

OzoNews

A fortnightly electronic news update on ozone and climate protection and the implementation of the Montreal Protocol brought to you by OzonAction

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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. Summary of the Combined Thirteenth Meeting of the Conference of the Parties to the Vienna Convention for the Protection of the Ozone Layer and the Thirty-Sixth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer: 28 October – 1 November 2024



For almost four decades, the world has been combating threats to the ozone layer, which have significant effects on human health and the natural environment.

Since the 1980s, successful efforts to address these threats have been entrusted to the Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol on Substances that Deplete the Ozone Layer. In 2016, delegates adopted the Kigali Amendment to address hydrofluorocarbons (HFCs), which initially served as replacements for ozone-depleting substances

(ODS) but have negative effects on the global climate, opening the door to the roll-out of energy-efficient technologies in the refrigeration and air conditioning sectors. In 2024, the Conference of Parties (COP) to the Vienna Convention and the Meeting of Parties to the Montreal Protocol (MOP) convened amidst new threats of fugitive emissions of HFC-23, and concerns about how best to address the gaps in atmospheric monitoring and potential challenges presented by very short-lived substances (VSLs). Delegates further considered how to promote life-cycle refrigerant management (LRM) to prevent unwanted emissions of HFCs in the refrigeration, air conditioning, and heat pump sector through recovery, recycling, and reclamation efforts.

Meeting in plenary, a budget committee, and 15 contact and informal groups throughout the week, delegates worked in a collegial atmosphere and managed to adopt a record number of decisions on issues relevant to the implementation of the Convention, the Protocol and the Kigali Amendment, including on:

- HFC-23 emissions;
- Changes to data reporting forms for reporting on HFC-23;
- LRM;
- VSLs;
- Feedstock uses of controlled substances;
- Enhancing the global and regional atmospheric monitoring of controlled substances;
- Report of the 12th meeting of the Ozone Research Managers (ORM) of the parties to the Vienna Convention;
- Status of the General Trust Fund for Financing Activities on Research and Systematic Observations Relevant to the Vienna Convention (GTF);
- Developments related to metered-dose inhalers (MDIs) with low global-warming-potential (GWP) propellants;
- Future availability of halons and their alternatives;
- Further strengthening Montreal Protocol institutions: next steps (which addresses illegal trade in controlled substances);
- Possible compliance deferral for Article 5, group 2 parties;
- Avoiding imports of energy inefficient products and equipment containing or relying on controlled substances; and
- Changes in the membership of the Technology and Economic Assessment Panel (TEAP).

Delegates could not come to a decision on strengthening the enabling environment to enhance energy efficiency in the cooling sector, to the disappointment of many small island developing states. This issue, alongside discussions on isomers of HFCs not explicitly listed under the Protocol and on changing the cut-off date for HFC phaseout, will be discussed at future Montreal Protocol meetings.

COP 13/MOP 36 convened from 28 October – 1 November 2024 in Bangkok, Thailand. Over 600 participants attended the meeting, which was preceded by a workshop on LRM on 27 October 2024.

> Read / Download [Full Summary](#)

> Documents and side events information are available from the [Ozone Secretariat's website](#)

> Related [Daily report and coverage](#) provided by IISD

[UNEP Ozone Secretariat, October 2024](#)

Image: UNEP Ozone Secretariat

3. OzonAction's Exhibition Highlights Sustainable Cooling Solutions at MOP36



Bangkok, Thailand, 1 November 2024 – The **36th Meeting of the Parties (MOP36)** to the [Montreal Protocol](#) brought together nations worldwide to address critical environmental challenges. At the heart of this gathering, [UNEP OzonAction](#) hosted a captivating exhibition highlighting the significance of international collaboration in protecting the ozone layer and fostering sustainable cooling.

The Montreal Protocol has achieved remarkable success in phasing out ozone-depleting substances (ODSs). The MOP serving as the Protocol's decision-making

body, plays a pivotal role in reviewing its implementation, assessing scientific data, and adopting necessary amendments.

UNEP OzonAction has been instrumental in supporting countries in their efforts to phase out ODSs and adopt climate-friendly alternatives. Through a unique clearinghouse mandate, technical assistance, capacity building, and knowledge sharing, OzonAction empowers nations to transition to sustainable cooling practices.

The exhibition, a centerpiece of the MOP36, **showcased the importance of the sustainable cold chain and refrigeration and air conditioning sector**. It underscored the vital role of these technologies in modern society. The exhibition also offered an in-depth look into the science behind ozone depletion, explaining how substances, such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), can damage the ozone layer. It highlighted the detrimental effects of ozone layer depletion, including increased UV radiation, which can lead to skin cancer, cataracts, and harm to ecosystems.

To address these challenges, the exhibition promoted sustainable practices and technologies. It encouraged the adoption of climate-friendly refrigerants, efficient equipment, and proper maintenance and disposal techniques. By reducing emissions of ODSs and greenhouse gases, these practices contribute to both ozone layer protection and climate mitigation.

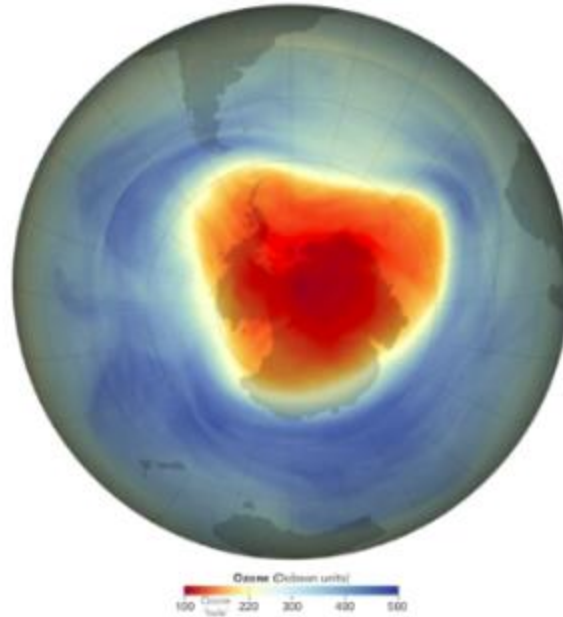
The Montreal Protocol has not only protected the ozone layer but has also made significant contributions to climate change mitigation. By phasing out ODSs, which are potent greenhouse gases, the Montreal Protocol has helped avoid substantial global warming. This unexpected climate benefit underscores the importance of international cooperation and the power of environmental treaties to address multiple environmental challenges.

Contact: [Anne-Maria K. Fenner](#), Information Manager, UNEP, OzonAction Compliance Assistance Programme (CAP)

[UNEP OzonAction, 1 November 2024](#)

Image: UNEP OzonAction

4. 2024 Ozone Hole Ranked 7th-Smallest Since Recovery Began



To monitor the state and recovery of the ozone layer, each year, the final diameter and depth of a 'hole' that opens annually in the ozone layer over Antarctica is measured.

For 2024, the hole over the Earth's southern pole was relatively small compared to other years. At almost 8 million square miles (20 million square kilometres), the monthly average ozone-depleted region in the Antarctic this year was nearly three times the size of the U.S.

Monitoring the state and recovery of the ozone layer is a team of scientists at the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA). Annually, they report on the final diameter and depth of a 'hole' that starts to open in the ozone layer during August over Antarctica. This year, the hole reached its greatest one-day size on 28 September at 8.5 million square miles (22.4 million square kilometres).

While the area and size of the hole may be cause for alarm, this is not the case. "For 2024, we can see that the ozone hole's severity is below average compared to other years in the past three decades, but the ozone layer is still far from being fully healed," said Stephen Montzka, senior scientist at NOAA's Global Monitoring Laboratory.

The [ozone layer is a region of high ozone concentration in the stratosphere](#), 15 to 35 kilometres above Earth's surface. The ozone layer is a region of high ozone concentration in the stratosphere, 15 to 35 kilometres above Earth's

surface. It acts as an invisible shield and protects all life on Earth from harmful ultraviolet (UV) radiation from the sun. Without this shield, exposure to higher levels of UV radiation would lead to increases in skin cancers in humans, threaten food production and damage ecosystems.

Scientists in the 1970s were therefore alarmed to realise that chlorofluorocarbons, man-made gases being used in abundance in air conditioners, fridges, aerosols and foams, were destroying ozone molecules far more quickly than they being created. In compromising the effectiveness of this fragile UV filter, the exposure to higher levels of UV radiation would lead to increases in skin cancers in humans, impact food production and damage ecosystems.

Worse, by the mid-1980s, the ozone layer had been depleted to such an extent, that a large area of the Antarctic stratosphere was essentially devoid of ozone, creating a 'hole' by early October each year.

Luckily, the [Montreal Protocol on Substances that Deplete the Ozone Layer](#) was adopted in 1987. This international treaty designed to control the production and consumption of chlorofluorocarbons and other ozone-depleting substances, paved the way for ozone layer recovery.

[The 2022 Quadrennial Assessment](#) of the Montreal Protocol's Scientific Assessment Panel (SAP) indicates that with continuous implementation and broad compliance of this environmental agreement, global ozone levels will return to pre-1980 levels by the mid-2060s.

"The gradual improvement we've seen in the past two decades shows that international efforts that curbed ozone-destroying chemicals are working," said Paul Newman, former co-chair of the SAP and NASA's leader of the ozone research team and chief scientist for Earth sciences at its Goddard Space Flight Center in Greenbelt, Maryland. "The 2024 Antarctic hole is smaller than ozone holes seen in the early 2000s."

According to Newman, the improvement this year is due to a combination of continuing declines in chlorofluorocarbons, along with an unexpected infusion of ozone carried by air currents from north of the Antarctic.

> Full 2024 ozone report available [here](#).

> Latest status of the ozone layer over the Antarctic available at [NASA's ozone watch](#)

[Ozone Secretariat, October 2024](#)

Image: NASA NOAA

5. INWIC Showcases at Chillventa 2024: Advancing Gender Inclusion in Cooling

Nuremberg, 10 October 2024–The [International Network for Women in Cooling](#) (INWIC) participated at Chillventa 8-10 October 2024, in Nuremberg, Germany.



This year, INWIC showcased its initiatives at an exhibition booth, highlighting its mission to promote gender equality and support the professional development of women in the cooling sector.

INWIC president Colleen Keyworth, supported by representatives of INWIC founding partners present at the exhibition, namely [International Institute of Refrigeration](#) (IIR), [Air conditioning and Refrigeration European Association](#) (AREA), [Union of Associations of African Actors in Refrigeration and Air Conditioning](#) U-3ARC, [World Refrigeration Day](#), and [UNEP OzonAction](#), promoted INWIC and its activities to interested Chillventa visitors.

Empowering Women in the Cooling Industry

INWIC's presence at this year's Chillventa conference was even more profound for the organization because the previous Chillventa conference in 2022 is where INWIC was announced for the first time. Having a stand at such a large industry event gave the opportunity to introduce the organization to many new people in the industry.

Chillventa is one of the world's leading exhibitions for refrigeration, air-conditioning and heat pump technology, gathering industry experts, innovators, and policymakers from across the globe. Visitors had the opportunity to learn more about INWIC membership and programmes, including networking, mentorship, training, and internship to create an inclusive environment within the industry. Interested female professionals studying or working in the sector were invited to become INWIC Members and their male colleagues to become INWIC Affiliates.

Interested organisations and associations learned more about becoming an INWIC Partner and companies were invited to join as INWIC Industry Supporters.

By sharing resources and highlighting networking opportunities through the website, INWIC inspired women professionals to be part of the initiative, register as members and take on leadership roles within their organisations. Attendees also had the chance to explore the new International Special Issue 2024 2025 by Centro Studi Galileo (CSG) and UNEP OzonAction, featuring sustainable cooling and women empowerment in the sector.

Building Connections and Partnerships

INWIC's booth at Chillventa 2024 connected and engaged with professionals, organisations, journalists, and potential partners sharing an inclusive vision of the cooling industry. Strong enthusiasm and ambition about INWIC were raised during the event, paving the way towards more gender mainstreaming in the cooling industry.

Contact: [Sonja Wagner](#), Programme Management Officer, UNEP OzonAction

[UNEP OzonAction, 10 October 2024](#)

Image: UNEP OzonAction

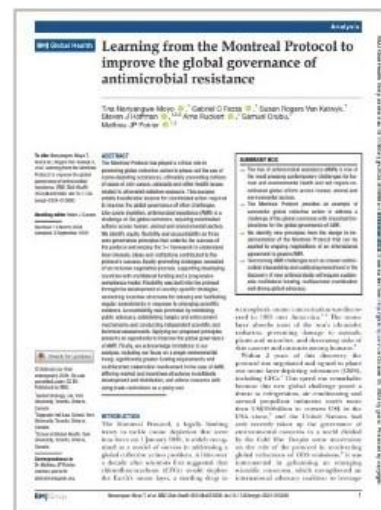
>>> [Chillventa](#)

>>> [INWIC](#) activities and how it is inspiring women worldwide to become engaged in RAC

6. Learning from the Montreal Protocol to improve the global governance of antimicrobial resistance

ABSTRACT

The Montreal Protocol has played a critical role in promoting global collective action to phase out the use of ozone-depleting substances, ultimately preventing millions of cases of skin cancer, cataracts and other health issues related to ultraviolet radiation exposure.



This success entails transferable lessons for coordinated action required to improve the global governance of other challenges. Like ozone depletion, antimicrobial resistance (AMR) is a challenge of the global commons, requiring coordinated actions across human, animal and environmental sectors.

We identify equity, flexibility and accountability as three core governance principles that underline the success of the protocol and employ the 3-i framework to understand how interests, ideas and institutions contributed to the protocol's success.

Equity-promoting strategies consisted of an inclusive negotiation process, supporting developing countries with multilateral funding and a progressive compliance model.

Flexibility was built into the protocol through the development of country-specific strategies, reorienting incentive structures for industry and facilitating regular amendments in response to emerging scientific evidence.

Accountability was promoted by mobilising public advocacy, establishing targets and enforcement mechanisms and conducting independent scientific and technical assessments. Applying our proposed principles presents an opportunity to improve the global governance of AMR.

Finally, we acknowledge limitations to our analysis, including our focus on a single environmental treaty, significantly greater funding requirements and multifaceted stakeholder involvement in the case of AMR, differing market and incentives structures in antibiotic development and distribution, and ethical concerns with using trade restrictions as a policy tool.

Authors: Tina Nanyangwe-Moyo, Gabriel C Fezza, Susan Rogers Van Katwyk, Steven J Hoffman, Arne Ruckert, Samuel Orubu, Mathieu JP Poirier

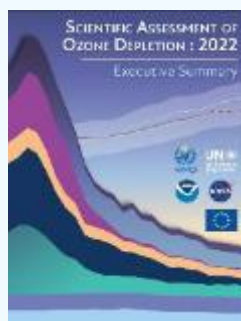
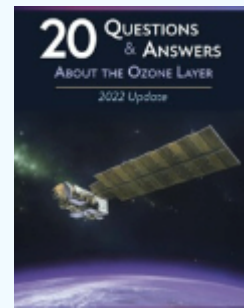
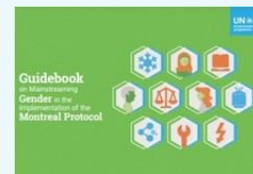
[BMJ Glob Health, 3 October 2024](#)

Image: BMJ Glob Health

[Industria Y Formazione 2024-2025 International Special Issue](#), joint international publication from UNEP, IIR, AREA, CSG under the auspices of Italian Ministry for Environment and Energy Safety. This 10th edition focusses on the need to strengthen the RACHP workforce for the future challenges of the sector. It presents 24 sector-specific articles with contributions from global associations, institutions and organizations (such as AREA, AHRI, ASHRAE, ISHRAE, EPEE, FAIAR, U-3ARC, ...). The Publication has been introduced at Chillventa 2024, and officially launched at the 36th Meeting of the Parties to the Montreal Protocol in Bangkok, Thailand.



[Guidebook on Mainstreaming Gender in the Implementation of the Montreal Protocol](#) OzonAction, in consultation with UN Women and a gender expert, developed this guidebook 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 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 and throughout 2022 and beyond. **[Learn more/submit nomination >>>](#)**



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 and 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

7. Deputy Minister Bernice Swarts hands over tools of trade refrigeration and air-conditioning servicing technicians in Pretoria

The Deputy Minister of Forestry, Fisheries and the Environment, Ms Bernice Swarts, handed over tools of trade to 402 trained and certified refrigeration and air-conditioning servicing technicians at Diep in Die Berg in Pretoria on 24 October 2024.



The event took place as part of the 2024 World Ozone Day commemorations, to celebrate the role of servicing technicians in promoting the protection of the ozone layer. [...]

In her Keynote address Deputy Minister of Forestry, Fisheries and the Environment, Ms Bernice Swarts said [...] Today, we recognise the importance of ozone protection and the efforts of our servicing technicians in maintaining the integrity of our ozone layer. We also celebrate the incredible work of our 402 trained refrigeration and air conditioning servicing technicians. Their expertise and commitment have been instrumental in ensuring the success of ODS phase-out programmes. Their dedication and expertise have enabled us to maintain the effectiveness of ozone-depleting substance (ODS) phase-out programmes, ensuring that our environment remains protected for future generations.

The tools we are handing over to our refrigeration and air conditioning servicing technicians today will empower them to continue their essential work, ensuring that our cooling systems are efficient, safe, and environmentally friendly. Refrigeration and air-conditioning technologies are central to modern life-ensuring food safety, access to medicines, and providing comfort. However, the sector also plays a key role in reducing emissions and maintaining energy efficiency. Good practices in servicing and maintaining these systems help minimize ODS emissions and contribute to energy savings, benefiting both the environment and the economy. [...]

[Read the full Keynote address](#) by Deputy Minister of Forestry, Fisheries and the Environment, Ms Bernice Swarts.

[Government of South Africa, 24 October 2024](#)

Image: Flag of South Africa

LATIN AMERICA AND THE CARIBBEAN

8. Chile intensifies controls on the entry of HCFCs and HFCs into its territory



The Chile National Customs Directorate, in conjunction with the Ozone Unit of the Ministry of the Environment, is making significant efforts to control the entry of harmful refrigerants and substances with high GWP.

According to the entities, the intensification of controls on refrigerants that damage the ozone layer and also have a high global warming potential is aligned with the international commitments established in the Montreal Protocol and the Kigali Amendment, which seek to reduce the use of substances such as hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs). thus contributing to the protection of the planet.

"Every day, containers arrive at the country's ports from various parts of the world with refrigerant gas cylinders. The Government is developing educational material with the steps to follow when these substances arrive in the national territory," said the Ozone Unit of the Ministry of the Environment.

In accordance with the guidelines of the Montreal Protocol, the Chilean government commissioned a study from international consultant Gustavo Torres, a specialist in environment and foreign trade, who was visiting the country a few weeks ago.

"Chile has implemented an import quota system, which limits the amount of HCFCs that can enter the country. This measure ensures that consumption does not exceed the limits set by the Montreal Protocol. In addition, training has been conducted for customs personnel and customs brokers to ensure that these regulations are properly complied with. Chile has been organizing workshops, both face-to-face and virtual, for years to strengthen the capacities of these key counterparts," he said.

[ACR Latino America, 22 October 2024, By: Alvaro Leon Perez Sepulveda](#)

Image: ACR

ASIA AND THE PACIFIC

9. South and West Asian Customs Authorities and National Ozone Officers Join Forces to Combat Illegal Trade



Chennai, India, 24 – 27 September 2024 – UNEP's OzonAction Asia-Pacific and West Asia Compliance Assistance Programme (CAP) teams organized the Customs Border Dialogues.

The Customs Border Dialogues, held from 26 – 27 September 2024, brought together National Ozone Officers and representatives of Customs Authorities across both regions. The goal of these dialogues was to strengthen regional collaboration, enhance border cooperation, and combat illegal trade in ozone-depleting substances and HFCs which contribute to climate change. A total of 53 participants (36 Male/17 Female) attended the event.

The Customs Border Dialogues included a site visit to Customs facilities in Chennai, India to gain firsthand insights into the challenges and best practices in enforcement. Participants discussed the implications of the Kigali Amendment for Customs Officers, reviewed existing legislations and regulations governing cross-border trade, and explored national efforts to train Customs Officers on ODS/HFC control.

"The officials of Bangladesh NOU and Customs Department gained very useful experiences through the Joint Network Meeting and Border Dialogue by exchanging ideas, knowledge, and practices of participating countries of South Asia and West Asia. Sharing success stories on how to build cordial and effective relationships between NOU and Customs Authority, and how to deal with illegal trading in terms of detection and investigation were also found very useful. The Bangladesh delegation received a wealth of information provided by the CAP of UNEP, MLF and Ozone Secretariat, other bilateral and multilateral entities, World Customs Organization and associated institutions, which would certainly help implement the relevant activities at national level and comply with the Montreal Protocol more effectively," said Mr. Ziaul Haque, Director, Department of Environment, Ministry of Environment, Forest, and Climate Change of Bangladesh.

Risk profiling practices and current illegal trade risks were also on the agenda. Participants discussed strategies for identifying and addressing potential threats to the environment and public health. Additionally, the meeting explored mechanisms for information exchange and joint operations to combat ODS/HFC smuggling.

To support enforcement efforts, participants discussed available materials and tools. By sharing information and resources, the meeting aimed to equip Customs Officers with the necessary tools to effectively enforce regulations and prevent illegal trade.

"We extend our sincere gratitude to UNEP OzonAction CAP for organizing the Customs Border Dialogues in Chennai. This event has been instrumental in strengthening regional cooperation, combating illegal trade in ozone-depleting substances and HFCs, and taking a proactive approach to protecting the environment and safeguarding our planet," said Mr. Mazen Yasser, Syria Customs representative.

The Customs Border Dialogues were a crucial step in strengthening cooperation between National Ozone Officers and Customs Authorities. By working together, these authorities can play a vital role in protecting the stratospheric Ozone Layer and combating climate change. The meetings in Chennai demonstrated a united front and a commitment to a sustainable future.

UNEP CAP teams expressed its sincere gratitude to the Government of India for their generous hospitality in hosting the meeting. Resource partners who went above and beyond were the Ozone Secretariat, World Customs Organization (WCO), Chief Commissioner of Customs, Chennai, Central Board of Indirect Taxes and Customs 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 dialogue organized by UNEP OzonAction CAP, Asia and the Pacific Office and West Asia Office, in partnership with the Government of India as part of its approved 2024 Work Programme under the Multilateral Fund.

Contact:

[Elisa Rim](#), Montreal Protocol Regional Coordinator a.i. South Asia, UNEP OzonAction CAP, Asia and the Pacific Office

[Khaled Klaly](#), Montreal Protocol Regional Coordinator, West Asia, UNEP OzonAction CAP, West Asia Office

[UNEP OzonAction, September 2024](#)

Image: UNEP OzonAction

10. South and West Asian National Ozone Officers Gather to Consolidate Towards Healthier Ozone Layer

Chennai, India, 24 – 27 September 2024 – UNEP's OzonAction Asia-Pacific and West Asia Compliance Assistance Programme (CAP) teams organized the Joint Network Meeting of South Asia and West Asia National Ozone Officers.



In the heart of Chennai, National Ozone Officers (NOOs) from the South Asia and West Asia regional networks convened for pivotal meetings to strengthen regional collaboration and accelerate the phase-out of harmful ozone-depleting substances and the phase-down of their climate-harming substitutes such as hydrofluorocarbons (HFCs), aimed at addressing the pressing challenges of climate change, under the umbrella of the Montreal Protocol and its Kigali Amendment.

The Joint Network Meeting held on 24 – 25 September 2024, provided a platform for in-depth discussions and knowledge sharing. Participants delved into the latest developments in the Montreal Protocol, exploring updates on recent meetings, the integration of good servicing practices into education and training systems, advancements in conversion projects and servicing infrastructure, and sector-specific technology updates. The meeting was attended by a total of 40 participants (23 Male/17 Female).

A key focus of the meeting was the development and implementation of Kigali HFC Implementation Plans. Countries shared experiences and best practices related to phasing down HFCs, a potent greenhouse gas. Participants also discussed

strategies for incorporating gender considerations into project design, ensuring that climate action benefits all segments of society.

“Organization of network meetings for the National Ozone Officers is an excellent initiative of UNEP OzonAction. Such meetings provide a platform for the Ozone Officers from Article-5 countries to learn from each other, brainstorm innovative regional solutions, and enhance regional co-operation in implementation of the Montreal Protocol including the Kigali Amendment,” said Ms. Rajasree Ray, Economic Adviser, Ministry of Environment, Forest and Climate Change, the Government of India.

The National Ozone Unit of India hosted a productive panel discussion focusing on various refrigeration sectors, including industrial, commercial, and transport refrigeration. Participants explored recent developments in policies, technologies, and environmentally friendly alternatives with lower global warming potential. Moreover, the NOOs worked together to plan effective public awareness and outreach campaigns. They were inspired to develop strategies that would be relevant and successful in their own countries.

"The Joint Network Meeting in Chennai served as a catalyst for regional cooperation under the Montreal Protocol. By sharing knowledge, best practices, and exploring innovative solutions, we are taking a significant step towards achieving the complete phase-out of ozone-depleting substances (ODSs) and initiating the phase-down of HFCs, thereby addressing the pressing challenges of climate change," said Mr. Khaled Klaly, Montreal Protocol Regional Coordinator, West Asia.

The NOOs also attended a site visit to the Daikin Air-conditioning India Pvt Ltd manufacturing facility in Sri City, Andhra Pradesh. They learned a lot from the visit, gaining insights into Daikin's advanced manufacturing processes, commitment to sustainability, and plans for future growth. This state-of-the-art facility is Daikin's third unit in India and a strategic investment for the company. With an annual capacity of 1.5 million AC units, as well as compressors, controller boards, and other spare parts, it is the largest of Daikin's three Indian facilities. Aligned with Daikin's commitment to achieving Net Zero CO₂ emissions by 2050, the company will develop climate-friendly ACs for export markets.

Resource partners who went above and beyond were the Multilateral Fund Secretariat, Ozone Secretariat, UNDP, UNIDO, World Bank, GIZ, Indian Institute of Technology, 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 was organized by UNEP OzonAction CAP, Asia and the Pacific Office and West Asia Office, in partnership with the Government of India as part of its approved 2024 Work Programme under the Multilateral Fund.

Contact:

[Elisa Rim](#), Montreal Protocol Regional Coordinator a.i. South Asia, UNEP OzonAction CAP, Asia and the Pacific Office

[Khaled Klaly](#), Montreal Protocol Regional Coordinator, West Asia, UNEP OzonAction CAP, West Asia Office

[UNEP OzonAction, September 2024](#)

Image: UNEP OzonAction

11. Agreement signed to train and license air conditioning, fridge technicians

The government has signed an MoU with Maldives Polytechnic to train and license people in repairing air conditions and refrigerators



The agreement was signed today during a ceremony held at the Environment Ministry. The MoU was signed on behalf of the ministry by Minister Thoriq Ibrahim, and CEO Zooshaan Kamaluddin on behalf of Polytechnic.

A statement issued by the Environment Ministry said that as part of the three-year agreement, training programmes will be carried out in refrigeration and air conditioning services, purchase of training materials, refrigerant recycling and reclamation work as well.

As per the statement, the Ministry would work to create job opportunities and issue special licenses for those working in the sector. The Ministry also said that trainers at Polytechnic would also be trained as per the requirements of the agreement.

The purpose of this agreement is to develop people who work in the refrigeration and air condition servicing sector, expand the capacity of technicians, and further strengthen the field," the ministry's statement said.

The Ministry also said that hydrofluorocarbons (HFCs) are the most commonly used substances in refrigerators and air conditions in the country. However, Maldives is working to reduce the amount of HFCs released into the atmosphere as per the 'Montreal Protocol on Substances that Deplete the Ozone Layer'. [...]

Maldives' aim is to reduce the use of HFCs up to 80 percent by the year 2045. However, the ministry noted that since HFC substitutes are highly flammable, proper trainings needs to be provided to technicians working with the substances.

[The Edition, Maldives Ministry of Climate Change, Environment and Energy, 22 October 2024, By: Ameera Osmanagic](#)

Image: The Edition website / Ministry of Climate Change, Environment and Energy

NORTH AMERICA

12. The NASRC Launches R-TRADE With the Goal of Training More Than 14,000 Refrigeration Technicians

The North American Sustainable Refrigeration Council (NASRC) has announced [the launch of R-TRADE](#), “a nationwide workforce development program” with the goal of training more than 14,000 technicians.



Three prongs: R-TRADE, which stands for “refrigeration technician recruitment advancement development and education,” is aimed at addressing the refrigeration technician shortage in the U.S. and has three goals.

- **Recruitment:** The program is designed to build awareness among young people and adults about a career as a refrigeration technician.

- Training: The goal of R-TRADE is to provide training on refrigeration and “advanced refrigeration technologies” to more than 14,000 technicians.
- Retention: R-TRADE will seek to find and promote “best practices, technologies and other support mechanisms” to ensure existing techs remain in the field. [...]

Training gap: The U.S. commercial refrigeration industry is facing a shortage of service technicians.

- According to Doug Milu, Refrigeration and Energy Program Manager at Publix, 15% of techs [leave the industry](#) every year, while only 6% enter it.
- The NASRC’s own data shows that 80,000 HVAC&R technician jobs [were unfilled](#) as of March 2024, representing around 39% of the workforce.
- In addition to R-TRADE, the NASRC also holds natural refrigerant training summits across the U.S., with the organization recently making [on-demand technician training](#) available.

Increased demand for CO₂: According to ATMOsphere’s [2023 Natural Refrigerants: State of the Industry](#) report, an estimated 2,930 food retail stores in the U.S. and Canada used transcritical CO₂ refrigeration systems in 2023, an increase of 80% from 2022.

- ATMOsphere estimated that there were 928,000 self-contained hydrocarbon-based refrigeration cases installed in U.S. food stores in 2023, an increase of 1% from 2022. The report noted that the market for these cases is becoming “saturated” and that many new units are replacements for old ones.

Quotable: “Building the technician workforce and empowering these professionals with knowledge of natural refrigerants is crucial to achieving our climate objectives while staying ahead of evolving regulatory requirements,” said Brandon Ballard, Walmart’s Senior Director of Facility Services for Refrigeration and HVAC. “Through our commitment to R-TRADE, we’re making a meaningful impact on the future of the retail industry and the planet.” [...]

[The North American Sustainable Refrigeration Council \(NASRC\), 3 October 2024](#)

Image: The NASRC’s Natural Refrigerant Training Summit held May 2024 in Irwindale, California. Photo credit: NASRC.

EUROPE AND CENTRAL ASIA

13. Coalition for PFAS Free Cooling & Heating Is Launched

The organization is dedicated to promoting natural refrigerants as alternatives to harmful PFAS refrigerants and supporting an ambitious European PFAS regulation. [...]



Because PFAS refrigerants are increasingly considered a potential threat to human health and the environment, the Coalition for PFAS Free Cooling and Heating intends to promote restrictions on these refrigerants and their degradation products over the next two years through the impending [EU PFAS Restriction Regulation](#). This will include engaging with policymakers and offering detailed research and technical data to prove that there are many commercially available alternatives today.

“It’s not easy for policymakers to address this PFAS file, especially with regard to refrigerants, which are the largest and fastest growing source of PFAS in Europe,” said Marc Chasserot, CEO of ATMOSphere. “We want to make sure that policymakers have accurate data so that they are fully informed about alternatives as they evaluate this critical issue.”

PFAS also known as “forever chemicals” for their persistence in nature, encompass more than 14,000 synthetic chemicals that are used in many common consumer and industrial products, including firefighting foams, non-stick cookware, stain-resistant carpets and furniture, and water-resistant clothing. [...]

Natural refrigerants, which are already used as a substitute for ozone-layer-depleting CFCs and global warming increasing HFCs, can be used in place of PFAS refrigerants in virtually all applications, the coalition believes. Natural refrigerant systems have been widely adopted in many European industries, including supermarkets, cold storage and food processing, demonstrating that these systems are energy efficient and cost competitive.

ECHA's timeline

In the EU, PFAS regulations are being considered by the European Chemicals Agency (ECHA), which last year began evaluating proposals from the national authorities of Denmark, Germany, the Netherlands, Norway and Sweden to universally restrict PFAS under REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals), the EU's chemicals regulation.

In 2025, between March and June, ECHA's committees on risk assessment (RAC) and socio-economic analysis (SEAC) are expected to discuss the restriction of f-gases as PFAS. That will be followed by provisional conclusions between June and September.

In December 2025 ECHA's final opinion on the Universal PFAS restriction proposal will be delivered to the European Commission, which will spend the first three months of 2026 to prepare a proposal based on the ECHA opinion. A final decision is then expected by the end of 2026.

[Natural Refrigerants news, 29 October 2024, By Michael Garry](#)

Image: CoolingPost

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](#)**



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