2025 High-Level Political Forum on Sustainable Development

Advancing sustainable, inclusive, science-and evidence-based solutions for the 2030 Agenda for Sustainable Development and its Sustainable Development Goals for leaving no one behind

Contributions from the Vienna Convention on the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer

March 2025

Introduction

1. The Secretariat for the Vienna Convention on the Protection of the Ozone Layer (Vienna Convention) and its Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol) (Ozone Secretariat) in full consultation with the Presidents of the thirteenth meeting of the Conference of the Parties to the Vienna Convention, Mr. Yaqoub Al-Matouq from Kuwait, and of the Thirty-Sixth Meeting of the Parties to the Montreal Protocol, Ms. Kerryne James from Grenada, submits this report to the 2025 High-Level Political Forum on Sustainable Development (HLPF), in response to the invitation from Mr. Bob Rae, President of the United Nations Economic and Social Council.

2. The report outlines the work carried out under the Vienna Convention and the Montreal Protocol (the ozone treaties) up to the end of 2024, in relation to the theme of the 2025 High-level Political Forum: *"Advancing sustainable, inclusive, science-and evidence-based solutions for the 2030 Agenda for Sustainable Development and its Sustainable Development Goals for leaving no one behind"*. It highlights the relevant contribution of the international ozone regime to the Sustainable Development Goals (SDGs) under in-depth review by the HLPF in 2025: SDG 3. Ensure healthy lives and promote well-being for all at all ages; SDG 5. Achieve gender equality and empower all women and girls; SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; SDG 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development; and SDG 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

About the Vienna Convention and the Montreal Protocol

3. The ozone treaties have achieved universal ratification with 198 parties, including all United Nations Member States, other States and the European Union. The Vienna Convention calls on parties to cooperate on scientific research and observations to better understand and assess the effects of human activities on the ozone layer and the effects on human health and the environment from modification of the ozone layer. The Montreal Protocol controls 96 manufactured ozone-depleting substances (ODSs) plus their isomers, most of which are also potent greenhouse gases. To date, the global implementation of the Montreal Protocol has led to the phase-out of 99 per cent of ODSs, or 1.8 million Ozone Depletion Potential (ODP) tonnes, globally. The remaining 1 per cent is largely hydrochlorofluorocarbons (HCFCs) amounting to approximately 200,000–300,000 metric tonnes (or about 13,000 ODP-tonnes). Global phase-out of HCFCs is expected by 2030. The Kigali Amendment to the Montreal Protocol, which entered into force on 1 January 2019, added hydrofluorocarbons (HFCs), which do not destroy ozone but are potent greenhouse gases, to the list of substances controlled under the Protocol.

4. In 2024 several in-person meetings were convened under the different institutions of the ozone treaties, namely, the twelfth meeting of the Ozone Research Managers of the parties to the Vienna Convention (ORM12), the forty-sixth meeting of the Open-ended Working Group of the Parties to the Montreal Protocol (OEWG46), the combined thirteenth meeting of the Conference

of the Parties to the Vienna Convention and Thirty-Sixth Meeting of the Parties to the Montreal Protocol (COP13/MOP36), the seventy-second and seventy-third meetings of the Implementation Committee under the Non-Compliance Procedure for the Montreal Protocol, the 94th and 95th meetings of the Executive Committee (ExCom) of the Multilateral Fund for the Implementation of the Montreal Protocol (MLF) and the workshop on life-cycle refrigerant management (LRM), as well as several meetings of the three Assessment Panels of the Montreal Protocol and the technical options committees. Significant progress was made on many substantive matters including on atmospheric monitoring of controlled substances, LRM, emissions of HFC-23, and very-short-lived substances, offering a path towards solutions that will contribute to the achievement of the SDGs, including those under review in 2025, as further elaborated on in this submission.

5. As will be made clear in this document, work under the ozone treaties can help reduce the impacts of the triple planetary crises, including climate change but also biodiversity loss and pollution. Those crises put our economic and social well-being at risk and undermine opportunities to reduce poverty and improve lives and livelihoods threatening the achievement of all SDGs.

Ozone Treaties and the Sustainable Development Goals

6. The table below summarizes how the ozone treaties contribute to meeting the SDGs. This submission builds on this summary and highlights how work in the past year contributes to the SDGs being reviewed in-depth at HLPF 2025.

Table: Schematic overview of how the ozone treaties contribute to SDGs. The goals of relevance for the 2025 review are highlighted.[1]

OZONE TREATIES CONTRIBUTIONS TO THE GOALS	SUSTAINABLE DEVELOPMENT GOALS														
	1	2	3	4	5	7	8	9	10	11	12	13	14	15	17
Universal ratification						√		√	√	√		√	√	√	√
Partnerships with all stakeholders at all levels				√		√	√	√	√	√		√			√
Funding to all developing countries	√			√	√	√	√	√	√	√	√	√			√
Increased investment in green alternatives	√					√	√	√		√	√	√			√
Technology and knowledge transfer	√			√		√	√	√	√	√	√	√			√
Promoting the use of greener, safer chemicals		√	√				√	√		√	√		√		√
Promoting technology innovation	√	√		√		√	√	√	√	√	√	√			√
Institutional strengthening and capacity building	√			√			√	√	√		√				√
Promoting science education and mainstr gender				√	√		√		√	√					√
Promoting food security/safety & reducing FLW[2]	√	√	√				√	√		√	√		√	√	
Avoided damage to crops, fisheries and materials	√	√	√				√	√		√	√		√	√	
Protection from harmful UV radiation	√	√	√				√	√		√			√	√	
Avoided diseases (skin cancers and eye cataracts)	√		√				√			√					
Energy efficiency enhancements				√		√	√	v		√	√	√			√
Climate change mitigation and adaptation						v	√	v		√	√	√	√	√	√

Submission to the High-Level Political Forum 2025

(a) Impacts of the multiple and interconnected crises on the implementation of SDGs 3, 5, 8, 14 and 17

By protecting the ozone layer, the ozone treaties mitigate the effects of damaging ultra-violet (UV) radiation on living organisms, maintaining the health of people (SDG 4) and the planet (including aquatic ecosystems and marine organisms (SDG 14)) on which the achievement of all SDGs depends. Without the Montreal Protocol, large increases in UV-B radiation on terrestrial and aquatic

[1] Goal 6 and 16 are linked only indirectly to the ozone treaties' work.
[2] Food loss and waste.

vegetation would have drastically reduced their photosynthetic uptake of carbon dioxide, increasing atmospheric carbon dioxide levels and the global mean surface temperature.

By reducing emissions of ODSs, the Montreal Protocol has already prevented global warming by about 1°C by mid-century compared with the scenario of uncontrolled use of ODSs. Full implementation of the Kigali Amendment to phase down HFCs, coupled with the promotion of energy efficiency, are further increasing the climate benefits of the Protocol to avoiding another 1°C of warming by the end of the century **(SDGs 3, 5 and 14)**. These benefits include reducing emissions from the cooling sector and protecting people at risk from the hotter and more dangerous world brought on by climate change.

The reinforced global cooperation to tackle these problems **(SDG 17)** was demonstrated by the adoption at COP13/MOP36 of key decisions, including on atmospheric monitoring, which link the ozone treaties at operational level and draw on the strengths of both to ensure effective monitoring of emissions of controlled substances to detect unexpected emissions and address them to sustain the phaseout and reductions achieved.

(b) Three key areas where sustainable, inclusive, science- and evidence-based solutions for achieving the SDGs and leaving no one behind are being effectively delivered, especially related to the cluster of SDGs under review in 2025, also bearing in mind the three dimensions of sustainable development and the interlinkages across the Goals and targets

The three panels of the Montrel Protocol (the Technology and Economic Assessment Panel (TEAP), the Scientific Assessment Panel and the Environmental Effect Assessment Panel) provide independent and authoritative assessments that are key to science-based decision-making.

Energy efficiency (EE) in the cooling sector: In 2024, TEAP provided an update on EE, which identified that passive cooling, higher EE standards, and a faster phase down of climate warming refrigerants used in the cooling industry could avert up to 60% of the predicted emissions from the cooling sector by 2050 and recommended implementing concerted efforts in those areas. The ExCom established two funding windows for EE in 2024, i.e., $100 million for projects for enhancing EE while phasing down HFCs and a revolving fund of US $40 million for EE end-user projects **(SDGs 3, 5, 8 and 17)**.

Life-cycle refrigerant management (LRM): LRM seeks to effectively manage refrigerants in cooling systems and equipment throughout their life cycle to avoid and reduce emissions from these refrigerants **(SDGs 3 and 8)**. Effective LRM can prevent up to 39 Gt CO2e of HCFC and HFC emissions by 2050. Work on LRM, including the LRM workshop, relies largely on the TEAP's findings and draws on solutions from around the world **(SDG 17)**. Decision XXXVI/2 requested the TEAP to provide annual updates on information related to LRM, invited the MLF to consider ways of enhancing LRM in the activities of the developing countries, and encouraged parties to incorporate LRM in their national policies **(SDGs 3, 8 and 14)**.

Projects that support inclusive business continuity and skills of technicians: MLF projects support the transition to greener technologies, provide specialised training, create safer working environments, open new markets for sustainable products and creating jobs founded on innovative solutions, while applying a gender mainstreaming policy to all projects by bilateral and implementing agencies **(SDGs 5, 8 and 17)**.

(c) Three examples of measures to accelerate progress towards SDGs through well-coordinated actions in key transitions to bring progress to scale (food security, energy access and affordability, digital connectivity, education, jobs and social protection, climate change, biodiversity loss and pollution), building on interlinkages between SDGs to ensure cohesive progress

Universal ratification of the Kigali Amendment: Eight parties ratified the Amendment in 2024, joining the 155 other parties that had previously done so. At COP13/MOP36, the goal of universal ratification of the Amendment by 15 October 2026, the 10th anniversary of the Amendment's adoption, was announced. If fully implemented, the Amendment could prevent up to 0.5°C of warming by 2100. With EE enhancements, this benefit may double to 1°C. The Ozone Secretariat, with the support of UNEP, calls on the remaining 35 parties to ratify the Amendment by October 2026 **(SDGs 3, 5, 8, 14 and 17**), thereby achieving the universal participation enjoyed by the ozone treaties.

Enhancing regional atmospheric monitoring of controlled substances: Based on the ORM's recommendations developed in collaboration with the Protocol's Scientific Assessment Panel, COP13/MOP36 adopted decisions to strengthen regional atmospheric monitoring **(SDGs 3, 8 and 17)**. Filling in the gaps in the observation network will strengthen the implementation of the ozone treaties by ensuring effective monitoring of emissions of controlled substances to detect unexpected emissions and address them, thereby sustaining the phaseout and reductions achieved under the Protocol.

Sustainable cold chains: Well-coordinated work towards wider availability and access to sustainable cold chains that ensure food preservation and avoid and reduce food loss is an opportunity to ensure food safety and security, ensure that vaccines are kept fresh, reduce global warming and prevent ozone layer depletion while enhancing health and well-being for all. In cold chain capacity building and regional collaboration, an important development is the establishment of the Africa Centre of Excellence for Sustainable Cooling and Cold Chain in Rwanda, with the mission to develop affordable, resilient, and equitable cooling solutions to address pressing challenges in food security, economic stability, and public health **(SDGs 3, 8 and 17)**.

(d) Follow-up actions and measures being undertaken by your intergovernmental body or forum to support implementation of the 2023 SDG Summit Political Declaration and the outcomes of the 2024 Summit of the Future, to advance the implementation of the 2030 Agenda for Sustainable Development

The climate mitigation contribution of the Montreal Protocol, including through the implementation of the Kigali Amendment, is being increasingly recognized. It is reflected in the Protocol's work on improving energy efficiency, phasing down HFCs, increasing access to sustainable cooling and promoting LRM, with the projected quantitative climate benefits described in section (a) of this submission. These and efforts to sustain the gains of the Protocol through, among others, continued monitoring of controlled substances and addressing gaps for early detection of emissions and their sources have contributed to supporting **SDGs 3, 5, 8, 14 and 17**, the 2023 Political Declaration, and achieving the aims of the Pact for the future (**action 1: achieve SDGs; action 9: address climate change; action 10: sustainable use of the environment**) and the Declaration on Future Generations (**guiding principle 5: clean, healthy and sustainable environment**).

The ozone process is also working towards gender equality through efforts to increase the participation of female delegates and the nomination and election of women to key positions **(SDG 5,** Political Declaration, the Pact for the Future (**action 8: gender equality and empowerment of all women and girls**) and the Declaration on Future Generations (**guiding principle 7: gender equality and empowerment**).

The ozone process is contributing to the objectives of the Global Digital Compact (**1: Close all digital divides; 2: Foster an inclusive, open, safe and secure digital space: 4: Advance responsible, equitable and interoperable data governance approaches**) by encouraging parties to submit Montreal Protocol data through the online reporting system, developing an application that quantifies and showcases the contributions of the Protocol and its Kigali Amendment to climate change mitigation through phase-out of ODS and phase down of HFCs and regularly updating the electronic handbook of decisions and other online tools.

(e) Recommendations and key messages to be considered for inclusion in the Ministerial Declaration of the 2025 HLPF

For two years in a row, the earth has experienced its warmest years on record: in 2024, the global average temperature rose above the 1.5℃ threshold under the Paris Agreement. At this time of climate crisis, the **Montreal Protocol's contribution to CO2e emissions reduction so far from the phaseout of ODSs and from protecting vegetation from harmful ultraviolet radiation has been significant**, avoiding up to about 1.5 to 2℃ by mid-century. Under the Kigali Amendment (KA) to the Montreal Protocol, more can be done.

The HFC reduction under the KA has the potential to avoid up to 0.5℃ of warming by 2100 and with energy efficiency improvements in the cooling sector as HFCs are phased down, could result in doubling of that benefit to 1℃. For this, full implementation of the KA is necessary. **The global aim is to achieve universal ratification of KA by 15 October 2026**, the 10th anniversary of its adoption.

Thirty-five countries that have not yet ratified the KA are urged to do so.

KA presents a 'low-hanging' opportunity to reduce both direct and indirect CO2e emissions importantly in the cooling sector. As the climate warms, the demand for cooling is increasing rapidly. Through the **acceleration of HFC phasedown, adoption of zero- or low-GWP refrigerants and safe, efficient technologies, including passive cooling strategies and effective life-cycle refrigerant management**, the demand for cooling which is a necessity for comfort to sustain productivity, keeping food and vaccines fresh, and reducing food loss, may be met with minimum impact on climate.

Building on the legacy of the **Montreal Protocol's successful global partnership** against the backdrop of multilateralism facing challenges to resolve ever-growing global issues, the international community needs to strive for **renewed political commitment, strengthened partnerships and coordinated efforts** to tackle the climate crisis and sustainable development including by fully implementing the Montreal Protocol and its KA.
