

COP13/MOP36 Highlights: Monday, 28 October 2024

Delegates convened for the first day of the meeting to begin addressing what was labelled a busy and challenging agenda. They considered organizational matters, established a budget committee, and heard reports from the Scientific Assessment Panel (SAP) and the Technology and Economic Assessment Panel (TEAP) on hydrofluorocarbon (HFC)-23 emissions. They opened discussions on the majority of items under the Montreal Protocol agenda and met in contact groups on very short-lived substances (VSLs), feedstock uses of controlled substances, and the future availability of halons and their alternatives.

Opening of the Preparatory Segment

Open-ended Working Group (OWEG) Co-Chair Ralph Brieskorn (the Netherlands) opened the meeting. Dechen Tsering, Director, United Nations Environment Programme (UNEP) Regional Office for Asia and the Pacific, lauded the Montreal Protocol as a symbol of unity with nations harmonizing their efforts to safeguard the Earth's ozone layer and climate. She stated that much work is needed to stay below the 1.5°C global warming target and encouraged all remaining parties to join the 160 nations that have ratified the Kigali Amendment and to collaborate on national cooling action plans.

Megumi Seki, Executive Secretary, Ozone Secretariat, reiterated the call for universal ratification of the Kigali Amendment, and called for reaching this target by the tenth anniversary of the Amendment in 2026. She highlighted the growing emissions of nitrous oxide (N₂O) and the respective impacts on the objectives of the Montreal Protocol. She expressed gratitude for the outstanding work of the Montreal Protocol's subsidiary bodies, and quoted a statement made during the pre-meeting life-cycle refrigerant management (LRM) workshop not to regret actions not undertaken.

Organizational Matters

Adoption of the agenda of the preparatory segment and organization of work: OWEG Co-Chair Miruza Mohamed (Maldives) introduced the agenda ([UNEP/OzL.Conv.13/1-UNEP/OzL.Pro.36/1](#) and [Add.1](#)). Delegates agreed to a request by Palestine to postpone, to MOP37, consideration of its classification as an Article 5 party to the Montreal Protocol and its access to support from the Multilateral Fund (MLF).

On other matters, EGYPT requested adding a review of the decision related to the HFC phase down ([Decision XXVIII/2](#), paragraph 17) on the cut-off date for the eligible capacity. SWITZERLAND proposed a discussion on HFC-245cb and other isomers not listed in Annex F to the Montreal Protocol, noting that the document recently shared by the Secretariat ([UNEP/OzL.Pro.36/INF/6](#)) was based on very recent information on isomers of HFC-

245. She noted that no global warming potential (GWP) value has yet been agreed to, but that it could be as high as 4000.

Delegates adopted the revised agenda and the organization of work as proposed, basing most of their discussions on the issues for discussion by and information for the attention of the COP-MOP ([UNEP/OzL.Conv.13/2-UNEP/OzL.Pro.36/2](#) and [Add.1](#)), and the compilation of draft decisions for consideration by the COP-MOP ([UNEP/OzL.Conv.13/3-UNEP/OzL.Pro.36/3](#)).

Financial Reports and Budgets of the Trust Funds for the Convention and the Protocol

Co-Chair Mohamed introduced this item, and delegates agreed to establish a budget committee, chaired by Sebastian Schnatz (Germany). She noted the budget committee would be briefed on issues that may have an impact on the budget, including discussions on enhancing global and regional atmospheric monitoring, and on the status of the General Trust Fund for Financing Activities on Research and Systematic Observations Relevant to the Vienna Convention (GTF).

Montreal Protocol (MP) Issues: Consideration of the Membership of Montreal Protocol Bodies for 2025

Co-Chair Mohamed introduced the item, and called on parties to submit, by Wednesday, nominations for membership to the Implementation Committee, Executive Committee of the MLF, and the OWEG Co-Chairs.

(MP) Hydrofluorocarbon-23 Issues

Emissions of HFC-23: SAP and TEAP reports (decision XXXV/7, paras. 1 and 2): Co-Chair Brieskorn opened this item and called on parties to consider the updated information and the reports provided by SAP and TEAP on HFC-23 emissions ([Report of the TEAP, September 2024](#), and [Report of the SAP, September 2024](#)).

SAP presented the response to decision XXXV/7 on HFC-23 emissions, highlighting that, after 2014, a gap emerged between global HFC-23 emissions estimated from measured atmospheric abundances and reporting-based global emissions, and noted this gap peaked at 15 kilotonnes (kt) in 2019 but has decreased over the subsequent three years to reach approximately 10.5-12.5 kt in 2022. On the increasing HFC-23 emissions gap between 2015 and 2018, the Panel noted that this corresponds to the destroyed amounts of HFC-23 reported by China. They further noted the sum of available regional emission estimates is less than the global total derived from atmospheric abundances in the remote atmosphere, indicating not all regional sources are included to date. The SAP reported that a substantial shortfall (10.5-12.5 kt per year) remains in the attribution of global HFC-23 emissions to known sources or regions.

TEAP presented its [response to decision XXXV/7 on HFC-23 emissions](#), and reported on the quantity of HFC-23 being consumed by country and sector, with HFC-23 consumption at 3,684.3 tonnes,

including for feedstock and non-feedstock uses. They underlined that there are large differences between TEAP and SAP estimates of global HFC-23 emissions (1,470–3,540 tonnes against 13,900 ± 700 tonnes), stating that the uncertainties in atmospheric-derived estimates cannot explain these differences, but noted refinements to Data Form 6 might help address some of these issues.

In the ensuing discussion, SAP and TEAP responded to questions by TUNISIA, INDIA, RUSSIAN FEDERATION, the EU, CANADA, the US, AUSTRALIA, CHINA, the UK, BANGLADESH, NORWAY, SAUDI ARABIA, and the ENVIRONMENTAL INVESTIGATION AGENCY (EIA).

SAP confirmed their assessment methodology has not changed compared to previous ozone assessments and pointed out that a reduction in HFC-23 emissions does not concur with a corresponding reduction in atmospheric concentrations due to its 200-year lifetime. They expressed hope to complete regional-scale accounting of global emissions with help from relevant countries in time for the next assessment, and lauded the additional atmospheric measurements in China. SAP also agreed with the EU that the GWP of substances breaking down into HFC-23 should be reconsidered given recent insights.

SAP confirmed that the contribution of HFC-23 to current warming compared to all HFCs is 15% and the emissions gap ranges from 10.5–12.5 kt, or about 170 million tonnes of CO₂-equivalent. SAP acknowledged it is not possible to combine regional estimates (from China in this case) or understand them in relation to total emissions based on atmospherically derived emissions, but stressed the SAP report must not be interpreted to imply that reporting from China is inaccurate. They noted the gap has been assessed using empirical methodologies from across the globe to mitigate against bias.

TEAP confirmed the quantities of HFC-23 generated from hydrochlorofluorocarbon (HCFC)-22 production was in the order of 1.5–3.0% and specified the calculated coefficient. They explained that their report could not split up global HFC-23 consumption by parties as this data is confidential. TEAP also confirmed there is no knowledge of any new sources of HFC-23 production, and the main HFC-23 consumption occurred in semiconductor and electronics manufacturing. They further noted party reporting for HFC-23 generation in HCFC-22 production is not harmonized for co-product, waste, and destruction streams.

TEAP further confirmed that reported estimates based on Article 7 data is about 1.5–3.5 kt, while SAP estimates an amount of 13.9 kt based on atmospherically-derived emissions, acknowledging that 75–89% of emissions are not accounted for by reporting. To further explain this gap, TEAP turned to annexes in the report that note HCFC-22 is the major production pathway for HFC-23, making up 95% of the total generation of HFC-23. They welcomed any additional information parties can provide on HCFC-22 production streams.

AUSTRALIA and the UK supported further discussions based on a conference room paper (CRP). The US announced that they would submit a CRP for consideration, requesting a supplemental document to address the questions raised by parties during the discussion. CHINA also announced they would submit a CRP, noting a significant part of the uncertainty pertaining to the gap in HFC-23 emissions was due to the limits of current scientific knowledge and a lack of technical capacity for measurement, especially for developing countries, and expressed their willingness to exchange ideas on how to better curb HFC-23 emissions.

Potential changes to data reporting forms for reporting on HFC-23: Co-Chair Brieskorn reminded delegates that at OEWG 46, the Secretariat presented options for changes to data reporting form 3 (on production), but some parties expressed interest in also

changing data forms 4 (destruction) and 6 (HFC-23 emissions). The US introduced CRP.4 and its annexes containing revised data reporting forms. She said the proposal is to make reporting consistent across substances.

ARGENTINA and CHINA noted sometimes HFC-23 was produced as a by-product of HCFC-22 production, and we must differentiate between intentional and unintentional production. CHINA added that the current reporting burden was heavy, the forms needed to be simplified, and there were still many unknowns when it comes to HFC-23 emissions. Delegates agreed to establish a contact group.

(MP) LRM, including the Outcomes of the Workshop on LRM (decision XXXV/11)

Co-Chair Brieskorn introduced this item and pointed to the outcomes of the LRM workshop ([UNEP/OzL.Pro/Workshop.13/3-UNEP/OzL.Pro.36/7](#)). Parties expressed gratitude for the well-organized workshop and welcomed the coordination between the Protocol and the Basel Convention. NIGERIA, with the DOMINICAN REPUBLIC, KENYA, SOUTH AFRICA, and EGYPT, called for financial support for Article 5 countries to train and equip technicians in recovery, recycling, and reclamation, noting they would submit a CRP. EGYPT recommended that the next replenishment discussions consider the costs of implementing LRM in Article 5 countries.

KUWAIT, with BAHRAIN and MALAYSIA, opined that the MOP was not ready to take a decision on LRM, calling for more discussions to clarify issues raised during the workshop. DOMINICAN REPUBLIC called for more information on end-of-life treatment of equipment containing refrigerants.

FEDERATED STATES OF MICRONESIA (FSM) introduced CRP.6, which calls for, among other things: additional information from the TEAP, a compilation of an online library on LRM by the Secretariat, and the strengthening of national LRM policies. BANGLADESH suggested the CRP could focus on opportunities under other relevant multilateral environmental agreements with co-benefits for Montreal Protocol parties. The US and EU welcomed the CRP and noted their interest in further discussions.

MALDIVES noted difficulties with implementing LRM and requested a contact group discussion on challenges faced by countries in geographically dispersed regions.

Delegates agreed to establish a contact group.

(MP) Very Short-lived Substances

Co-Chair Mohamed introduced this item. Delegates agreed to continue deliberations in the contact group established at MOP35, co-facilitated by Heidi Stockhaus (Germany) and Juan Jose Galeano (Argentina). In the contact group, delegates opened discussions on the draft decision on additional information on VSLS. They agreed to request the TEAP and SAP to provide VSLS-related information to MOP39 via their 2026 assessment reports. They further discussed specific information to be included, agreeing on the need for updated information on dichloromethane (DCM), trichloromethane (TCM), dichloroethane (DCE), trichloroethylene (TCE), and perchloroethylene (PCE), including, *inter alia*, growth trends for the past five years. They debated to request the Panels to identify “other,” “high-volume,” “anthropogenic,” and “halogenated” VSLS, with some preferring not to narrow the scope.

(MP) Feedstock Uses of Controlled Substances

Co-Chair Mohamed introduced this item, pointing to the related draft decision discussed during OEWG 46. Delegates agreed to establish a contact group co-chaired by Leslie Smith (Grenada) and Michel Gauvin (Canada).

(MP) Enhancing the Global and Regional Atmospheric Monitoring of Controlled Substances

Co-Chair Mohamed introduced this issue, noting discussions on a draft decision introduced at OEWG 46. The EU, with the US, called to extend the scope of the contact group on this issue to include other relevant discussions. FINLAND, also on behalf of Ecuador and Indonesia, informed delegates that they would submit related CRPs.

Delegates established a contact group, co-chaired by Liana Ghahramanyan (Armenia) and Alessandro Giuliano Peru (Italy), whose scope will be expanded to include additional issues later in the week.

(MP) Climate-friendly Alternatives for Metered-dose Inhalers

Co-Chair Mohamed introduced the agenda item. Delegates established a contact group, with the Co-Chairs to be announced.

(MP) Future Availability of Halons and their Alternatives

Co-Chair Brieskorn introduced the agenda item. Delegates established a contact group, co-chaired by Andrew Clark (US) and Ali Tumayhi (Saudi Arabia).

(MP) Possible Compliance Deferral for Article 5, Group 2 Parties: Technology Review by TEAP

Co-Chair Brieskorn introduced the agenda item. He noted that at OEWG 46, India, Bahrain, Kuwait, Qatar, and Saudi Arabia put forward a draft decision. Delegates established a contact group, co-chaired by Cornelius Rhein (EU) and Ana Maria Kleymeyer (Federated States of Micronesia).

(MP) Strengthening Montreal Protocol Institutions, including Combating Illegal Trade

Co-Chair Mohamed introduced the item. The EU introduced CRP.5, which reflects concerns related to their original proposal.

AUSTRALIA said having a meeting of interested parties, instead of experts, may be too broad and called for precision moving forward. SWITZERLAND welcomed the reference to building on work already done and asked if there was a way to include some expertise and knowledge within this meeting. Delegates established a contact group, co-chaired by Fathmath Usra (Maldives) and Jana Mašičková (Czechia).

(MP) Energy Efficiency Issues

OEWG Co-Chair Mohamed introduced two matters.

Unwanted imports of energy-inefficient products and equipment: Parties agreed to re-establish a contact group for the continued consideration of the CRP brought forward by Kyrgyzstan at OEWG 46.

Strengthening the enabling environment to enhance energy efficiency in the cooling sector: FSM, also on behalf of Grenada, re-introduced the proposal from OEWG 46. It emphasizes four requests to support objectives around energy efficiency in the refrigeration and air conditioning sector.

The UK supported the proposal, stressing the importance of energy efficiency as it relates to HFC phase down in the face of a warming world where more cooling will be needed. With KENYA, they lauded the proposed centers of excellence approach, highlighting the efforts of the African Centre for Excellence on Sustainable Cooling (ACES) to support integrated action on cooling through a holistic approach that facilitates knowledge and resource-sharing across the region. They stated any discussion at the MOP needs to support the next meeting of the Executive Committee (ExCom) in December and not affect steps taken there. AUSTRALIA supported the ongoing work of the ExCom in funding low-volume consuming (LVC) country HFC phase-down efforts, and noted this decision should not constrain

or duplicate existing efforts. CANADA noted the proposal calls for actions from the ExCom where a funding window to support relevant sectors in LVC countries already exists.

COOK ISLANDS and VANUATU supported the proposal, and, with KENYA, highlighted the need for financial and technical support for LVC and very low-volume consuming (VLVC) countries. EGYPT proposed introducing incentives for industry to transition to energy efficient equipment, and emphasized the need to ensure the funds in the MLF funding window are accessible. Delegates agreed to establish a contact group, co-chaired by Alain Wilmart (Belgium) and Sergio Merino (Mexico).

(MP) Nominations for Critical-use Exemptions for Methyl Bromide for 2025

Co-Chair Mohamed introduced this agenda item, noting only one critical use nomination (CUN) was submitted, by Canada.

The Methyl Bromide Technical Options Committee (MBTOC) noted this may be the final CUN presentation to the Montreal Protocol. CANADA requested a critical-use exemption (CUE) of 2.85 tonnes of methyl bromide for soil fumigation at a single strawberry nursery in Prince Edward Island. He said MBTOC recommends granting the CUN for the full amount since this is a 26% reduction from the approved amount at MOP35 and it indicates a reduction plan to phase out completely by 2026. He said this is a significant moment for the Protocol as 62,000 tonnes of methyl bromide has been eliminated in the past 20 years and 8-10.5 tonnes are still used globally for quarantine and pre-shipment (QPS) uses.

CANADA said it recognizes the importance of reducing and phasing out methyl bromide, and has adopted non-chemical alternatives aiming for a complete reduction for 2026. He added this is the final nomination from Canada. He proposed adopting the same decision from 2023, with a change reflecting the reduced amount and not requesting an exemption in 2025, as contained in CRP.3. MYANMAR and the EU congratulated Canada and both expressed interest in discussing continued QPS uses. The draft decision was forwarded to the high-level segment (HLS) for adoption.

(MP) Changes in the Membership of the TEAP

OEWG Co-Chair Brieskorn introduced this item and said the Secretariat has received 10 nominations to serve on the TEAP and called on parties to nominate any additional experts. He noted that an informal group will meet on Wednesday to finalize a CRP.

(MP) Status of Ratification of the Kigali Amendment to the Montreal Protocol

OEWG Co-Chair Mohamed opened this issue ([UNEP/OzL.Pro.36/INF/5](#)), noting 160 parties have ratified the Amendment. Delegates agreed to forward this issue to the HLS for adoption.

In the Corridors

Alarm bells rang out during the first plenary as the esteemed Assessment Panels alerted delegates to a significant gap between globally reported HFC-23 emissions and atmosphere-derived emissions estimates. The decades' long success of the Montreal Protocol can be attributed in large part to countries quickly arresting emissions of controlled substances based on analysis by the Assessment Panels. But on Monday, the Meeting of the Parties was at a loss: Why the discrepancy in emission estimates? What is the source of the fugitive emissions? Are all countries reporting emissions data correctly? "Atmospheric data doesn't lie," shared one seasoned delegate, "The sharp increase in emissions is there for all to see—it's definitely coming from somewhere." With these and many more issues opened for discussion, delegates will need to work smart to agree on the plethora of issues before them in the limited time available.

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