making their case for addressing transitions to HFCs under the Montreal Protocol rather than under the Kyoto Protocol, where HFCs are already included in the basket of greenhouse gases. But while many non-Article 5 parties continue to hail the success of the Protocol and urge parties to move on to new challenges, some observers at OEWG 32 called for caution to this approach. At OEWG 32 these amendment proposals (two were considered: one by the Federated States of Micronesia, and another by the US, Canada and Mexico) again prompted aggressive dismissal by India, China, Brazil and others. They argued the Montreal Protocol was not the appropriate forum to address this issue, underscoring that HFCs are not ODS and are already addressed under the Kyoto Protocol. They also stressed such a move risked endangering what they argued are already scarce resources to address existing commitments under the Protocol.

The repeated tabling of the amendment proposals also hindered progress on other aspects of the agenda that were seen by India and China as being too related to the amendment proposals. Notably, the Swiss delegation put forward a draft decision to maximize the climate benefit of MLF projects and the US put forward a draft decision for the funding of demonstration projects on the clean production of HCFC-22 as a means of addressing HFC-23 emissions as by-products from these processes. Seasoned observers reflected that these draft decisions were well within the traditional scope of the Protocol but were politically hamstrung, prompting some to question if these amendment proposals might be put in abeyance, at least temporarily, in an attempt to allow the Protocol to achieve climate benefits through means currently available to parties. Despite the current contentiousness of this issue, sponsors of the amendment proposals expressed determination to continue and advance discussions at MOP 24.

With no movement on the amendments, or any proposal with reference to HFCs that would provide clear climate benefits, delegates were left to consider ODS on ships and feedstock emissions. While of interest to several parties, China pointed out that efforts required to monitor feedstocks may be disproportionate to the potential benefits. Some suggested that if no traction on the amendments is gained, the Protocol may fast run out of ODS to control, and work to do. Others were more pragmatic, reflecting on the lack of funds for HCFC phase-out as evidenced by TEAP's forecasts and the dissatisfaction by some parties with the level of the recent MLF replenishment, and

asking whether the only way to cost effectively address HCFCs would be to link the phase-out to HFC phase-down, and thus tap into climate finance.

25 MORE YEARS?

The Montreal Protocol owes much of its success to these elements—a sound financial mechanism, robust technical and scientific advice, and targeted chemical controls. But, 25 years on, each of these elements faces unique and interlinked challenges, which OEWG 32 illuminated, but will have to be addressed formally at MOP 24.

The Protocol's 25th anniversary provides an opportunity for parties to again consider whether to expand the scope of the Protocol, or continue along the current path. The direction of the Protocol's next 25 years will depend on the abilities of parties to identify creative ways to overcome the current HFC impasse, ensuring the Protocol can fulfill its current mandate.

UPCOMING MEETINGS

Additional Sessions of the UNFCCC *Ad Hoc* Working

Groups: This meeting will include sessions of: the *Ad hoc* Working Group on Long-term Cooperative Action under the Convention (AWG-LCA); the *Ad hoc* Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP); and the *Ad Hoc* Working Group on the Durban Platform for Enhanced Action (ADP). **dates:** 30 August - 5 September 2012 **location:** Bangkok, Thailand **contact:** UNFCCC Secretariat **phone:** +49-228-815-1000 **fax:** +49-228-815-1999 **email:** secretariat@unfccc.int **www:** http://www.unfccc.int/

Third Session of the International Conference on

Chemicals Management (ICCM3): This meeting is expected to consider, *inter alia*: adding nanotechnology and hazardous substances within the lifecycle of electrical and electronic products to the SAICM Global Plan of Action (GPA); adding endocrine disruptors and persistent pharmaceutical pollutants to the emerging issues; and the future of financing SAICM implementation after the expiration of the Quick Start Programme (QSP). **dates:** 17-21 September 2012 **location:** Nairobi, Kenya **contact:** SAICM Secretariat **phone:** +41-22-917-8532 **fax:** +41-22-797-3460 **email:** saicm@chemicals.unep.org **www:** http://www.saicm.org

Eighth Session of the Open-ended Working Group

(OEWG 8) of the Basel Convention: The Open-ended Working Group (OEWG) assists the Conference of the Parties (COP) in promoting the implementation of the Convention. **dates:** 25-28 September 2012 **location:** Geneva, Switzerland **contact:** Secretariat **phone:** +41-22-917-8218 **fax:** +41-22-797-3454 **email:** sbc@unep.org **www:** http://www.basel.int/

POPRC 8: The Persistent Organic Pollutants Review Committee (POPRC) is a subsidiary body to the Stockholm Convention established for reviewing chemicals proposed for listing in Annex A, Annex B, and/or Annex C. **dates:** 15-19 October 2012 **location:** Geneva, Switzerland **contact:** Stockholm Convention Secretariat **phone:** +41-22-917-8729 **fax:** +41-22-917-8098 **email:** pops@pops.int **www:** http://www.pops.int

49th Meeting of the Implementation Committee under the Non-Compliance Procedure of the Montreal Protocol:

The meeting will discuss issues related to parties' compliance with the provisions of the Montreal Protocol on Substances that Deplete the Ozone Layer and produce a report for consideration of MOP 24 scheduled to convene in November 2012. **dates:** 8-9 November 2012 **location:** Geneva, Switzerland **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

24th Meeting of the Parties to the Montreal Protocol:

MOP 24 is scheduled to consider a number of issues, including nominations for critical- and essential-use exemptions, QPS uses of methyl bromide, and proposed amendments to the Montreal Protocol. **dates:** 12-16 November 2012 **location:** Geneva, Switzerland **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

CDM	Clean Development Mechanism
CFCs	Chlorofluorocarbons
CTC	Carbon tetrachloride
CUEs	Critical-use exemptions
CUN	Critical-use nomination
ExCom	Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol
GEF	Global Environment Facility
GWP	Global warming potential
HCFCs	Hydrochlorofluorocarbons
HFCs	Hydrofluorocarbons
HFOs	Hydrofluoroolefins
HPMP	Hydrochlorofluorocarbon Phase-out Management Plan
IPCC	Intergovernmental Panel on Climate Change
MBTOC	Methyl Bromide Technical Options Committee
MEA	Multilateral environmental agreement
MLF	Multilateral Fund for the Implementation of the Montreal Protocol
MOP	Meeting of the Parties
MTOC	Medical Technical Options Committee
OEWG	Open-Ended Working Group
ODS	Ozone-depleting substances
QPS	Quarantine and pre-shipment
RTOC	Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee
TEAP	Technology and Economic Assessment Panel
ToR	Terms of reference
UNFCCC	United Nations Framework Convention on Climate Change