Volume XXIV | 15 May 2024

In this issue:

Obituary - Jeremy Bazyé, Former Regional Coordinator for the African Networks of Ozone Officers

UNEP OzonAction is saddened to announce the loss of our dear friend and former colleague, Jeremy Boubie Bazyé, who passed away on 6 May 2024.

We extend our deepest condolences to Jeremy's family and friends.

Jeremy was born on 14 July 1960, in Réo, Burkina Faso. He began his academic journey at the

University of Ouagadougou where he attained his first degree in Geology (Diplôme d'Études Universitaires Générales in Biologie Géologie) in 1984. He later went to France, where he earned a master's degree in Air and Water Pollution Control (Diplôme de Maîtrise de Sciences et Techniques in Air et Eau, Génie de l'Environnement) from the University of Savoie in Chambery in 1987. Furthering his expertise, he pursued a second master's degree in environmental Conservation (Diplôme d'Études Supérieures Spécialisées) at Université Paris VII in Paris in 1988.

As Director of Pollution and Hazards Protection at the Ministère de l'Environnement et du Tourisme, he represented Burkina Faso as lead negotiator in the preparatory sessions for UN Conference on Environment and Development (UNCED) between 1990 and 1992, and he was a member of his country's delegation to that conference in Rio de Janeiro in June 1992.

Jeremy joined the Montreal Protocol family in the early 1990s. He represented his government in the Meetings of the Parties as well as the Open-Ended Working Group meetings. His government appointed him as the national focal point for the Montreal Protocol and he coordinated the preparation of the Burkina Faso's Country Programme, amongst other duties. He was selected as a member of the Implementation Committee representing the Africa region for two years and as a co-opted member of the Executive Committee of the Multilateral Fund for one year.

Jeremy joined UNEP in July 1996 as OzonAction's Regional Network Coordinator for the Ozone Officers Networks for English-speaking and French-speaking Africa. As Coordinator, he supported all 54 African countries with their Montreal Protocol compliance and implementation needs. He and his team facilitated the exchange of experiences between African countries, provided technical and policy guidance, project support, organized Regional Network meetings and technical workshops, as well as country visits.

From 2002, when the UNEP's Compliance Assistance Programme (CAP) was established, Jeremy coordinated the delivery of all CAP services and projects in Africa. He oversaw the implementation of Montreal Protocol activities in over 40 countries where UNEP was the Lead Agency and built and maintained excellent working relations with the National Ozone Officers (NOOs) and other high-level governmental officials across Africa.

Besides his interaction with NOOs, Jeremy dealt with other stakeholders such as refrigeration technicians, customs officers, and the media in the region. He was later appointed as Senior Regional Coordinator for Africa and led the African continent in keeping the momentum and sustaining the phase-out of major ozone-depleting substances consumed in Africa. Having supported Africa with its successful phase out of CFCs, he set the stage for the next great challenge - the phase out of HCFCs - by guiding the process for the preparation and implementation of HCFC Phase out Management Plans (HPMPs) in the region.

In another role, Jeremy also provided valuable assistance to the Regional Office for Africa concerning policy matters related to other environmental issues such as Harmful Substances and Hazardous Waste as well as the growing environmental issue of climate change.

Regrettably this excellent career was cut short in July 2012 by a sudden illness, which resulted in Jeremy retiring from UNEP. Since that time, he lived in his home country.

Jeremy made important contributions to the success of the Montreal Protocol in Africa and beyond. He helped shape CAP and define UNEP's role as a Multilateral Fund Implementing Agency, and his leadership of the Regional Networks of Ozone Officers in Africa was greatly appreciated. His dedication and contributions left an indelible mark on his colleagues in OzonAction and the broader Montreal Protocol community. He will be deeply missed.

UNEP-OzonAction, May 2024, English | French

GLOBAL

1. Kigali Amendment latest ratifications

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

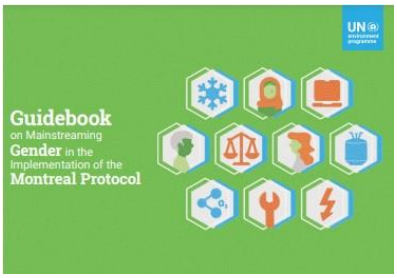
United Arab Emirates, 19 April 2024
Thailand, 3 April 2024
Djibouti, 8 Mar 2024
Guatemala, 11 January 2024

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. Guidebook on Mainstreaming Gender in the Implementation of the Montreal Protocol



Foreword

Empowering women and promoting gender equality is crucial for achieving sustainable development as embodied in the United Nations Sustainable Development Goal 5. The full participation and contribution of women is vital for ensuring healthy, productive, and equitable societies and for achieving economic growth. The Montreal Protocol Parties and the Multilateral Fund have an important role to play in turning this aspiration into reality through the systematic application of gender mainstreaming in their ongoing work. The United Nations Environment Programme (UNEP) and the Multilateral Fund support such efforts through dedicated gender mainstreaming policies and associated actions.

The implementation of the Montreal Protocol offers myriad opportunities for the promotion of gender equality. The historic under-representation of women in both Customs and refrigeration and air conditioning sector can be changed. Women can be encouraged and assisted to participate in Montreal Protocol activities. Role models can be held up to inspire women and girls, and young women can be motivated and assisted to enter Montreal Protocol-related professions. Existing female professionals can be encouraged to pursue career and capacity building in the refrigeration and air conditioning (RAC) sector and take leadership in environmental programming, decision making and governance processes.

As one of the Multilateral Fund Implementing Agencies, UNEP OzonAction developed its own internal Gender Mainstreaming Plan that outlines a path for systematically institutionalizing and mainstreaming gender issues in its own work and processes. This includes setting gender sensitive goals and indicators, allocating financial and human resources to reflect specific needs of women and men, delivering trainings and workshops, and assigning dedicated persons to provide advice on gender equality in environmental policies. Part of OzonAction's plan includes developing and outreaching publications that support National Ozone Officers with addressing the gender issue in their own work.

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.

This publication is not meant to be either proscriptive or comprehensive. It provides ideas, guidance, and examples with an aim of giving the reader an idea of what might be possible. It is up to the National Ozone Officer to decide what type of actions are most appropriate for her or his country given their unique national context. UNEP OzonAction's hope is that this publication is engaging to read and inspires the reader to take action on gender

mainstreaming. No action is too small – remember that a long journey begins by taking the first step.

Read/download **English** | **Russian**

UNEP-OzonAction, May 2024
Image: OzonAction

3. ASHRAE and UNEP Launch the 2024 Lower GWP Innovation Award

Paris, 9 April 2024 – ASHRAE and UNEP OzonAction are pleased to announce the opening for submissions for the **2024 Lower GWP Refrigeration & Air-Conditioning Innovation Award** until the closing date, **15 August 2024.**

The Award is intended to promote innovative design, research, and practice by recognizing people who have developed or implemented innovative technological concepts applied in developing countries to minimize global warming potential (GWP) through refrigeration and air-conditioning applications. The Award is part of the ASHRAE-UNEP OzonAction joint workplan for 2024-2025.

The Award selection criteria include:

- Description of innovation in the field of lower-GWP refrigerants.
- A confirmation project that has been implemented in a developing country.
- The extent of need.
- Environmental impact achieved including specific reference to the use of low-GWP refrigerants or technology.
- Description of further application in developing countries from both the technology and economic perspectives, including how the innovation is financially feasible to be replicated.

Information about the Award and the online submission form can be found at ashrae.org/lowerGWP. The jury, selected by ASHRAE and UNEP, will be made up of an international jury of experts in the field of refrigerant research and management.

Individuals, working alone or in teams, are eligible to enter. Awards are presented in Residential and Commercial/Industrial Facility categories, and only projects implemented in developing countries are considered.

Projects selected for the 2024 Lower GWP Refrigeration & Air-Conditioning Innovation Awards will be announced at Montreal Protocol related events and ASHRAE conferences ASHRAE and UNEP will also team up to disseminate information to specialists and government officials in developing countries about the selections to raise awareness of successful technology applications.

For more information:

ASHRAE Contact for Partner Activities
Mark Owen, Director of Publications and Education, ASHRAE

UNEP Contact for Partner Activities
W. Stephen Comstock, Senior Consultant, OzonAction Partnerships, UNEP

UNEP, OzonAction, 9 April 2024
Image: Shutterstock

4. Exploring global best practices: COPA'S study tour on sustainable refrigerant management

In the spirit of education through exploration, the Climate and Ozone Protection Alliance (COPA) hosted a Virtual Study Tour for its members throughout March and April 2024. This unique initiative aimed to take COPA members on a threefold series of virtual visits to facilities of companies from around the world, sharing their strategies for effectively managing accumulated banks of ozone depleting substances (ODS) and hydrofluorocarbon (HFC) banks. The virtual study tour was supported by the United Nations Industrial Development Organization (UNIDO).

The tour started with a warm welcome from Nicole Wilke of the German Federal Ministry for Economic Affairs and Climate Action (BMWK), emphasizing that "this virtual study tour offers a unique opportunity to explore innovative strategies employed by companies worldwide and effectively managing accumulated banks of ODS and HFC banks".

The first destination was Chile, where participants virtually visited the Regener plant, the country's first refrigerant regeneration center, which has been established with the support of UNIDO. Through insightful **video** demonstrations, attendees were guided step by step through the refrigerant regeneration process, resulting in characteristics equivalent to that of a virgin refrigerant. Expert insights from Rodrigo Serpa (UNIDO), Ken Logan (A-Gas) and Stuart Flemming (EnviroServe) further enriched the session and shared their experiences about refrigerant regeneration in a panel discussion.

Continuing the journey, COPA members traveled higher up north to Ecuador, where they delved into the innovative practices of UNACEM, one of the country's largest cement companies. UNIDO supported UNACEM in the design, development, and implementation of ODS and HFCs destruction and dosing systems in the cement kiln. UNIDO provided the equipment and the knowhow to reach effective ODS destruction and removal efficiency indicators. By watching a **video** and listening to a presentation by Xavier Guerra, Head of Environment at UNACEM, the participants learned about the destruction of ODS in a cement kiln. Mr Abdul Ganiyu from the company ZEAL Environmental Technologies

Limited complemented the session with his insights into refrigerant destruction methods in Ghana.

The virtual study tour culminated in China, where participants explored Aohong (**video**), the country's largest company trading with recovered refrigerants, and Harson (**video**), a car maintenance service provider recovering refrigerants in mobile air conditioning systems. Prior to the virtual visits, Wang Jia and Zhao Yimin (China Automotive Technology & Research Center, CATARC) provided insights into refrigerant collection and recovery in Chinese automobiles. Wang Haitao, Aohong's general manager, enriched the discussion with firsthand expertise, joined by Morgan Bove (Climalife), who shared his experience with reclamation practices.

This virtual tour showcased best practice examples of refrigerant reclamation, destruction, and dismantling, offering participants invaluable inspiration and practical knowledge for fostering environmentally responsible practices throughout the lifecycle of refrigerants.

Watch the recordings:

- **First session:** **Refrigerant Gas Regeneration, featuring Regener in Chile**
- **Second session:** **Destruction of Ozone Depleting Substances (ODS) in a cement kiln, featuring UNACEM in Ecuador**
- **Third session:** **Reclamation and Dismantling, featuring Aohong and Harson in China**

The Climate and Ozone Protection Alliance (COPA), April 2024

Image: COPA

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 >>>**

ASIA AND THE PACIFIC

5. Passive Cooling in Southeast Asia - Request for Proposals

Residential buildings represent the **largest share of energy consumption** in the ASEAN building sector. With rising temperatures, rapid urbanization, and increasing incomes, the rapidly growing demand for cooling is exacerbating the situation, posing risks to a currently carbon-intensive energy system, and causing more global warming.
Moreover, access to cooling remains a critical challenge, particularly in underserved and low-income communities that are most vulnerable to heat-related threats.

Passive cooling for residential buildings utilizes design and material-oriented strategies to significantly improve thermal comfort and reduce reliance on air conditioning. Despite these benefits, the widespread adoption of passive cooling strategies in Southeast Asia still faces multiple hurdles.

This **Request for Proposal** (RFP) seeks to identify and support innovative, scalable projects and initiatives that integrate passive cooling strategies and solutions into residential housing in Southeast Asian countries where there are currently weak or non-existent building codes.

The Clean Cooling Collaborative has dedicated USD$1.5 million to grantmaking through this RFP. We invite proposals for projects and initiatives with varying funding needs. Our goal is to select multiple successful applicants, with no more than USD$750,000 allocated to a single project or program.

RFP Key Deadlines

- **June 15, 2024** - Concept notes must be submitted.
- **July 5, 2024** - Applicants selected for further consideration will be notified.
- **September 15, 2024** - Shortlisted applicants must submit full proposals.
- **November 15, 2024** - Successful applications will be notified.
- **Q1 2025** - Grants will be awarded (subject to satisfactory compliance review by ClimateWorks Foundation).

Read the full RFP

ClimateWorks Foundation, 8 May 2024

Image: ClimateWorks

LATIN AMERICA AND CARIBBEAN

6. Inclusive Leadership in the RAC Sector: Peru's Commitment to Gender Equality

Lima, Peru, 30 April 2024 – Latin America is stepping up its efforts to transform the Refrigeration and Air Conditioning (RAC) sector into a more inclusive, diverse, and safe space for everyone. Peru has taken a significant step in becoming the second gender pilot project of the UN Environment Programme (UNEP) OzonAction in Latin America. One of the project's objectives is to carry out a general mapping to assess the gender situation in the RAC sector, considering aspects such as access to the labour market, training programmes, and the working conditions that companies and public policies offer to promote the equitable participation of women and men in projects related to the Montreal Protocol.

During the month of April 2024, a UNEP mission took place in Lima to carry out a detailed diagnosis and understand the problems and needs related to gender equality in the RAC sector. This process included the identification of institutional barriers and other obstacles that could hinder progress toward the equitable participation of women in the cooling world. Recognised training institutions, such as the Julio Cesar Tello Technological Institute (TECSUP), Benjamin Galecio Matos Institute (GAMOR), Peru's Refrigeration School and National Service for Industrial Work Training (SENATI), along with the Peruvian Association of Refrigeration, Air Conditioning and Ventilation (APRAV), played a crucial role in this initiative.

In order to better understand the experience of women in the sector, an exclusive session for 11 women in the sector was held, led by the inclusion and diversity consultant, Yanelit

Ruiz. During this session, participants shared their daily challenges and barriers, discussing possible solutions and opportunities to overcome these obstacles. The dynamics in the technical, commercial, and academic areas were analysed, as well as ways to promote inclusion and equal opportunities.

In addition, training was offered to the staff (five women and two men) of the Ministry of Production to integrate the gender approach into institutional management. This training covered basic concepts, strategies, and tools for gender analysis, in addition to discussing the impact of equality and inequality.

With these important steps, the pilot project seeks to define the most effective interventions to achieve significant results in terms of gender in Peru's RAC sector, as well as design a roadmap focused on concrete and measurable objectives. These joint efforts reflect Peru's and Latin America's commitment to move toward a more inclusive and equitable future in the RAC sector.

Contact: **Markus Hoffmann**, Program Officer, UNEP OzonAction ROLAC

UNEP OzonAction, 30 April 2024

Image: UNEP OzonAction - ROLAC

7. Barbados: Persons reminded to apply for permission to import/export refrigerants

Persons importing and exporting refrigerants under the Montreal Protocol on Substances that Deplete the Ozone Layer are reminded to request permission to import or export these regulated chemicals.

Individuals and businesses importing and exporting refrigerants and other chemicals controlled under the Montreal Protocol on Substances that Deplete the Ozone Layer are reminded that they must request permission to import or export these regulated chemicals.

Applications must be made to the Ozone Depleting Substances (ODS) and Hydrofluorocarbon (HFC) Management Programme of the Ministry of Environment and National Beautification, Green and Blue Economy (MENB), before applying to the Department of Commerce and Consumer Affairs (DCCA) for an import or export licence.

Proof of permission to import or export these regulated chemicals obtained from the ODS and HFC Management Programme must be uploaded when applying to the DCCA for the licence, through the Customs ASYCUDA World online portal.

Application forms may be accessed via:

https://barbados.seamlessdocs.com/f/ODS_HFC_Import ;
or https://barbados.seamlessdocs.com/f/ODS_HFC_Export.

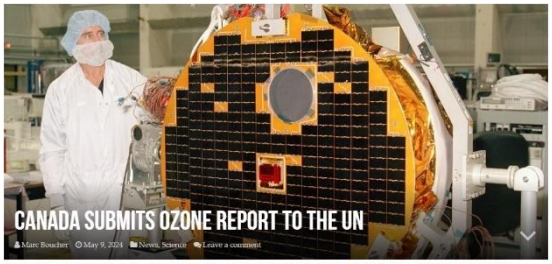
For additional information on the process, persons are encouraged to call the National Ozone Officer at 535-4389 or 535-4350; or the Department of Commerce and Consumer Affairs at 535-7004 or 535-7000.

Barbados News, 2 May 2024, By Rosemary Forde

Image: Barbados news

NORTH AMERICA

8. Canada Submits Ozone Report to the UN



The Canadian SCISAT spacecraft during testing at the Canadian Space Agency David Florida Laboratory (DFL) in Kanata, Ontario in November 2002. Image credit: Communications Research Center Canada (CRC).

At the recently completed 12th Meeting of the **Ozone Research Managers** in Geneva, Canada submitted its national report which included data from the Canadian Space Agency (CSA)'s SCISAT satellite and the Canadian OSIRIS instrument onboard the Swedish Odin satellite.

The Meeting of the Ozone Research Managers is a result of the of the 1985 Vienna Convention for the Protection of the Ozone Layer and the subsequent and the Montreal Protocol on Substances that Deplete the Ozone Layer was ratified in 1987.

The Ozone Research Managers meet every three years and "six months prior to the Meeting of the Conference of the Parties to the Vienna Convention" according to the United Nations. The first meeting for Ozone Research Managers was in March, 1991.

According to the CSA the "protocol is the only United Nations (UN) treaty to have been ratified by every country in the world. Since then, it has become the main strategic framework for countries working together to protect the ozone layer by phasing out the use of ozone-depleting substances."

The CSA states that the **SCISAT satellite** has released "five mission datasets" over 20 years, with the latest release in 2023. And with each dataset release there's been improvements to the "data production algorithm" leading to better data quality. SCISAT is funded through 2026.

Along with the report, Canada made three **plenary presentations** and are available to download. They were:

- The World Ozone and Ultraviolet Radiation Data Centre (WOUDC) – Data reporting and archiving, Sum Chi Lee, Environment and Climate Change
- Region 4: Canada, Sum Chi Lee, Environment and Climate Change Canada
- Polar regions: Antarctica and the Arctic, Thomas McElroy, York University, Canada

The 22 page Canadian National Report can be **downloaded on the UN website** or read **online**.

SpaceQ, 9 May 2024, By Marc Boucher

Image: The Canadian SCISAT spacecraft during testing at the Canadian Space Agency David Florida Laboratory (DFL) in Kanata, Ontario in November 2002. Image credit: Communications Research Center Canada (CRC).

9. US continues crack down on illegal HFCs

US authorities continue to enforce controls on HFCs under the American Innovation and Manufacturing Act, seizing illegal shipments and pursuing illegal importers.

Since January 2022, the Environmental Protection Agency (EPA) and Customs and Border Protection have denied entry to over 80 shipments of illegal HFCs.

Most recently, the EPA filed an administrative complaint against a company which attempted to illegally import of 34,480.3 lbs (15,640kg) of R134a in 2022. The EPA issued a letter recommending that Customs and Border Protection deny the shipment entry into the US, and the HFCs were subsequently exported.

The complaint seeks a ruling by the administrative law court that the importation by USA Wholesale Inc, a San-Jose-based corporation which sells engine lubricants, and the company's failure to submit required reports to EPA constitutes violations of the AIM Act and seeks civil penalties.

In addition to preventing illegal imports of HFCs, the EPA is also using its enforcement authorities to target HFC importers that fail to accurately report their import quantities to EPA.

The US Department Of Homeland Security and US Customs and Border Protection have also been active. Since the beginning of March, the authorities have seized around 2 tonnes of illegal HFC and HCFC in more than 20 seizures at border points with Mexico. The seizures have included a range of refrigerant including R410A, R134a and R404A, as well as R22 in shipment sizes from single cylinders upwards.

CoolingPost, 12 May 2024

Image: CoolingPost

10. U.S. Supermarkets Drag Feet on Climate-Friendly Refrigerants, EIA Scorecard Highlights

Today [6 May], the Environmental Investigation Agency (EIA) released its third bi-annual **Climate-Friendly Supermarket Scorecard** assessing major U.S. supermarket chains on actions to reduce hydrofluorocarbons (HFCs) – potent greenhouse gases used in cooling with climate impacts thousands of times higher than CO_2. Overall, despite the widespread availability of climate-friendly technology, of the sixteen companies evaluated, only three companies received passing scores.

"Our third scorecard serves as a stark wake-up call: the biggest American supermarkets continue to use and leak easily avoidable super pollutants. The lack of transparency and sluggish adoption of HFC-free technology by several of these companies receiving failing scores, is inexcusable in the face of our climate crisis." said Avipsa Mahapatra, EIA's Climate Campaign Director. "We laud the handful of companies like Aldi, that are leading the charge by transparently and publicly sharing their time-bound action plans on eliminating the use of HFCs" [...]

There has been an increase in commitments by companies to tackle refrigerant emissions, but EIA's scorecard results indicate a slow adoption of climate-friendly, ultra-low global warming potential (<10 GWP) refrigerants in stores and limited details about implementation plans to meet these company goals.

"EIA urges citizens, investors, and companies to commit to and implement actions toward a complete phase out of these gases globally," said Beth Porter, Senior Climate Policy Analyst with EIA. "Long-term commitments need interim targets and public progress to ensure the ultimate goal to curb these emissions is achieved on time."

EIA calls on these major companies to develop detailed strategies with interim targets to phase out HFC refrigerants from all stores, immediately commit to using HFC-free technology in new stores and develop no-tolerance policies for leaks to ensure rapid repair to curb emissions.

Full scorecard results and recommended actions for improvement **here**

The Environmental Investigation Agency (EIA), 6 May 2024

Image: eia

WEST ASIA

11. West Asia Network Meeting: Advancing Ozone Protection and Sustainable Cooling

Dubai, The United Arab Emirates, 30 April 2024 – The UN Environment Programme's (UNEP) OzonAction Compliance Assistance Programme (CAP) team in West Asia hosted its 2024 Network Meeting for National Ozone Officers in Dubai, United Arab Emirates, on April 24-25, 2024. The event brought together representatives from National Ozone Units across West Asia, alongside key regional and international partners, and experts.

The meeting, attended by 31 participants, including 13 females and 18 males, followed the benchmarking joint thematic meeting for National Ozone Officers from West Asia and High Ambient Temperature (HAT)/Group 2 countries in South Asia, highlighting a concerted effort across regions to address ozone protection and sustainable cooling challenges.

At the forefront of discussions were the impending deadlines for total hydrochlorofluorocarbons (HCFC) phase-out targets by 2030, alongside ongoing commitments under the Kigali Amendment. The meeting delved into best practices and considerations for developing hydrofluorocarbons (HFC) phase-out plans, aligning with the Multilateral Fund's criteria. It also reviewed the CAP West Asia Strategy (2024-2026) and related proposed work plans, which are tailored to meet regional needs and ensure compliance with Montreal Protocol goals.

Seven working sessions facilitated in-depth discussions, including national presentations showcasing West Asia countries' progress in meeting Montreal Protocol commitments and preparing for Kigali Amendment implementation. Participants shared insights on implementing recommendations from previous meetings, fostering joint action at the national level, and transitioning to ozone-friendly alternatives.

A highlight of the meeting was the recognition of certified technicians from the first training and certification programme for refrigeration and air conditioning technicians in the UAE. Eleven HVACR engineers and technicians were trained and certified on the correct handling and treatment of HVACR equipment containing fluorinated greenhouse gases during the three-day course.

This initiative, a collaboration between the Galileo Centre, and Eurovent Middle East Association through the association’s HVACR Leadership Academy in Dubai, is dedicated to all professionals to learn the best practices to install and perform servicing activities such as maintenance, repair, recovery, leakage checking as well as dismantling RAC

systems containing F-Gases and underscores the commitment to building local capacity for sustainable cooling practices.

The 2024 main network meeting not only reaffirmed regional commitments but also set a course for collective action, underscoring UNEP's role in fostering environmental stewardship and global cooperation.

Contact: **Khaled Klaly**, Regional Coordinator for West Asia, UNEP **OzonAction**

Image: OzonAction

12. Joint West Asia-South Asia Thematic Meeting: Advancing Sustainable Cooling in High Ambient Temperature Countries

Dubai, The United Arab Emirates, 30 April 2024 - UNEP's OzonAction Compliance Assistance Programme (CAP) teams in West Asia and South Asia recently organized a joint thematic meeting in Dubai, United Arab Emirates, underscoring a unified effort to address the challenges posed by High Ambient Temperature (HAT)/ Group 2 Countries. This thematic meeting, held on 22-23 April 2024, brought together a diverse array of participants, including representatives from National Ozone Units across West Asia and HAT/Group 2 countries in South Asia alongside regional and international partners such as the Ozone Secretariat, the Multilateral Fund for the Implementation of the Montreal Protocol (MLF), the United Nations Industrial Development Organization (UNIDO), the United Nations Development Programme (UNDP), the Secretariat of the Gulf Cooperation Council (GCCSG), the General Secretariat of the League of Arab States (LAS), and experts from the refrigeration and air conditioning (RAC) industry.

The event, attended by 55 participants comprising 13 females and 42 males, served as a platform for collaborative dialogue and knowledge exchange among National Ozone Officers (NOO's) from West Asia and South Asia regions. The primary objective was to navigate the complexities faced by HAT/Group 2 countries in their transition towards ozone and climate-friendly long-term alternative refrigerants, aligning with the obligations set forth by the Kigali Amendment (KA).

With initial compliance obligations looming, set for a freeze on 1 January, 2028, and subsequent reduction steps, the meeting delved into critical areas such as technology readiness for new refrigerants, global policy experiences, industry success stories, and country-specific perspectives. Expert-led sessions explored barriers, industry innovations, infrastructure requirements, and energy-efficient solutions tailored to HAT conditions.

The meeting also included panel discussions where industry leaders provided insights on timelines, product cycles, harmonization efforts, and infrastructure enhancements, while participants tackled crucial topics like infrastructure for data collection, reclamation systems, updated licensing frameworks, certification standards for technicians and products, and the pivotal role of energy savings in driving sustainable industry practices.

UNEP's CAP teams, through this collaborative initiative, reaffirm their commitment to supporting HAT/Group 2 countries on their journey towards ozone and climate-friendly cooling solutions. The joint thematic meeting not only highlighted challenges but also innovative solutions, emphasizing the collective responsibility and shared vision for a resilient and environmentally conscious RAC industry.

Contact:

Khaled Klaly, OzonAction Regional Coordinator for West Asia

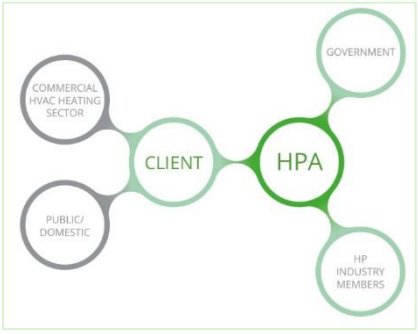
Elisa Rim, OzonAction Interim Regional Coordinator for South Asia

UNEP - OzonAction, April 2024

Image: OzonAction

EUROPE & CENTRAL ASIA

13. Heat Pump Association to hold a free webinar on Heat Pump Refrigerants



The Heat Pump Association (HPA), in collaboration with elemental, will hold a free heat pump refrigerant awareness webinar on Wednesday 22nd May (10 am – 11 am).

Safe and efficient installation practices are vital for a successful transition to low carbon heating systems, such as heat pumps. Heat pumps utilise the properties of refrigerants within a vapour compression cycle that absorbs and releases heat to efficiently transfer energy for heating purposes.

In the UK, the installation and safe handling of fluorinated refrigerants (F-Gasses) is currently regulated under the EU F-Gas Directive (No 517/2014). With the increasing regulatory pressure to reduce the use of high Global Warming Potential (GWP) refrigerants, there is a growing trend towards lower GWP refrigerants. However, these can be non-Fluorinated refrigerants and, therefore fall outside of the Directive, and many of these refrigerants have a safety class rating of “flammable” or “higher flammability”.

This presents unique challenges for equipment which contains low-GWP, and flammable refrigerants with regards to how to ensure that engineers who are installing or handling equipment, or working on the heat pump refrigerant circuit, are suitably trained. In response, the HPA is calling for:

- Awareness of both F-Gas and Non-F-Gas Flammable refrigerants to be held by all those installing heat pumps, and that an overview of such must be included in all heat pump training courses.
- Installers who are installing split-refrigerant heat pump systems containing a non-F-Gas flammable refrigerant or who break the hermetic seal of a heat pump containing a non-F-Gas flammable refrigerant for servicing or maintenance purposes should hold a formal, regulated qualification on understanding the properties and application of non-F-Gas flammable refrigerants.

To support this, the HPA in collaboration with elemental, will be running an informative refrigerant awareness webinar on **Wednesday 22nd May (10 am – 11 am).** This will provide heat pump installers, designers, and specifiers with enhanced knowledge about common heat pump refrigerants and key considerations to support the correct installation, maintenance, and servicing.

As the industry shifts towards utilising low GWP refrigerants, the importance of comprehensive training for installers cannot be overstated. Non-fluorinated, flammable refrigerants present unique challenges that require additional knowledge and skills to ensure safe handling and installation.

We are committed to supporting the heat pump industry’s transition to low GWP refrigerants in a manner that prioritises safety and installer responsibility. We are doing this through a combination of updating our Regulated Qualification Framework Qualification Specifications, supporting new entrants in understanding the properties of a wider array of refrigerants, calling on policymakers to introduce mandatory training as outlined above and hosting this free CPD accredited webinar.

FIND OUT MORE:

The HPA/elemental Refrigerant webinar is free to attend and open to anyone interested in learning more about the role that refrigerants play in the effective operation of a heat pump, and important safety considerations for heat pumps with different types of low GWP refrigerants. All elemental’s webinars are CPD Certification Service assessed and accredited and attendees are entitled to receive a CPD certificate that counts towards demonstrating their ongoing professional development.

Register for free here >>>

Note: This webinar is an awareness CPD webinar and not a regulated flammable refrigerant training course. Those installing split refrigerant system heat pumps containing a non-fluorinated flammable refrigerant, or those breaking the hermetic seal of a heat pump containing a non-fluorinated flammable refrigerant, should undertake a formal qualification on how to use flammable refrigerants before doing so.

The Heat Pump Association (HPA), 30 April 2024

Image: The Heat Pump Association (HPA), UK

14. Oslo building is self-sufficient in HVAC

NORWAY: An 18-storey mixed-use building in Oslo makes use of a climate system that is self-sufficient in heating, cooling and ventilation.

Vertikal Nydalen in the historic industrial area of Nydalen by the river Akerselva in Oslo, includes restaurants at street level, offices on the following five floors, and 40 apartments above.

It achieves its triple-zero solution by using geothermal wells, PV panels, a low-exergy system for heating and cooling, and natural ventilation. The project, developed by Oslo-based Avantor and designed by Norwegian architects Snøhetta, also claims more than 50% overall reduction of CO_2 emissions from materials, transport, and energy compared to a reference project.

Water from the geothermal wells circulates in the clay walls and concrete slabs when heating or cooling is needed. The heat absorbed into the concrete walls during the day is released at night and contributes to stable temperatures in the building. The PV panels on the roof power the heat pump that controls the heating and cooling system.

The angled facade is designed to create pressure differences that enable air to move through the building. The air enters through valves in the façade, which open and close as needed. When two windows open on different sides of the building, the pressure difference forces the air to move through the premises, so the air circulates.

The building is a FutureBuilt pilot project certified according to BREEAM NOR (Building Research Establishment Environmental Assessment Method), with the level Excellent for the office area and Very Good in the apartments.

Vertikal Nydalen results from two research projects supported by The Research Council of Norway. LowEx focuses on heating and cooling with very little added energy, and aims to develop new total concepts for thermal energy supply in zero-energy buildings and energy-positive buildings, with performance that is 2 to 2.5 times better than today's state-of-the-art.

CoolingPost, 28 April 2024

Image: CoolingPost

15. U.K. Government Grants £1.77 Million to Support Natural Refrigerant Heat Pump Innovation

The funding will go to three residential heat pump development projects under its Heat Pump Ready initiative.

The U.K. government has **announced £1.77 million** (€2.06 million/$2.22 million) in funding for three natural refrigerant-based heat pump projects under its **Heat Pump Ready** initiative.

The Flexible Heat Pump from Clear Blue Energy, Natural Heat from FeTu and Cube X from Mixergy were the natural refrigerant projects funded. The grants are part of a larger £5.3 million (€6.2 million/$6.6 million) investment in heat pump R&D, which is split across nine projects.

According to the U.K. Department for Business, Energy and Industrial Strategy (BEIS) and Department for Energy Security and Net Zero (DESNZ), the funding is designed to support efforts to reduce the lifetime cost of residential heat pumps and improve consumer perception and experience through the development of technologies, tools and business models.

One of the main objectives of the program is to develop solutions that help position heat pumps as the technology of choice for British consumers, particularly in "distress purchase situations," when a new domestic heating system is required urgently.

Another focus is to develop energy- and cost-efficient solutions that use low-GWP (<150) refrigerants. With **20-year GWPs** of 1 or below, natural refrigerants like CO_2 (R744) and propane (R290) offer future-proof options for heat pump technologies.

The nine projects were selected following an application process that began in October 2023. Up to £10 million (€11.6 million/$12.5 million) was available for allocation. [...]

r744, 14 May 2024, By Christina Hayes

Image: r744 | Photo Credit: Nancy Pauwels for Shutterstock

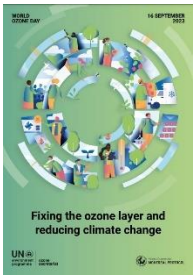
How to set up and manage logbooks for refrigeration, air-conditioning, heat pump and other types of equipment - Background: This technical brief reflects the Polish experience of setting up and managing logbooks for refrigeration, air-conditioning, heat pump (RACHP) and other types of equipment. It also 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 at 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.

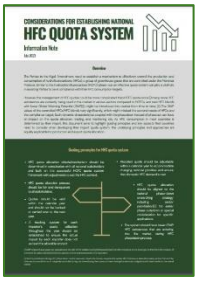
OzonAction: Celebrating International Women's Day, 8 March 2024 - on the occasion of **International Women's Day (IWD)**, UNEP OzonAction would like to express our best wishes and

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. [...]

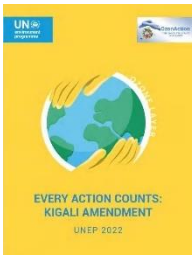
- **Miruza Mohamed: A Woman Behind the Maldives' Environmental Transformation**

- **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**

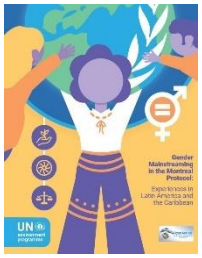
Considerations for establishing national HFC Quota System - As HFC consumption in most countries is determined by their import, this document aims to highlight guiding principles and key aspects that countries need to consider when developing their import quota system. The underlying principles and approaches 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**

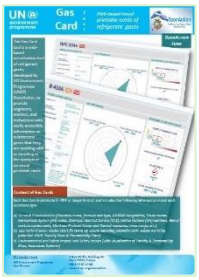


Refrigeration, Air-Conditioning, and Heat Pumps (RACHP) Associations & Organizations: This Knowledge Map provides a global directory of RACHP associations, societies, and organisations around the world. These are key stakeholders for ensuring safe and efficient refrigerant transitions.

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).

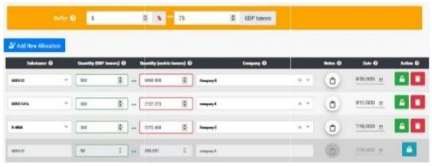


More Information - The Gas Card web-based tool is part of UNEP OzonAction's portfolio of activities and tools to assist various stakeholders in developing countries, including customs officers and technicians, to achieve and maintain compliance with the Montreal Protocol on Substances the Deplete the 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 Licence 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.

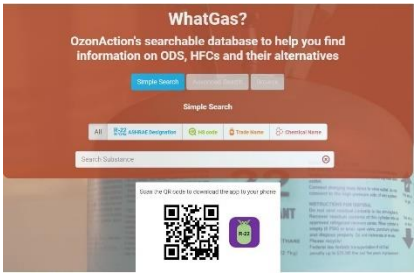
Smartphone Application: Just search for "*GWP-ODP Calculator*" or UNEP in the Google Play store or use the QR code – free to download! If you already have the application installed on your device, be sure to update to benefit from the new features.

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 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:

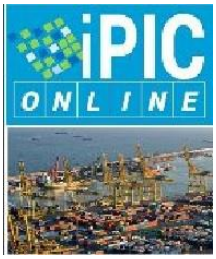
- **Techniques, Safety and Best Practice**
- **Flammable Refrigerant Safety**

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

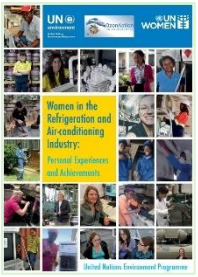
If you prefer to access the video clips via the OzonAction smartphone application, just search for "RAC Technician Video Series" or UNEP in the Google Play Store and iTunes/App Store or scan the QR code –
Free to download!

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

OzonAction's iPIC platform - Updated Collaboration between China and Thailand using OzonAction's informal Prior Informed Consent (iPIC) system has resulted in the prevention of a huge consignment of ozone-depleting and climate damaging hydrochlorofluorocarbons (HCFCs). Those chemicals, which are primarily used as refrigerants for air conditioners and fridges, are controlled under the Montreal Protocol on Substances that Deplete the Ozone Layer and are being phased out by all countries according to a specific timeline.



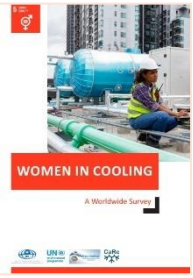
Women in the refrigeration and air-conditioning industry: Personal experiences and achievements The United Nations Environment Programme's (UNEP), OzonAction, in cooperation with UN Women, has compiled this booklet to raise awareness of the opportunities available to women and to highlight the particular 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**



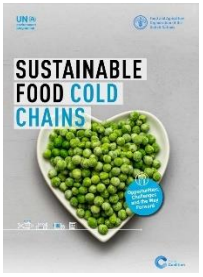
As part of IIR and UNEP OzonAction's partnership, a set of Cold Chain Technology Briefs was released over the past few years, which includes in-depth summaries about the cold chain in different key sectors. They include descriptions of technology, refrigerant options and trends and conclude with prospects 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

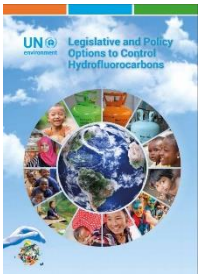
Results of a Worldwide Survey about Women in Cooling Released by IIR and UNEP OzonAction - Refrigeration, Air-Conditioning, and Heat-pumps (RACHP) are crucial for our health, nutrition, comfort, and well-being. It is one of the sectors that crosscuts many of the UN sustainable development goals and can 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**



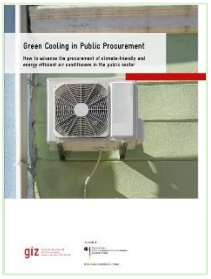
Sustainable Food Cold Chains: Opportunities, Challenges and the Way Forward-This [UNEP-FAO] report explores how food cold chain development can become more sustainable and makes a series of important recommendations. These include governments and other cold chain stakeholders collaborating to adopt a 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**



E-Book on Process Safety Management (PSM) Training for Ammonia Refrigeration - a new e-book about the critical elements of a process safety management (PSM) training program for facilities operating an ammonia refrigeration system.

The e-book, titled "**7 Keys to a Compliant PSM Training Program for Ammonia Refrigeration**," outlines important questions a facility's program should address and questions that trained plant personnel should be able to answer. Topics covered include:

- Safety hazards and health considerations
- Emergency shutdown procedures
- Addressing deviations from system operating limits
- Risks and costs of non-compliance with regulatory standards

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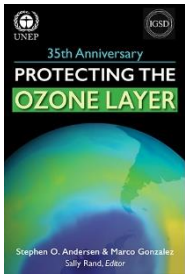
Protecting the Ozone Layer - 35th Anniversary Edition - a new book celebrating the 35th Anniversary of the Montreal Protocol. The electronic version (Kindle Edition) of the book has become **available for purchase $3.03 on Amazon**. The book highlights successes and documents innovation during the first 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 (N2O), 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.

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