

TWENTY-NINTH MEETING OF THE PARTIES TO THE MONTREAL PROTOCOL AND THE ELEVENTH MEETING OF THE CONFERENCE OF THE PARTIES TO THE VIENNA CONVENTION: 20-24 NOVEMBER 2017

The twenty-ninth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer (MOP 29) and the eleventh meeting of the Conference of the Parties to the Vienna Convention (COP 11) opens on Monday, 20 November, in Montreal, Canada. The preparatory segment will take place from Monday through Wednesday. The high-level segment will take place on Thursday and Friday.

Delegates will address a number of issues throughout the week. Combined issues for consideration include the financial reports and budgets of the trust funds for the Vienna Convention and the Montreal Protocol. The MOP will consider, *inter alia*: the status of ratification of the Kigali Amendment to the Montreal Protocol (Kigali Amendment); the Multilateral Fund (MLF) replenishment; energy efficiency; safety standards relevant to low-global-warming-potential (low-GWP) alternatives; hydrofluorocarbons (HFCs) not listed in Annex F to the Montreal Protocol; and the phase-out of hydrochlorofluorocarbons (HCFCs).

The COP will consider the report of the tenth meeting of the ozone research managers (ORMs) of the parties to the Vienna Convention and the status of the general trust fund for financing activities on research and systematic observations relevant to the Convention.

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 releasing 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 human and animal populations. In response, a UN Environment Programme (UNEP) conference held in March 1977 adopted a World Plan of Action on the Ozone Layer and established a Coordinating Committee to guide future international action.

VIENNA CONVENTION: Negotiations on an international agreement to protect the ozone layer were launched in 1981 under the auspices of UNEP. In March 1985, the Vienna Convention for the Protection of the Ozone Layer was adopted. It called for

cooperation on monitoring, research and data exchange, but did not impose obligations to reduce ozone depleting substances (ODS) usage. The Convention now has 197 parties, which represents universal ratification.

MONTREAL PROTOCOL: In September 1987, efforts to negotiate binding obligations to reduce ODS usage led to the adoption of the Montreal Protocol, which entered into force in January 1989. The Montreal 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 and all its amendments, except the Kigali Amendment, have been ratified by 197 parties, representing universal ratification.

LONDON AMENDMENT AND ADJUSTMENTS: At MOP 2, held in London, UK, in 1990, delegates tightened control schedules and added ten more CFCs, carbon tetrachloride (CTC) and methyl chloroform to the list of ODS. MOP 2 also established the MLF, which meets the incremental costs incurred by Article 5 parties in implementing the Protocol's control measures and finances clearinghouse functions. The Fund is replenished every three years.

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 HCFCs. MOP 4 also agreed to enact non-compliance procedures, establishing an Implementation Committee (ImpCom) to examine possible non-compliance and make recommendations to the MOP aimed at securing full compliance.

MONTREAL AMENDMENT AND ADJUSTMENTS: At MOP 9, held in Montreal, Canada, in 1997, delegates agreed to: a new licensing system for importing and exporting ODS; tightening existing control schedules; and banning trade in methyl bromide with non-parties to the Copenhagen Amendment.

BEIJING AMENDMENT AND ADJUSTMENTS: At MOP 11, held in Beijing, China, in 1999, delegates agreed to controls on bromochloromethane, additional controls on HCFCs, and reporting on methyl bromide for quarantine and pre-shipment applications.

MOP 21: MOP 21 took place in Port Ghalib, Egypt, in 2009, and adopted decisions on: alternatives to HCFCs; institutional strengthening; environmentally-sound management of ODS banks; methyl bromide; and data and compliance issues. This meeting was the first at which delegates considered a proposal to amend the Protocol to include HFCs.

MOP 22: MOP 22 took place in Bangkok, Thailand, in 2010, and adopted decisions on, *inter alia*: the terms of reference (ToR) for the Technology and Economic Assessment Panel (TEAP) study on the MLF replenishment and the evaluation of the financial mechanism; and assessment of technologies for ODS destruction. Delegates also considered two amendments proposed to address HFCs under the Protocol.

COP 9/MOP 23: COP 9/MOP 23 took place in Bali, Indonesia, in 2011, and adopted decisions on, *inter alia*: a US\$450 million replenishment of the MLF for the 2012-2014 period; updating the nomination process and recusal guidelines for the TEAP; and the treatment of ODS in relation to servicing ships. Delegates also discussed the two proposed amendments to the Protocol to address HFCs.

MOP 24: MOP 24 took place in Geneva, Switzerland, in 2012, and adopted decisions on, *inter alia*, the review by the Scientific Assessment Panel (SAP) of RC-316c, a CFC not controlled by the Montreal Protocol; and procedural issues related to the TEAP and its subsidiary bodies. MOP 24 did not reach agreement on two draft decisions on: clean production of HCFC-22 through by-product emission control; and an HFC amendment to the Protocol.

MOP 25: MOP 25 was held in Bangkok, Thailand, in 2013 and adopted 21 decisions, including on: ToR for the study of the 2015-2017 MLF replenishment; implementation of the Montreal Protocol with regard to small island developing states; and a TEAP report on ODS alternatives. MOP 25 did not reach agreement on: HFC amendment proposals; additional funding for the MLF for implementing the Montreal Protocol to maximize the climate benefit of the accelerated phase-out of HCFCs; and the harmonization and validation of the climate impact fund.

COP 10/MOP 26: COP 10/MOP 26 was held in Paris, France, in 2014, and adopted decisions on, *inter alia*: a US\$507.5 million replenishment of the MLF for the 2015-2017 period; availability of recovered, recycled or reclaimed halons; and a TEAP report on ODS alternatives. Delegates also discussed possible ways to move the HFC issue forward, deciding to convene a two-day workshop in 2015, back-to-back with an additional open-ended working group (OEWG) session, to continue discussions on HFC management.

MOP 27: MOP 27 met from 1-5 November 2015, in Dubai, United Arab Emirates (UAE). Delegates adopted decisions on, *inter alia*, avoiding the unwanted import of products and equipment containing or relying on HCFCs. The MOP also established a contact group on the feasibility and ways of managing HFCs, which met throughout the week. Parties adopted the Dubai pathway on HFCs—the outcome from the contact group—a “roadmap” for negotiating an HFC amendment, including provisions for an additional OEWG meeting and an extraordinary MOP during 2016.

MOP 28: MOP 28 convened in Kigali, Rwanda, from 10-14 October 2016. MOP 28’s primary decision was to adopt the Kigali Amendment on HFCs. MOP 28 also adopted decisions on, *inter alia*: energy efficiency in the refrigeration and air conditioning (RAC) sectors; safety standards relevant for low-GWP alternatives; and the ToR for the TEAP study on the 2018-2020 MLF replenishment.

KIGALI AMENDMENT: At MOP 28, held in Kigali, Rwanda, in 2016, delegates agreed to amend the Protocol to include HFCs as part of its ambit and to set phase-down schedules for HFCs. To date, 21 parties have ratified the Kigali Amendment.

INTERSESSIONAL HIGHLIGHTS

TENTH MEETING OF THE OZONE RESEARCH

MANAGERS: The 10th meeting of the ORMs of the Parties to the Vienna Convention was held in Geneva, Switzerland, from 28-30 March 2017. During the meeting, participants addressed, among others, issues related to the Vienna Convention, the state of the ozone layer, the interactions between the ozone layer and climate change, and national and regional reports on ozone research and monitoring.

WORKSHOP ON SAFETY STANDARDS RELEVANT TO THE SAFE USE OF LOW-GWP ALTERNATIVES TO HFCs:

The Workshop, mandated by MOP 28, took place on 10 July 2017 in Bangkok, Thailand. It addressed, among others: relevant international safety standards and the process for developing and revising them; identifying limitations to the uptake of alternatives that could be addressed with changes to existing safety standards; and relationships between international and national safety standards. The conclusions were presented to OEWG 39.

OEWG 39: OEWG 39 convened in Bangkok, Thailand, from 11-14 July 2017. It addressed several issues linked to the implementation of the Kigali Amendment, such as consideration of approved destruction technologies for HFCs. Delegates examined a TEAP report on funding requirements for the 2018-2020 MLF replenishment, and requested supplementary information from the TEAP to inform the MOP 29 negotiations.

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, CTCs, 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; CFCs, halons and CTC by 2010, and 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 was frozen in 2013 and is to be phased out by 2030 (with interim targets prior to those dates, starting in 2015 for Article 5 parties). There are exemptions to these phase-outs to allow for certain uses that lack feasible alternatives.

When the Kigali Amendment enters into force on 1 January 2019, non-Article 5 parties will, starting on 1 January, phase down HFC consumption and production from the agreed baseline level by: 10% for 2019- 2023; 40% for 2024-2028; 70% for 2029-2033; 80% for 2034-2035; and 85% for 2036 and thereafter. Belarus, the Russian Federation, Kazakhstan, Tajikistan, and Uzbekistan will initially phase down their consumption and production by: 5% for 2020-2024; and 35% for 2025.

Article 5 parties, excluding those stated below, will freeze their HFC consumption and production in 2024. Consumption and production will subsequently be phased down by: 10% for 2029-2034; 30% for 2035-2039; 50% for 2040-2044; and 80% for 2045 and thereafter.

Bahrain, India, Iran, Iraq, Kuwait, Oman, Pakistan, Qatar, Saudi Arabia and the UAE will freeze HFC consumption and production in 2028. Consumption and production will subsequently be phased down by: 10% for 2032-2036; 20% for 2037-2041; 30% for 2042-2046; and 80% for 2047 and thereafter.