Volume XXIV | 15 June 2024

In this issue:

GLOBAL

1. Kigali Amendment latest ratifications

Congratulations to the latest countries which have ratified the Kigali Amendment:

United Arab Emirates, 19 April 2024
Thailand, 3 April 2024
Djibouti, 8 Mar 2024
Guatemala, 11 January 2024

At the Twenty-Eighth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, held in Kigali from 10 to 15 October 2016, the Parties adopted, in accordance with the procedure laid down in paragraph 4 of article 9 of the 1985 Vienna Convention for the Protection of the Ozone Layer, a further amendment to the Montreal Protocol as set out in Annex I to the report of the Twenty-Eighth Meeting of the Parties (Decision XXVIII/1).

Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, Status of Ratification 15 October 2016 to **date**.

United Nations Treaty Collection
Image: UN Treaty Collection website

2. Report of the 94th meeting of the Executive Committee


UNITED NATIONS

EP

United Nations Environment Programme

Distr.
GENERAL

UNEP/OzL.Pro/ExCom/94/67
31 May 2024

ORIGINAL: ENGLISH

EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Ninety-fourth Meeting
Montreal, 27-31 May 2024

REPORT OF THE NINETY-FOURTH MEETING
OF THE EXECUTIVE COMMITTEE

Introduction

1. The 94th meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol was held at the headquarters of the International Civil Aviation Organization (ICAO) in Montreal, Canada, from 27 to 31 May 2024.

2. The meeting was attended by representatives of the following countries, members of the Executive Committee in accordance with decision XXXV/23 of the Thirty-Fifth Meeting of the Parties to the Montreal Protocol:

(a) Parties operating under paragraph 1 of Article 5 of the Protocol (Article 5 parties): Argentina (Chair), Cuba, Ghana, India, Jordan, Kuwait and Tunisia;

(b) Parties not operating under paragraph 1 of Article 5 of the Protocol (non-Article 5 parties): Belgium, Canada, Estonia, Italy (Vice-Chair), Japan, Sweden and the United States of America.

3. In accordance with the decisions taken by the Executive Committee at its Second and Eighth meetings, representatives of the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP) both as implementing agency and as Treasurer of the Fund, the United Nations Industrial Development Organization (UNIDO) and the World Bank attended the meeting as observers.

4. The Executive Secretary and Deputy Executive Secretary of the Ozone Secretariat and the President of the Bureau to the Thirty-Fifth Meeting of the Parties were also present.

5. A representative of the European Union attended as an observer.

6. Representatives of the Alliance for Responsible Atmospheric Policy, the Carbon Containment Lab, the ClimateWorks Foundation, the Environmental Investigation Agency, the Institute for Energy and Climate Strategies, the Institute for Governance and Sustainable Development, the Natural Resources Defense Council, the Refrigerant Gas Manufacturers' Association of India and the Private Sector Commission for Studies on Sustainable Development of Mexico also attended as observers.

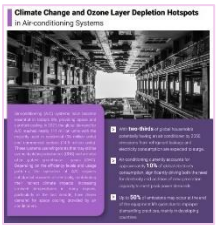
Read/download Full report

The Multilateral Fund for the Implementation of the Montreal Protocol, 13 June 2024
Image: The Multilateral Fund

3. Life Cycle based Hotspots in Cooling Systems

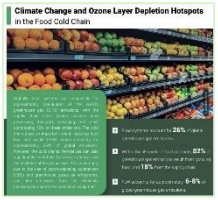
The Life Cycle Initiative of the United Nations Environment Programme in collaboration with the Ozone Secretariat, has conducted a study on the environmental impacts of air-conditioning and food cold chain systems. Using Life Cycle Assessment (LCA) based hotspots analysis, the study identifies critical areas – hotspots - contributing to ozone layer depletion and climate change. The infographics and brochures discuss these hotspots and outline potential policy interventions to make informed decisions for a more sustainable cooling sector and mitigate its impacts.

Climate Change and Ozone Layer Depletion Hotspots in Air-conditioning Systems



Air-conditioning (A/C) systems have become essential in today's life, providing space and comfort cooling. In 2021, the global demand for A/C reached nearly 111 million units with the majority used in residential (96 million units) and commercial sectors (14.5 million units). These systems use refrigerants that may still be ozone-depleting substances (ODS) and are also often potent greenhouse gases (GHG). Depending on the efficiency levels and usage patterns, the operation of A/C requires substantial amounts of electricity, contributing to their indirect climate impacts. Increasing ambient temperatures in many regions, particularly in the last decade, have driven demand for space cooling provided by air conditioners.

Climate Change and Ozone Layer Depletion Hotspots in the Food Cold Chain



Globally, food systems are responsible for approximately one-quarter of the world's greenhouse gas (GHG) emissions, with the supply chain alone (which includes food processing, transport, packaging, and retail) contributing 18% to these emissions. The cold chain plays an important role in reducing food loss and waste (FLW), which accounts for approximately 6-8% of global emissions. However, the cold chains themselves can also significantly contribute to climate change and the depletion of the ozone layer. This is primarily due to the use of ozone-depleting substances (ODS) and greenhouse gases as refrigerants, and also emissions from the electricity necessary to operate the cold chain equipment.

United Nations Environment Programme in collaboration with the Ozone Secretariat, June 2024

Image: Ozone Secretariat

4. Next Generation Cooling: World Refrigeration Day Announces 2024 Theme "Temperature Matters ... Absolutely!"

World Refrigeration Day celebrates the people and technologies responsible for creating and maintaining the world we live in, a world dependent upon temperature-controlled environments. Cantered around June 26, the event is supported globally by industry, professional groups, scientific and engineering associations, as well as by governments and individuals.

"Temperature control is crucial not only for comfort and health but also for preserving food, medicines, and industrial processes. Temperature can mean the difference between life and death; temperature matters – absolutely." – Stephen Gill

We are excited to announce that this year's World Refrigeration Day (WRefD) will focus on the theme 'Temperature Matters.' Taking place on 26th June 2024, WRD will highlight the vital impact of the refrigeration, air conditioning, and heat pump industry on indoor environmental quality, extending beyond efficient cooling and heating.

This year is particularly special as it marks the bicentenary of Lord Kelvin, the pioneering figure in thermodynamics known for the absolute temperature scale. The theme 'Temperature Matters' pays tribute to his legacy, underscoring the critical role temperature regulation plays in our society. WRefD 2024 will explore the relevance of thermodynamics in an era of escalating energy demands and climate change, highlighting the importance of efficient temperature control for sustainable development and human comfort.

Our campaign will spotlight the industry's technical expertise in providing both cooled and heated environments, emphasising the significance of temperature control in daily life. Lord Kelvin's work has paved the way for heat pump technologies, central to low carbon heating strategies, showcasing the sector's role in global decarbonisation efforts.

This year's WRefD will also highlight the refrigeration, air conditioning, and heat pump industry's contributions to maintaining food and medicine supply chains, effective heating, and creating healthier, comfortable environments with cleaner air. WRefD 2024 will feature global initiatives aimed at educating the public on the various applications of these technologies.

The theme 'Temperature Matters' ensures a broad focus, capturing global attention and discussing the sector's wide-scale significance. As Stephen Gill mentioned, "This broad theme allows people worldwide to address local issues and target audiences. By focusing on a universal theme, WRD 2024 aims to foster global recognition and discussion about the sector's wide-ranging impact."

The theme is designed to be universally relevant, encouraging regions to address their local interests. The campaign will also promote career opportunities in the HVACR/RACHP sector, urging schools and colleges to explore diverse and impactful industry roles.

Join us on 26th June 2024 for World Refrigeration Day to celebrate and explore why 'Temperature Matters' in every aspect of our lives. Together, we can raise awareness and drive progress in the essential field of temperature management and the controlled

environment. #WorldRefrigerationDay #TemperatureMatters #HVACR #Sustainability #LordKelvin200 [...]

World Refrigeration Day (WRefD), 9 June 2024

Image: WRefD

5. The impact of refrigeration on food losses and associated greenhouse gas emissions throughout the supply chain

Abstract

One-third of food produced globally is wasted while approximately 800 million people suffer from hunger. Meanwhile, food losses produce approximately 8% of total anthropogenic greenhouse gas (GHG) emissions.

This study develops a food loss estimation tool to assess how improved access to the cold chain could impact food loss and its associated GHG emissions for seven food types in seven regions. This study estimates that poor cold chain infrastructure could be responsible for up to 620 million metric tons (Mmt) of food loss, responsible for 1.8 $GtCO_2$-eq annually.

Utilizing fully optimized cold chains could save over 100 Mmt of fruit and vegetable loss in South & Southeast Asia and over 700 Mmt CO_2-eq in Sub-Saharan Africa. Developing more localized, less industrialized ('farm-to-table') food supply chains in both industrialized and non-industrialized contexts may save greater quantities of food than optimized cold chains. Utilizing localized supply chains could save over 250 Mmt of roots and tubers globally (over 100 Mmt more savings than those of an optimized cold chain) and reduce GHG emissions from meat losses in industrialized regions by over 300 Mmt CO_2-eq.

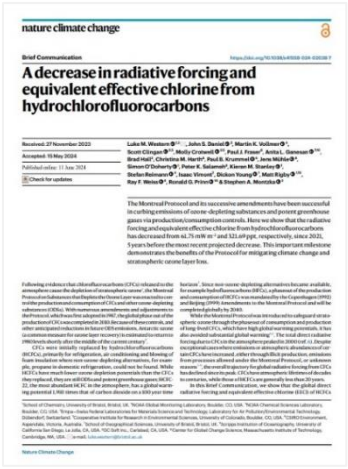
Due to the differences in the environmental intensity of food types, cold chain investments that prioritize reducing overall food losses will have very different outcomes than those that prioritize reducing GHG emissions.

Authors: *Aaron Friedman-Heiman, and Shelie A Miller*

Institute of Physics (IOP), Environmental Research Letters, Volume 19, Number 6, 28 May 2024

Image: IOP

6. A decrease in radiative forcing and equivalent effective chlorine from hydrochlorofluorocarbons



The Montreal Protocol and its successive amendments have been successful in curbing emissions of ozone-depleting substances and potent greenhouse gases via production/ consumption controls.

This Brief shows that the radiative forcing and equivalent effective chlorine from hydrochlorofluorocarbons has decreased from 61.75 mW m−2 and 321.69 ppt, respectively, since 2021, 5 years before the most recent projected decrease.

This important milestone demonstrates the benefits of the Protocol for mitigating climate change and stratospheric ozone layer loss.

Read/download the full text

Authors: *Luke M. Western, John S. Daniel, Martin K. Vollmer, Scott Clingan, Molly Crotwell, Paul J. Fraser, Anita L. Ganesan, Brad Hall, Christina M. Harth, Paul B. Krummel, Jens Mühle, Simon O'Doherty, Peter K. Salameh, Kieran M. Stanley, Stefan Reimann, Isaac Vimont, Dickon Young, Matt Rigby, Ray F. Weiss, Ronald G. Prinn & Stephen A. Montzka*

Nature climate change, 11 June 2024

Image: Nature climate change

7. More to offer from the Montreal protocol: how the ozone treaty can secure further significant greenhouse gas emission reductions in the future

ABSTRACT

Action under the Montreal Protocol has contributed to climate change mitigation for almost 35 years. The phase-out of ozone-depleting sub-stances (ODS) has set the ozone layer on a path to recovery, protecting the world's biosphere from harmful ultraviolet radiation.

The 2016 Kigali Amendment to the Montreal Protocol is expected to avoid 5.6–8.7 gigatonnes of carbon-dioxide equivalent ($GtCO_2e$) emissions of hydrofluorocarbons (HFC) per year by 2100, reducing the impact of HFCs on global average warming by up to 0.4°C.

Despite its successes, unexpected emissions of phased out ODS – notably the chlorofluorocarbon, CFC-11 - have brought attention to shortcomings in the Protocol's monitoring, reporting, verification and enforcement (MRV+E) which must be addressed to guarantee its controls are sustained.

Meanwhile, additional significant mitigation could be achieved by accelerating the phase-down of HFCs under the Kigali Amendment, by tackling ODS and HFC emissions from

leaking banks of equipment and products and by controlling feedstocks, which are not subject to Montreal Protocol phase-out controls.

Recent scientific papers have linked almost 870 million tCO_2 per year of greenhouse gases (GHG) and ODS to fluorochemical industrial processes and illegal fluorochemical production.

Expanding the scope of the Montreal Protocol to address nitrous oxide (N_2O), itself an ODS and GHG, would also contribute substantial ozone and climate benefits.

This perspective essay discusses new and strengthened policy measures that governments can consider under the Montreal Protocol in order to maximize early, cost-effective reductions in emissions of non-CO_2 greenhouse gases and ensure future implementation.

Highlights

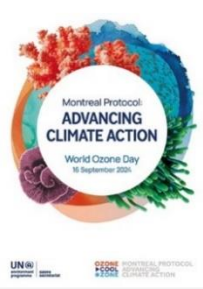
- Perspective essay examining non-CO_2 emission reductions under the Montreal Protocol.
- Significant ongoing emissions are linked to unregulated fluorochemical production.
- Strengthened institutions and processes will avoid illegal trade and sustain compliance.
- Addressing ODS and HFC banks and N_2O emissions present additional opportunities.
- The global HFC phase-down must be accelerated to meet the1.5°C climate goal.

Authors: *Clare Perry, Thomas Nickson, Christina Starr, Tim Grabiel, Sophie Geoghegan, Beth Porter, Avipsa Mahapatra & Fionnuala Walravens*

Journal of Integrative Environmental Sciences 2024, VOL. 21, NO. 1, 2362124, 10 June 2024.

Image: Journal of Integrative Environmental Sciences 2024

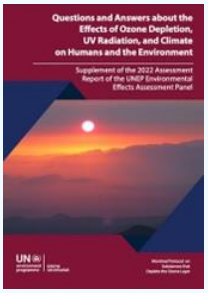
World Ozone Day 2024 theme announced "*Montreal Protocol: Advancing Climate Action*" - The aim of this year's World Ozone Day is to raise awareness of how far the Montreal Protocol has progressed from ozone layer protection to also become a recognized powerful climate action tool. The Ozone Secretariat invites all parties to join the celebration of World Ozone Day and use the assets created around this year's theme to raise awareness among the public on the important work of the Montreal Protocol to safeguard us and the planet.

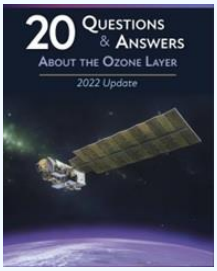


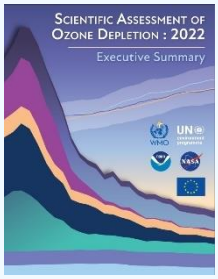
> **Theme in** Arabic Chinese English French Russian Spanish

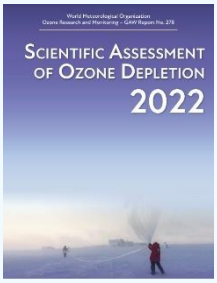
> **Graphic visualisation:** Full range of A1 posters for printing: Arabic Chinese English French Russian Spanish

Guidebook on Mainstreaming Gender in the Implementation of the Montreal Protocol - OzonAction, in consultation with UN Women and a gender expert, has developed this **Guidebook on Mainstreaming Gender in the Implementation of the Montreal Protocol** to advance the agenda of gender equality and women's empowerment through the implementation of Montreal Protocol activities. The Guidebook is designed to assist National Ozone Officers with addressing gender issues through their daily work and operations. **Read/download English | Russian**





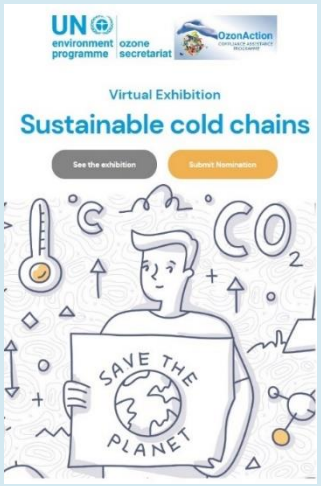




Watch out for Illegal Trade of HCFCs and HFCs: Lessons learnt from the Global Montreal Protocol Award for Customs and Enforcement Officers. This publication provides an analysis of the cases submitted in the context of the **Global Montreal Protocol Award for Customs and Enforcement Officers**. The Global Award was launched in 2018 by UNEP OzonAction. This Global Award is intended to raise awareness about the Montreal Protocol and to recognise customs and enforcement officials for their efforts in preventing and combating illicit traffic in Montreal Protocol and Kigali Amendment-regulated substances. Ozone-depleting substances (ODS) include hydrochlorofluorocarbons (HCFCs) and other compounds with a high Global Warming Potential (GWP), particularly hydrofluorocarbons (HFCs).

UNEP OzonAction, ASHRAE, April 2023 Fact sheet: Update on New Refrigerants Designations and Safety Classifications. The purpose of this fact sheet is to provide an update on ASHRAE standards for refrigerants and to introduce the new refrigerants that have been awarded an «R» number over the last few years and introduced into the international market.

Sustainable cold chains: Virtual Exhibition - The virtual exhibition for sustainable cold chains aims to highlight the critical role of cold chains in ensuring food safety and security, access to vaccines, reducing global warming and preventing ozone layer depletion.



The exhibition showcases commercially available cold chain technologies for food and vaccines, mainly targeting applications and equipment with refrigeration and cooling cycles that use ozone and climate-friendly refrigerants and have enhanced energy efficiency characteristics. It also aims to promote game-changing and systemic approaches, relevant initiatives, and not-in-kind solutions to cold chains

These technologies and approaches directly contribute to meeting national obligations under the Montreal Protocol on Substances that Deplete the Ozone Layer including its Kigali Amendment and the Paris Agreement on Climate Change. Sustainable cold chain contributes to the achievement of many Sustainable Development Goals.

The exhibition is ongoing and continuously updated with submissions accepted on a rolling basis. The partners of the exhibition will continue promoting the exhibition at all relevant events throughout 2022 and beyond.

Click here for more information / submit a nomination >>>
Image: Sustainable cold chains website

Vanuatu's Case Study on Integrating ODS/HFC Module into the National Single Window System - The National Single Window is a centralized system that links all relevant government approving authorities and acts as a 'one-stop-shop' where importers and exporters may submit applications electronically including information and all required paperwork to support the application and approval process. **Read/Download the Factsheet >>>**

Recognition of Prior Learning Scheme for Refrigeration and Air-Conditioning Servicing Technicians in Mongolia - The Recognition of Prior Learning (RPL) process can help those in the industry acquire a formal qualification that matches their knowledge and skills and thereby contributes to improving their employability, mobility, and lifelong learning. RPL can make a significant contribution to providing the relevant learning framework necessary for the present and ongoing maintenance of a quality workforce, especially in the RAC servicing sector. In Mongolia, the RPL process has been rolled out in over 30 TVET trades in the construction, mining, and other sectors, including apparel and culinary etc. Mongolia initiated the RPL scheme for RAC servicing technicians as part of their implementation of the HPMP in cooperation with various national stakeholders. **Read/ Download the Factsheet**

AFRICA

8. African Francophone RAC Experts Receive Training and Certification in F-Gases

Cotonou, Benin 3 to 7 June 2024 – Twenty (20) Refrigeration and Air Conditioning (RAC) experts from eight African Francophone countries – Benin, Chad, Cabo Verde, Democratic Republic of Congo, Madagascar, Niger, Senegal and Togo (14 male, 6 female) successfully participated in the theory, practice training and certification session on servicing best practices and safe handling of F-Gases in refrigeration.

The training, organized by UNEP OzonAction Compliance Assistance Programme (CAP) Africa Francophone Network in collaboration with the Centro Studi Galileo and the National Ozone Unit in Benin, aimed to enhance the participants' knowledge, skills, and attitudes by focusing on various aspects of RAC work.

Certification of technicians is critical as it will ensure that the technicians have the required competencies to work with HCFCs (hydrochlorofluorocarbons) and HCFC alternatives in an environmentally responsible manner that minimizes emissions of these refrigerants. The phasing out of HCFCs will lead to the increased adoption of low-GWP alternative refrigerants. However, most of these low-GWP refrigerants have flammability and/or toxic properties. Hence the installation, servicing and maintenance of RAC systems which use low-GWP refrigerants need to be handled by competent technicians to ensure best practices and preventive leakage of the refrigerants.

In his opening statement, Mr. Moussa Barry, Programme Management Officer, UNEP OzonAction welcomed the participants and expressed his gratitude to the Government of Benin for hosting the workshop. By providing a comprehensive training programme that combines theoretical knowledge with practical skills, this session will equip trainers to effectively educate technicians on the proper handling and servicing of F-Gas equipment.

This will contribute to minimizing environmental impact and ensuring safe practices within the industry.

The workshop was officially launched by Ms. Jeanne Adanbiokou Akakpo, Chief of Staff, representing the Minister of the Environment, Transport and Sustainable Development. She welcomed participants to Benin, and thanked UNEP OzonAction and Centro Studi Galileo for their collaboration in organizing the workshop. In her opening statement, Mme Akakpo stated, "This training is a special opportunity that will allow the participants to raise the level of their skills and knowledge on various aspects of working on refrigeration and air conditioning, and safe handling of refrigerants." She added, "From a safety perspective, with the evolution of technology, only technicians who are certified must be authorized to install, maintain, repair, recover and dismantle refrigeration and air conditioning systems."

The training workshop presented a varied agenda consisting of presentations, discussions, practical demonstrations, and working groups as well as interactive exercises that considered overall challenges in the region and good practices in the RAC sector. Topics covered included a broad range of issues related to the safe handling, servicing, and regulations surrounding fluorinated gases (F-gases): F-Gas Regulations; F-Gas Characteristics and Applications; Safe Handling Practices; Leak Repair and System Maintenance; F-Gas Alternatives; Environmental Impact of F-Gases; Professionalism and Ethics.

One of the highlights of the training was the introduction of new technologies in RAC such as the use of non-flame pipe connections, particularly in refrigeration units employing flammable refrigerants.

After an intensive training session, the participants took a theory and practical exam. Out of 20 candidates, 13 were successfully certified.

The training was facilitated by Mr. Madi Sakande and Mr. Said El Harch, from Centro Studi Galileo. The expertise and guidance provided by the trainers contributed to the success of the training, equipping the RAC instructors with essential knowledge and skills.

By successfully completing an F-gas certification programme, RAC technicians demonstrated their knowledge and skills in handling F-gases safely and responsibly. This ensures they comply with environmental regulations and contribute to minimizing the environmental impact of F-gases.

Contact:

Yamar Guisse, Montreal Protocol Regional Coordinator, Francophone Africa

Moussa Barry, Programme Management Officer, Francophone Africa

Image: OzonAction ROA

ASIA AND THE PACIFIC

9. Energy Efficiency Twinning Workshop and Joint Network Meeting of South Asia-Southeast Asia Ozone Officers

Guangzhou, People's Republic of China, 21 – 24 May 2024 – UNEP's OzonAction Asia-Pacific Compliance Assistance Programme (CAP) team organized the *Energy Efficiency Twinning Workshop for Montreal Protocol Officers, Energy Efficiency Policy Makers, and Financial Mechanisms Focal Points to Support Kigali Amendment Objectives* alongside the *Joint Network Meeting of South Asia and Southeast Asia National Ozone Officers*.

Energy Efficiency Twinning Workshop for Montreal Protocol Officers, Energy Efficiency Policy Makers, and Financial Mechanisms Focal Points to Support Kigali Amendment Objectives

Conducted on 20 – 21 May 2024, the Twinning Workshop focused on addressing how Article 5 countries can enhance the energy efficiency of refrigeration and air-conditioning (RAC) appliances while phasing down Hydrofluorocarbons (HFCs), which are potent greenhouse gases, to maximize environmental benefits guided by the Kigali Amendment to the Montreal Protocol in order to combat climate change. The workshop was attended by a total number of 54 participants (37 Male/17 Female).

The Twinning Workshop aimed at modeling a holistic approach for countries to promote sustainable/ green cooling that both integrates the gradual reduction in the consumption and production of HFCs and enhances energy efficiency in equipment using low-GWP alternatives to HFCs – through better national and regional policy coordination and involving key policymakers and financial partners.

***"The Kigali Amendment presents us with a unique opportunity to lead by example, to demonstrate that economic development and environmental responsibility are mutually reinforcing. By adjusting national Montreal Protocol compliance programs to include energy-efficiency considerations, we can achieve a win-win scenario—a significant reduction in greenhouse gas emissions and a concurrent rise in energy savings and cost efficiencies."* – Mr. James Curlin, Head of Branch, UNEP OzonAction**

Through the various sessions, relationships between National Ozone Officers and National Energy Efficiency Policymakers were strengthened. They discussed collaboration opportunities and challenges in aligning country plans with Kigali Amendment goals and national energy efficiency policies. Key themes that emerged from the discussions included: 1) clearly distinguishing roles and responsibilities of National Ozone Officers and Energy Efficiency Policymakers as well as a better understanding of existing policies related to energy efficiency and the Montreal Protocol for RAC appliances, 2) ensuring

practical standards while collaborating with stakeholders, and 3) using National Cooling Action Plans as a roadmap for successful implementation of achieving cooling goals.

***"Energy efficiency of RAC equipment has a significant impact on greenhouse gas emissions… The implementation of the Montreal Protocol still has a long way to go. This requires greater efforts on our part and stronger support from all parties. China is willing to work with international partners to conscientiously implement the Montreal Protocol and its Kigali Amendment, continue to undertake its due international obligations, carry out in-depth international exchanges and cooperation, and join hands with international partners to build a green world and protect the planet."*– Mr. Dong Wenfu, Chief, Division of Montreal Protocol, P.R. China**

The countries in the South Asia Network also completed a comprehensive matrix identifying stakeholders in achieving RAC energy efficiency goals, and ways to conduct more effective outreach and engagement with the stakeholders, paving the way for more energy-efficient cooling practices and solutions in the region. The countries in the Southeast Asia Network exchanged experiences on collaboration between the National Ozone Officers and the Energy Efficiency Policymakers and brainstormed to identify opportunity areas where these authorities can collaborate to streamline the actions.

Joint Network Meeting of South Asia and Southeast Asia National Ozone Officers

Conducted on 22 – 24 May 2024, the Joint Network Meeting emphasized sharing experiences and progress while implementing the Montreal Protocol. The countries shared updates on key developments, best practices, and lessons learned, as well as identified areas of focus in 2024/2025, particularly ones that encourage south-south cooperation and leverage existing resources. The meeting was attended by a total number of 36 participants (22 Male/14 Female).

Major themes under discussion included the preparation for the upcoming HCFC and HFC reduction targets. Countries assessed their current HCFC consumption and readiness to meet the 2025 phase-out obligation. They also delved into developing Kigali Amendment Implementation Plans (KIPs), including strategies, timelines, and synergies between the HCFC phase-out and HFC phase-down – and how to minimize overlap and maximize efficiency.

While developing KIP proposals, countries agreed that the logical connection between strategy, impact, targets, and funding must be clear. There is also a need to ensure balance between Kigali Amendment compliance, sustainable economic growth, and sustainable development of key industries. Regulations and policies on targeted phase-down sectors should be developed to ensure sustainability. Lastly, regular consultation with key stakeholders and industries is critical to the success of the KIP development and implementation.

***"This Joint Network Meeting is organized at the appropriate time for Article 5 countries to prepare themselves for parallel obligations of HCFC reduction and HFC freeze. The meeting enabled us to discuss south-south cooperation, networking, and identified assistance as part of CAP services. We would like to express our appreciation for UNEP Asia and Pacific Office in organizing the meeting with the relevant agenda topics."*– Ms. Suryanti Jumin, NOO Brunei Darussalam**

The countries went on a tour of Midea's R-290 air-conditioner production line and Exhibition Center in Shunde, Guangdong Province. The purpose of this visit was for the countries to

learn more about one of the latest low-global-warming-potential and high-energy-efficiency alternative technologies to phase down HFCs.

UNEP CAP team expressed its sincere gratitude to the Government of China for their generous hospitality in hosting the meeting, workshop, and site visit. Resource partners who went above and beyond were the Multilateral Fund Secretariat, Ozone Secretariat, China Household Electrical Appliances Association, UNDP, UNIDO, World Bank, GIZ, UNEP's U4E, and guest speakers and technical experts. Their active participation, thoughtful contributions, and collaborative spirit created a truly special environment for sharing insights and knowledge to help the countries foster collaboration and resource sharing and effectively implement the Montreal Protocol and the Kigali Amendment.

The meeting and workshop were organized by UNEP OzonAction CAP, Asia and the Pacific Office in partnership with the Government of China as part of its approved 2024 Work Programme under the Multilateral Fund.

Contact:

Elisa Rim
Interim Montreal Protocol Regional Coordinator South Asia Countries
UNEP, Compliance Assistance Programme (CAP) Asia and Pacific Office

Pipat Poopeerasupong
Interim Montreal Protocol Regional Coordinator, Southeast Asia, and Pacific Island Countries
UNEP, Compliance Assistance Programme (CAP) Asia and Pacific Office

Image: OzonAction ROAP

10. Vietnam issues national plan to eliminate ozone-depleting substances

Hanoi (VNA) – Vietnam will promote the transition to technologies that utilise substances with low or zero global warming potential and roll out sustainable cooling solutions to cut emissions by 11.2 million tonnes of CO_2 equivalent by 2045 under a national plan on the management and elimination of ozone-depleting substances signed by Deputy Prime Minister Tran Hong Ha on June 11.

Ozone depleting substances (ODS) include chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), halons, methyl bromide, carbon tetrachloride, hydrobromofluorocarbons, chlorobromomethane, and methyl chloroform.

The plan aims at effectively managing and gradually eliminating the substances in line with the Montreal Protocol.

Accordingly, the country will honour the commitment on being free of products that contain or are made from bromochloromethane, carbon tetrachloride (CTC), CFC, Halon, HBFC, methyl chloroform, HCFC 141b, and will not import other HCFCs from 2040.

As planned, it will cut the consumption of HFCs, and phase down the substance's consumption to 20% from 2045.

Furthermore, the controlled substances will be collected, kept, transported and recycled in accordance with technical requirements. Meanwhile, mechanisms on carbon credit generation from recycling and treatment of the substances will be popularised.

Regarding sustainable cooling solutions, they should be integrated into the national- and provincial- levels urban area development programmes, action plans in response to climate change, and relevant planning.

An array of missions and solutions were sketched out to complete the set targets, comprising building and completion of mechanisms and policies, improvement of human resources quality, promotion of scientific research, development of technologies, and enhancement of bilateral and multilateral cooperation in the field.

Vietnam plus, 11 June 2024

Image: Vietnam plus - Vietnam plans cut emissions by 11.2 million tonnes of CO_2 equivalent by 2045. (Photo: baochinhphu.vn)

11. Global efforts recovering Ozone Hole to maximum extent - Pakistan

ISLAMABAD, Pakistan - The Prime Minister's Coordinator on Climate Change & Environmental Coordination Romina Khurshid Alam has said that the Ministry of Climate Change was focusing on critical aspect of protection of ozone layer.

Unfortunately, human activities have led to the depletion of the ozone layer, resulting in the formation of the ozone hole.

This depletion posed severe risks. However, it is encouraging that under the umbrella of United Nations Vienna Convention and its Montreal Protocol, global efforts were able to recover the ozone hole to a maximum extent.

She was addressing the National Ozone unit of ministry of climate change on occasion of training program for customs & enforcement officers on Montreal Protocol & HCFC control today.

While highlighting the importance of the ozone layer she said, the ozone layer is vital for life on Earth. And we know that it shields us from the sun's harmful radiation, preventing severe health issues such as skin cancer and cataracts and protecting ecosystems and wildlife.

While apprising the implementation status on UN conventions by Pakistan she stated, Pakistan has played its role as an important party to these UN agreements. Pakistan ratified the Montreal Protocol in 1992, marking our commitment to phasing out ozone-depleting substances (ODS). Since then, Pakistan has made significant progress in this area. To steer this process, the government of Pakistan established a dedicated National Ozone Unit (NOU) in 1996. This Unit through its collaborative efforts with Pakistan Customs, the Refrigeration and air conditioning industry, the Ministry of Commerce, technicians and engineers, importers, and traders has successfully completed ten phases of the Montreal Protocol.

She further added, Pakistan phased out the first generation of Ozone Depleting Substances by 2009 and achieved a 50% reduction in HCFC by January 2020. We are successfully

moving towards the 67.5% reduction target by 2025. Our achievements include converting numerous industries to ozone-friendly technologies.

We are on track to meet future targets, demonstrating our collective resolve. Highlighting the role of customs officers, she said, Customs officers play a crucial role in the management of ozone-depleting substances by ensuring the strict enforcement of regulations and preventing illegal imports. Their vigilance and expertise are essential in implementing measures to protect and regenerate the ozone layer, safeguarding both the environment and public health. This training is crucial as the role of customs and enforcement officers is essential in monitoring and preventing the illegal trade of ODS. Their efforts ensure our borders and markets remain free from substances that harm the ozone layer.

Overall, through training more than 2,500 technicians and over 300 customs officers, the NOU has significantly enhanced our national capacity to handle and regulate ODS effectively. Reiterating her commitment she stated, Our journey does not end here. We remain resolute in our commitment to environmental protection. We are now preparing for the upcoming HFC phase-down under the Kigali Amendment.

Highlighting the climate actions of the ministry she said, the Ministry's National Ozone Unit, in collaboration with Hima-Vertay and Clasp, developed the Pakistan Cooling Action Plan to reduce carbon emissions associated with cooling products.

She highlighted, Holding this training in connection with World Environment Day 2024 is a testament to our resolve for environmental protection in the true and practical sense.

It is a joint effort, reflecting our dedication to the principles of the Montreal Protocol. She concluded with emphasize that she would like to reiterate the resolve of the incumbent government, guided by the Prime Minister's unwavering commitment to climate action. Our collective efforts in protecting the ozone layer reflect our dedication to environmental protection and sustainable development. Let us continue to work together, inspired by the theme of World Environment Day 2024, to safeguard our planet for future generations.

Dispatch News Desk (DND), 5 June 2024, By Mati
Image: Pakistan Consulate Jeddah

LATIN AMERICA AND CARIBBEAN

12. Launch of the Kigali Amendment Implementation Plan in Chile

Santiago, Chile, 31 May 2024 – The launch of the **Kigali Amendment Implementation Plan** (KIP) was celebrated in Chile from 28 to 30 May 2024. This initiative is crucial for the reduction of hydrofluorocarbons (HFCs) in the country according to the Montreal Protocol schedule. Participants included several key stakeholders such as customs representatives, refrigeration associations, and technical and vocational institutes, among others. Additionally, the launch was attended by Mr. Carlos Andrés Hernández, Officer for the Montreal Protocol (UNDP), and Agustín Sánchez, International Expert (UNDP), both representing the leading agency UNDP. Mr.

Marco Pinzón, UNEP OzonAction's Regional Network Coordinator for Latin America, was also present.

In addition to participating in the KIP launch, Mr. Pinzón had the opportunity to visit and dialogue with various relevant public and private institutions. He said, "This visit has been fundamental for strengthening relationships and cooperation between the institutions responsible for implementing the Montreal Protocol and controlling the trade of HFCs (and other controlled substances) in Chile, such as the National Customs Service. 2024 is the first control date for HFCs, and customs must update their systems to control the trade of HFCs, mixtures, and dependent equipment. Additionally, they need to train in the management of quotas according to the corresponding regulations."

The customs component is of vital importance in the implementation of the Kigali Amendment and generally in the Montreal Protocol. The relationship between the Ministry of the Environment, responsible for implementing the Montreal Protocol, and the National Customs Service, responsible for trade controls, is essential for the success of this HFC reduction strategy. "Chile has a long-standing relationship with these institutions, and these types of projects are fundamental to further strengthen this collaboration," added Pinzón.

With the entry into force of the Kigali Amendment, simultaneous control of HFCs and hydrochlorofluorocarbons (HCFCs) is required, which represents a significant challenge. However, cooperation between the Ministry of the Environment and the National Customs Service will ensure effective and coordinated implementation of the new regulations. These joint efforts will not only contribute to the reduction of harmful substances for the environment but will also strengthen Chile's capacity to meet its international commitments in terms of climate protection. UNEP will continue to support Chile and other countries in the region in the implementation of the Kigali Amendment, reaffirming its commitment to environmental protection and the fight against climate change.

Contact: **Marco Pinzón**, Montreal Protocol Regional Coordinator, Latin America

UNEP, Office of Latin America and the Caribbean

Image: OzonAction ROLAC

NORTH AMERICA

13. An international climate success story: HCFCs

[...] The continued international engagement and successful emissions reductions are testaments to the Montreal Protocol. These lessons can be applied to reduce greenhouse gas emissions in various policy sets. Our recent report, "**What Fixing the Ozone Layer Can Teach Us About Carbon Import Fees,**" applies lessons from the Montreal Protocol directly to a carbon import fee framework.

The successful global emissions reductions of HCFCs through the Montreal Protocol provide several key lessons for engaging in other emission reductions through international collaboration:

Forge strong international partnerships by using a stick-and-carrot approach

The success of the Montreal Protocol is grounded in international cooperation. Initially, only forty-six countries ratified the agreement; crucially, it included all major ODS producers—including the U.S., France, Germany, and Japan. Over time, the treaty increased its members, achieving universal ratification in 2009. This is evidence that inclusive participation is ideal, but immediate broad participation is not required for an agreement to be successful. Policymakers aiming to forge effective partnerships can take a strategic approach by starting with a targeted group of key partners and gradually expanding the coalition.

The Montreal Protocol utilized a club-like framework that offered certain "carrots," i.e., benefits, to incentivize compliance with time-targeted emission reductions. Benefits included frictionless trade, financial aid to qualifying countries, and transitional support through the Technical and Economic Assessment Panel. These incentives helped lower compliance costs and provided technical solutions, making it easier for countries to meet their targets.

Future agreements should adopt a similar approach, aiming not only to ease compliance burdens for members but also to offer alternative solutions. By providing tangible benefits and support to members, agreements can effectively reduce global emissions while encouraging member participation and cooperation.

Leveraging trade mechanisms

Trade is a central component of the Montreal Protocol and was leveraged as a "stick" to encourage participation and compliance. The treaty banned trade between members and non-members, eliminating the competitive advantage of those outside the agreement and incentivizing participation. Not only did non-members not benefit, they lost market space. This highlights a valuable lesson for future arrangements, that using trade barriers can encourage participation and reward environmentally sustainable trade flows.

Supported by domestic legislation

The U.S. further supported reducing the ODS outlined in the Montreal Protocol with domestic legislation. The first two rounds of covered chemicals were subject to excise taxes; other chemicals, including HCFCs, are subject to an allowance system. The EPA manages the phase-down of HCFCs with an allowance-based system with a complete phaseout scheduled for 2030.

Similarly, countries participating in reducing global emissions should be able to determine what policies work best for their domestic economy, industries, and political atmosphere while pursuing an international goal.

The Takeaway

The Montreal Protocol and accompanying domestic policies have reduced ODS by an impressive 98% compared to 1990 levels. While there is still work to be done as manufacturers continue the transition to less harmful chemicals, the recent decrease in HCFCs marks a significant success. As the world collaborates to address greenhouse gases, the Montreal Protocol's approach of forging international partnerships by using a stick-and-carrot approach, leveraging trade, and implementing domestic policies provides a successful blueprint for future efforts.

Climate Leadership Council, 13 June 2024. By Holly Rooper

Image: Climate Leadership Council

14. Andersen's Sales and Salvage in Greeley, Colorado, to pay $195,000 for alleged violations of the Clean Air Act

Agreement ensures proper management of refrigerant compounds

DENVER -- The U.S. Environmental Protection Agency today announced a settlement with Andersen's Sales and Salvage Inc. at 1490 E 8th St., in Greeley, Colorado, resolving alleged violations of the Clean Air Act associated with releases of refrigerants. The consent agreement and final order requires the company to pay a $195,000 penalty for these violations.

Andersen's Sales and Salvage failed to verify the proper recovery of all refrigerants from the appliances accepted at its scrapyard. Releases of these refrigerant compounds deplete the stratospheric ozone layer that protects life from the sun's harmful ultraviolet radiation, and also contribute to global warming and climate change. As part of this settlement, the company is required to comply with an administrative compliance order that includes implementation of a refrigerant management plan, among other measures.

The facility is located in an area with environmental justice concerns. Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

The U.S. Environmental Protection Agency (USEPA), 11 June 2024

Image: USEPA

EUROPE & CENTRAL ASIA

15. Illicit refrigerant gases intercepted in the Netherlands following OLAF tip-off

The Dutch authorities intercepted three trucks from Türkiye that were transporting over 3,500 cylinders, containing approximately 40 tonnes of F-gases (HFC). The batch did not have the necessary permits and quota that are required for these very strictly regulated imports into the EU. This is one of the biggest seizures of F-gases made in the Netherlands. The seized cargo has a

CO_2 equivalent of 64,778 tonnes – that's about the same amount as the average yearly emissions of 32,000 cars, or 25,000 flights within the EU.

The interception of the illegal consignment was made possible by an alert from the European Anti-Fraud Office (OLAF), which provided the Dutch authorities with intelligence on suspicious imports of F-gases into the country. The Public Prosecution Service in the Netherlands will now decide on the next steps.

OLAF has been actively monitoring the international traffic to the EU of F-gases (or HFC, as they are also called). These are potent greenhouse gases, often with a high global warming potential. To address this issue, an EU Regulation adopted in 2014 established a phase-down to gradually reduce the quantity of F-gases placed on the market. Only authorised companies can import F-gases, and a quota system was set up to limit the amount that companies can import.

To tackle the black market in F-gases and the damage it causes, OLAF works closely with national and international authorities to detect, analyse and pass on tracking information and intelligence on suspicious shipments and operators.

*For more information on the seizure by the Dutch authorities, please see the news published by **Inspectie Leefomgeving en Transport**.*

European Anti-Fraud Office, 4 June 2024

Image: European Anti-Fraud Office - © Inspectie Leefomgeving en Transport

16. Customs officers prevent import of equipment that destroys ozone layer into Tashkent

According to the capital's customs department, the "Toshkent Tovar" foreign trade customs post controls the import of environmentally hazardous, ozone-depleting substances and equipment.

The current regulations prohibit the import of refrigeration and air conditioning equipment manufactured using ozone-depleting or related substances.

Recently, the post discovered attempts to circumvent this restriction during customs inspection of imported equipment.

In particular, it was revealed that imported high-pressure air-drying equipment and refrigeration equipment for the beverage bottling line operate on R-22 freon, which is included in the list of ozone-depleting substances.

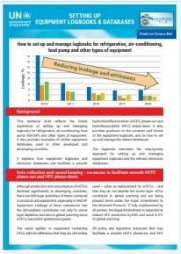
For this reason, equipment worth a total of 143.5 million soums [$11,378.37] is currently taken into temporary storage. It is expected that in the future they will be removed from the republic.

On the above fact, a customs inquiry is being carried out.

KUN.UZ, 13 June 2024

Image: KunUz website | Photo: Customs Committee

How to set up and manage logbooks for refrigeration, air-conditioning, heat pump and other types of equipment - Background: This technical brief reflects the Polish experience of setting up and managing logbooks for refrigeration, air-conditioning, heat pump (RACHP) and other types of equipment. It also provides examples of similar equipment databases used in other developed and developing countries. It explains how equipment logbooks and electronic databases can facilitate a smooth hydrochlorofluorocarbon (HCFC) phase-out and hydrofluorocarbon (HFC) phase-down. It also provides guidance on the contents and format of the equipment logbooks, and on how to set up and manage the related databases. The Appendix describes the step-by-step approach for setting up and managing equipment logbooks and the relevant electronic databases. **This factsheet is available in English and Russian**



FEATURED

Overview for the meetings of the ozone treaties - Click **here** for upcoming and past Montreal Protocol Meetings dates and venues.

Avoided CO_2e - The CO_2e App available from the Ozone Secretariat aims to raise awareness and enhance understanding of the contributions of the Montreal Protocol and its Kigali Amendment to climate change mitigation.

World Ozone Day 2023 theme: Montreal Protocol: fixing the ozone layer and reducing climate change - On World Ozone Day, we celebrate the achievements of the Montreal Protocol on Substances that Deplete the Ozone Layer in fixing the ozone layer and reducing climate change. The theme for the 2023 International Day for the Preservation of the Ozone Layer, to be marked on 16 September, is **Montreal Protocol: fixing the ozone layer and reducing climate change**. This reiterates the recent finding by the Scientific Assessment Panel of the positive impact the Montreal Protocol has on climate change, that ozone recovery is on track and how climate challenges can be supported through the Kigali Amendment.

The theme and other related materials available **here** in the six UN official languages.

New gaming technology to create environment simulation game for teenagers-The UN Environment Programme's (UNEP) Ozone Secretariat today launched a simulator game and avatar using the latest software technology. **Apollo's Edition** is the latest addition to the **Reset Earth education platform**. Targeting 13-18-year-olds, the free online education material developed provides educators with resources to teach students the importance of environmental protection.

Online introductory course 'International legal framework on ozone layer protection' - Designed for government representatives and national stakeholders new to the Vienna Convention and Montreal Protocol, students of environmental law, and anyone interested in learning about the ozone treaties, the **online course** launched by the Ozone Secretariat aims to provide an introduction to the international legal framework on ozone layer protection.
United Nations Environment Programme (UNEP), Ozone Secretariat

Free teaching kits on ozone layer and environmental protection

- New free online teacher toolkits and lesson plans based on the success of UNEP's Ozone Secretariat's ***Reset Earth*** animation and video game
- Targeting Tweens by adopting animation and gamification to create innovative online lessons to raise awareness on ozone layer and environmental protection
- Available online in digital and print format for universal access

Read/download >>> **Ozone Secretariat's education platform**

The UN Environment Assessment Panels

The Assessment Panels have been vital components of ozone protection since the Montreal Protocol was first established. They support parties with scientific, technological and financial information in order to reach decisions about ozone layer protection and they play a critical role in ensuring the Protocol achieves its mandate. The Assessment Panels were first agreed in 1988 to assess various direct and indirect impacts on the ozone layer. The original three panels are:

- **The Technology and Economic Assessment Panel**
- **The Scientific Assessment Panel**
- **The Environmental Effects Assessment Panel**

In the past there were 4 main panels. The Panels for Technology and Economic Assessments were merged in 1990 into one Panel, now called the Technology and Economic Assessment Panel.

Why are the three current panels important to ozone layer protection? Each carries out assessment in its respective field. Every four years, the key findings of all panels are consolidated in a synthesis report. **Learn more >>>**
United Nations Environment Programme (UNEP), Ozone Secretariat

Multilateral Fund for the Implementation of the Montreal Protocol

The Multilateral Fund for the Implementation of the Montreal Protocol

The Fund is dedicated to reversing the deterioration of the Earth's ozone layer. It was established by a decision of the Second Meeting of the Parties to the Montreal Protocol (London, June 1990) and began its operation in 1991. The main objective of the Fund is to assist developing country parties to the Montreal Protocol whose annual level of consumption of the ozone depleting substances (ODS) chlorofluorocarbons (CFCs) and halons is less than 0.3 kilograms per capita to comply with the control measures of the Protocol. Currently, 147 of the 197 Parties to the Montreal Protocol meet these criteria. They are referred to as Article 5 countries.

The Multilateral Fund is managed by an Executive Committee with equal membership from developed and developing countries. Since the inception of the Fund, the Executive Committee has held 93 meetings. The Fund Secretariat, located in Montreal, assists the Executive Committee in its tasks. Projects and activities supported by the Fund are implemented by four international implementing agencies and a few bilateral agencies.

On 27 October 2023, the Thirty-Fifth Meeting of the Parties to the Montreal Protocol (35thMOP) decided on the replenishment of the Multilateral Fund for the triennium 2024-2026. The Parties agreed on a budget of US $965 million for the triennium, a record amount.

As of 8 November 2023, the contributions received by the Multilateral Fund from developed countries, or non-Article 5 countries, totalled over US$ 4.7 billion. The Fund has also received additional voluntary contributions amounting to US $25.5 million from a group of donor countries to finance fast-start activities for the implementation of the HFC phase-down.

To facilitate phase-out by Article 5 countries, the Executive Committee has approved 144 country programmes, 144 HCFC phase-out management plans (HPMPs), 24 Kigali HFC implementation plans (KIPs), pilot projects to maintain and/or enhance energy efficiency in the context of HFC phase-down, and has funded the establishment and the operating costs of ozone offices in 145 Article 5 countries.

New and updated guides and submission forms for the preparation of project proposals:

- Guide for funding requests for preparation of national inventories of banks of used or unwanted controlled substances and a plan for the collection, transport and disposal of such substances **>>>**
- Updated interim guide for the presentation of stage I of Kigali HFC implementation plans (July 2023) **>>>**
- Updated guide for the presentation of new stages of HCFC phase-out management plans (July 2023) **>>>**

All guides and submission forms are available here

- Click **here** for the Executive Committee upcoming and past Meetings and related documents.

OzonAction Compliance Assistance Programme produces and outreaches a wide variety of information and capacity building materials and tools that support the implementation of the Montreal Protocol programs and assist Article-5 countries in meeting the compliance targets. These include publications, technology briefs and factsheets, mobile applications, videos, e-Learning, modelling and database programs and special educational or certification programs.

The section below features several of our most recent products.
Visit OzonAction website for more information, discover the entire range of products.

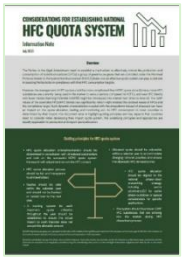
Images in this section are by OzonAction

OzonAction: Celebrating International Women's Day, 8 March 2024 - on the occasion of **International Women's Day (IWD)**, UNEP OzonAction would like to express our best wishes and sincere thanks to all our female colleagues working in National Ozone Units for your leadership, outstanding dedication, great intellectual input, and tireless work on the Montreal Protocol! This treaty is often referred to as the most successful multilateral environmental agreement to date, and both women and men take equal credit in making this amazing achievement possible. OzonAction is extremely proud of all the female **Ozone Officers, Assistant Ozone Officers, technical experts, and support staff,** as well the women in national stakeholder groups and partner organizations, notably

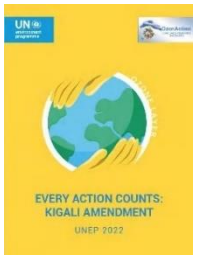
those in the **refrigeration, air conditioning, and customs**. Through your work, you are providing girls and young women who are interested in pursuing careers in environmental protection with a role model by showing them that there are successful women in Montreal Protocol fields – you are indirectly investing in their future. [...]

- **Miruza Mohamed: A Woman Behind the Maldives' Environmental Transformation**
- **Samira de Gobert: Leading Change in Environmental Communication and Women's Empowerment**
- **Colleen Keyworth - From Family Roots to Industry Beacon: Leading Advocate for Women in HVACR**
- **Laura López: Impulsando la implementación del Protocolo de Montreal y la equidad de género en Guatemala**
- **Marta Pizano: A trailblazer's path from research to global policy**
- **Liazzat Rabbiosi: A Woman Facilitating International Environmental Policy-making**
- **Cecilia Mercado: Breaking Barriers-A legacy of environmental leadership and empowerment**
- **Sarah Nakanyika: A Woman Leading Cooling Advancement in Zambia**
- **Yvette Gauthe Boko: Une femme forte à la tête du Bureau national de l'ozone au Benin**

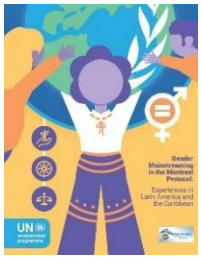
Considerations for establishing national HFC Quota System - As HFC consumption in most countries is determined by their import, this document aims to highlight guiding principles and key aspects that countries need to consider when developing their import quota system. The underlying principles and approaches are equally applicable for production and export quota allocation. **Read/download the full document**



Every Action Counts: Kigali Amendment - UNEP 2022 - This brochure targets the general public and explains in a simplified manner what the Montreal Protocol and its Kigali Amendment signify. It includes some actions that everybody can do to support the Kigali Amendment. It also covers the relationship between the Kigali Amendment and Sustainable Development Goals. It introduces some examples of successful communication campaigns on the Kigali Amendment. **English** / **Spanish**



Gender Mainstreaming in the Montreal Protocol: Experiences in Latin America and the Caribbean -Taking into account that women and girls constitute half of the world's population and, therefore, represent half of the potential and innovation necessary to face the "triple planetary crisis" — climate change, nature and biodiversity loss, pollution and waste —, positioning people and the planet as central pillars of the transformation necessary to overcome it, and considering the guiding principles and the scopes of action of the Operational Policy on Gender Mainstreaming of the Multilateral Fund, the United Nations Environment Programme (Latin America and the Caribbean Office). **English** / **Spanish**



Refrigeration, Air-Conditioning, and Heat Pumps (RACHP) Associations & Organizations: This Knowledge Map provides a global directory of RACHP associations, societies, and organisations around the world. These are key stakeholders for ensuring safe and efficient refrigerant transitions.

Local Technical & Vocational Education and Training (TVET): This Knowledge Map provides a global directory of TVET entities and centres around the world. These are the strategic partners for conducting and promoting training and certification programmes related to the refrigeration servicing sector.

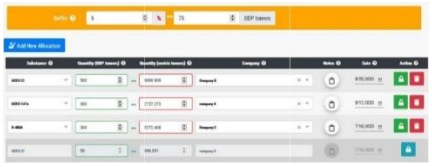
Click **HERE** to access the OzonAction Knowledge Maps tool
Click **HERE** to download the OzonAction Knowledge Maps tool flyer

Gas Card Tool: Web-based Visual Printable Cards of Refrigerant Gases Content of Gas Cards - Each Gas Card is printable (in PDF or image format) and includes the following information about each substance/gas: a) General Characteristics (Chemical name, formula and type, ASHRAE designation, Trade names, Harmonized System (HS) codes, Chemical Abstract Service (CAS), United Nations (UN) numbers, Blend/ mixture components, Montreal Protocol Annex and Control measures, main usage, etc.) b) Gas Performance—Radar Chart (in terms of: Ozone depleting potential-ODP, Global warming potential- GWP, Toxicity Class & Flammability Class) c) Environmental and Safety Impact, and Safety Impact (with visualization of Toxicity & Flammability Class, Hazardous Symbols).
More Information - The Gas Card web-based tool is part of UNEP OzonAction's portfolio of activities and tools to assist various stakeholders in developing countries, including customs officers and technicians, to achieve and maintain compliance with the Montreal Protocol on Substances the Deplete the Ozone Layer. In the left navigation bar of the Gas Card tool web page, you will find a list of commonly used HFCs and HFC Blends in different sectors. *

Using the Gas Gard web-based tool

- The Gas Gard tool is available online on the **OzonAction website**
- Read the full **2021 annual iPIC report**
- See the **flyer** introducing the new iPIC platform

* *Based on the Overall Analysis of the Results of the Survey of ODS Alternatives Report (conducted in 119 countries from 2012 to 2015)*



HCFC Quota and Licence Tracker - a new desktop application to assist with HCFC licences and quotas - National Ozone Officers have the great responsibility of managing the allocation and monitoring of quotas for substances controlled under the Montreal Protocol. This process can be complex with many importers, especially if the country imports a range of different hydrochlorofluorocarbons (HCFCs) and mixtures containing HCFCs. To address this challenge, OzonAction developed a new desktop application that helps Ozone Officers with the tasks of planning, calculating, monitoring and managing consumption quotas and licences. It can be used on a daily basis to track and manage the current year's quota allocations for different importers, or for future planning by trying different scenarios that adjust the type of substances imported, their quantity, or the number of importers. The HCFC Quota and License Tracker allows Ozone Officers to see the effect of such scenarios on the national HCFC consumption and helps ensure that the quotas stay within agreed HCFC Phase-out Management Plan (HPMP) targets. For countries that have ratified the Kigali Amendment, in the future OzonAction will extend the tracker to include hydrofluorocarbons (HFCs) once countries begin designing their quota systems for those controlled substances. **Access the:**

- **HCFC Quota tracker app**

- Flyer for more information on the tracker
- Short video tutorial on the OzonAction YouTube Channel

GWP-ODP Calculator Application - Updated- "Quickly, efficiently and accurately convert between values in metric tonnes, ODP tonnes and CO_2-equivalent tonnes"

Data are extremely important for the Montreal Protocol community, and the data reporting formats for both A7, and CP have changed recently, to a large degree triggered by the Kigali Amendment. HFCs, blends, CO_2-equivalent values, etc., now have to be addressed much more frequently by Ozone Officers during their daily work. Sometimes the terminology and values are complex and can be confusing, and it helps to have all the official facts and figures in one place. Conversion formulas need to be applied to calculate CO_2-eq values from both GWP and metric tonne values. This free app from OzonAction is a practical tool for Ozone Officers to help demystify some of this process and put frequently needed information at their fingertips. **What's new in the app:**

- An updated more user-friendly interface
- Multilingual interface: English, French and Spanish
- A new **Kigali Amendment mode** - in this mode the GWP values used to calculate the refrigerant blends/mixtures only include GWP contributions from components that are controlled HFCs
- Latest updated ODP and GWP values from the recent reports from the Montreal Protocol technology and scientific expert panels as well as the Intergovernmental Panel on Climate Change (IPCC) reports
- References added for sources of all values
- New refrigerant mixtures (with ASHRAE -approved refrigerant designations)

If you already have the application installed on your device, be sure to update to benefit from the new features. The app can be viewed in English, French or Spanish.

Smartphone Application: Just search for "*GWP-ODP Calculator*" or UNEP in the Google Play store or use the QR code – free to download! If you already have the application installed on your device, be sure to update to benefit from the new features.

Desktop Application: *GWP-ODP Calculator* is also available online on the OzonAction **website**

Watch the new short introductory tutorial **video** on the *GWP-ODP Calculator* - available now on **YouTube**

>>> Read/download the flyer

Updated OzonAction "WhatGas?" Mobile App

The OzonAction 'WhatGas?' application is an information and identification tool for refrigerants gases: ozone depleting substances (ODS), HFCs and other alternatives. It is intended to provide some stakeholders, including Montreal Protocol National Ozone Officers, customs officers, and refrigeration and air-conditioning technicians with a modern, easy-to-use tool that can be accessed via mobile devices or the OzonAction website to facilitate work in the field, when dealing with or inspecting ODS and alternatives, and as a useful reference tool.

This latest release includes the 2022 Harmonized System (HS) Codes for HFCs and blends, which facilitates the process of inspection and identification of controlled and alternative substances. Scan the QR code to download the app (*currently available for Android devices only*). If you've already downloaded the app, to update visit the **Google Play Store**

RAC Technician Videos - Full length films! Two 'full length' videos for refrigeration and air-conditioning (RAC) sector servicing technicians: on 1) Techniques, Safety and Best Practice and 2) Flammable Refrigerant Safety. The OzonAction Refrigeration and Air-Conditioning Technician Video Series consists of instructional videos on techniques, security and best practice and flammable refrigerant safety. They are intended to serve as a complementary training tool for RAC sector servicing technicians to help them revise and retain the skills they have acquired during hands-on training. The videos are not intended to replace structured formal technician training, but to supplement and provide some revision of tips and skills and to build on training already undertaken.

These videos are based on the successful UNEP OzonAction smartphone application, the RAC Technician Video Series app. This application has been downloaded on more than **86,000** devices since its launch.

Following many requests to make the videos more versatile and better suited to classroom and training settings, OzonAction has responded to this demand and produced two 'full-length' instructional videos.

You may wish to share this message and the flyer with:

- Your national/regional RAC associations
- Training or vocational institutes
- Master RAC trainers in your country
- Any other interested national stakeholders

You can watch these videos on the OzonAction YouTube Channel:

- **Techniques, Safety and Best Practice**
- **Flammable Refrigerant Safety**

The videos are also available for download by request from UNEP OzonAction:
unep-ozonaction@un.org

If you prefer to access the video clips via the OzonAction smartphone application, just search for "RAC Technician Video Series" or UNEP in the Google Play Store and iTunes/App Store or scan the QR code –**Free to download!**

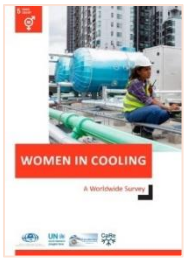
The flyer is available from the **OzonAction website**.

Women in the refrigeration and air-conditioning industry: Personal experiences and achievements The United Nations Environment Programme's (UNEP), OzonAction, in cooperation with UN Women, has compiled this booklet to raise awareness of the opportunities available to women and to highlight the particular experiences and examples of women working in the sector and to recognise their successes. All of the professionals presented in the booklet are pioneers. They are role models whose stories should inspire a new generation of young women to enter the weld and follow in their footsteps. **Read/download the publication**

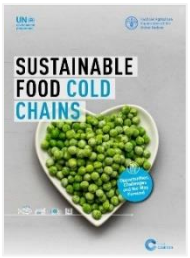
As part of IIR and UNEP OzonAction's partnership, a set of **Cold Chain Technology Briefs** was released over the past few years, which includes in-depth summaries about the cold chain in different key sectors. They include descriptions of technology, refrigerant options and trends and conclude with prospects and challenges. They cover the main cold chain sub-sectors, i.e., **Production & Processing**, **Cold Storage**, **Transport Refrigeration**, **Commercial & Domestic**, and **Fishing Vessels**. **Download the Cold Chain Technology brief in English | French | Russian | Spanish**

PUBLICATIONS

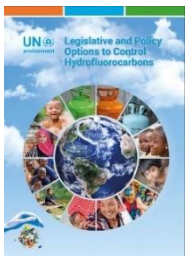
Results of a Worldwide Survey about Women in Cooling Released by IIR and UNEP OzonAction - Refrigeration, Air-Conditioning, and Heat-pumps (RACHP) are crucial for our health, nutrition, comfort, and well-being. It is one of the sectors that crosscuts many of the UN sustainable development goals and can contribute significantly to safeguard the environment, advance welfare of humanity and support the growth of employment and economics worldwide. Women are highly under-represented in this sector as indicated by the fact that only 6% of the members of national refrigeration associations/ organisations/institutions are women. In order to better understand the background, motivation, challenges, and opportunities faced by women working in RACHP a worldwide survey was undertaken by the International Institute of Refrigeration (IIR) and OzonAction of UN Environment Programme (UNEP) in cooperation with several partners. **Read/Download the Full Report**



Sustainable Food Cold Chains: Opportunities, Challenges and the Way Forward-This [UNEP-FAO] report explores how food cold chain development can become more sustainable and makes a series of important recommendations. These include governments and other cold chain stakeholders collaborating to adopt a systems approach and develop National Cooling Action Plans, backing plans with financing and targets, implementing and enforcing ambitious minimum efficiency standards. At a time when the international community must act to meet the Sustainable Development Goals, sustainable food cold chains can make an important difference.

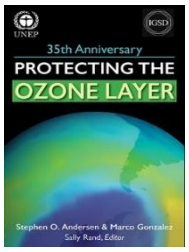


Legislative and Policy Options to Control Hydrofluorocarbons - In order to follow and facilitate the HFC phase-down schedules contained in the Kigali Amendment, the Parties, including both developed and developing countries, will have to implement certain measures. This booklet contains a recommended set of legislative and policy options which the developing (Article 5) countries may wish to consider for implementation. It is intended to be a guide/tool for countries. **Read/download**

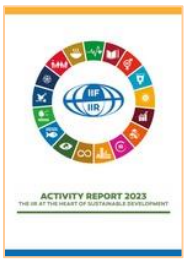


Green Cooling in public procurement How to advance the procurement of climate-friendly and energy-efficient cooling equipment in the public sector? Air conditioning in public buildings is often responsible for around 50% of total electricity consumption. Switching to climate-friendly cooling technologies ("Green Cooling") can reduce costs and energy consumption and improve the carbon footprint of public buildings. This study takes a closer look at the benefits of Green Cooling in the public sector and discusses current barriers and possible solutions. The information presented provides a solid basis to revise current procurement criteria for sustainable cooling systems in public buildings. **Read/Download the study**

Protecting the Ozone Layer - 35th Anniversary Edition - a new book celebrating the 35th Anniversary of the Montreal Protocol. The electronic version (Kindle Edition) of the book has become **available for purchase $3.03 on Amazon**. The book highlights successes and documents innovation during the first 35 years and inspires new ambition to strengthen protection of stratospheric ozone and climate before Earth passes tipping points. The book tells the story of the Montreal Protocol, revealing a model of cooperation, collaboration, universal ratification, record of compliance with over 99 per cent of controlled ozone-depleting substances (ODSs) phased out, the ozone layer on the path to recovery, the 2007 Montreal Adjustment, and the 2016 Kigali Amendment moving the Montreal Protocol further into environmental protection. Unfinished business includes: HCFC phase out, ODS bank management, HFC phase down, uncontrolled ozone-depleting greenhouse gas nitrous oxide (N_2O), feedstock exemptions for plastics production, and dumping of obsolete cooling appliances.
The book was released at 34th Meeting of the Parties to the Montreal Protocol on 31 October 2022.



The International Institute of Refrigeration (IIR) **IIR Activity Report 2023 | Rapport d'activité de l'IIF - 2023** is available online. It is a must-read for everything you need to know about advances in the field of refrigeration! Read/Download the full report to discover the IIR's actions and achievements in 2023 in its quest for a cooler, greener and more sustainable future! **English** | **French**



Click here for recent OzoNews Issues

Request a PDF of the current issue

Subscribe to OzoNews

The United Nations Environment (UNEP), Law Division, OzonAction, provides OzoNews as a free news clipping service for the members of the Montreal Protocol community under UNEP's mandate as an Implementing Agency of the Montreal Protocol's Multilateral Fund. Since its inception in January 2000, the goal of OzoNews is to provide current news relating to ozone depletion and the implementation of the Montreal Protocol, to stimulate discussion and promote cooperation in support of compliance with this multilateral environmental agreement. With the exception of items written by UNEP and occasional contributions solicited from other organizations, the news is sourced from on-line newspapers, journals, and websites.

The views expressed in articles written by external authors are solely the viewpoints of those authors and do not represent the policy or viewpoint of UNEP. While UNEP strives to avoid inclusion of misleading or inaccurate information, it is ultimately the responsibility of the reader to evaluate the accuracy of any news article in OzoNews. The citing of commercial technologies, products or services does not constitute endorsement of those items by UNEP.

If you have questions or comments regarding any news item, please contact directly the source indicated at the bottom of each article.

Prepared by: Samira Korban-de Gobert
Reviewed by: James S. Curlin

If you wish to submit articles, invite new subscribers, please contact:
Samira Korban-de Gobert, samira.degobert@un.org

UNEP, OzonAction, 1, rue Miollis, Bldg. VII – 75015, Paris • France