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# GLOBAL

## 1. How Operation DEMETER X Fights Illegal Trade in Controlled Substances under the Montreal Protocol

**17 April 2025, Paris, France** – The ozone layer is not visible to the naked eye, and similarly, the enforcement of the **Montreal Protocol** often takes place behind the scenes, yet its impact is undeniable. As a landmark global legally binding instrument, it unites countries in protecting the ozone layer by phasing out ozone-depleting substances (ODS) and, through the **Kigali Amendment**, phasing down hydrofluorocarbons (HFCs) – potent greenhouse gases driving climate change.

Enforcement of global treaties is key. This is where **Operation DEMETER** comes in—a global Customs initiative that turns the Protocol's goals into action. By targeting illegal shipments of ODS, HFCs, other controlled substances, and hazardous wastes regulated under the **Basel Convention**, DEMETER showcases the critical role of Customs in safeguarding the planet for future generations.

UNEP OzonAction has been a committed partner in DEMETER operations since 2019, when the Montreal Protocol was added to the scope of the operation, providing technical expertise, capacity-building support, and networking opportunities among national Customs and ozone officers, particularly to developing countries under the Montreal Protocol, also called Article 5 countries. UNEP OzonAction provides assistance with clearinghouse functions as per Article 10 (3)(b) of the Montreal Protocol, including facilitating and monitoring multilateral, regional, and bilateral cooperation available to Article 5 countries. For these countries, DEMETER operations are more than an enforcement exercise. By curbing illegal trade, the operation helps Article 5 countries meet their hydrochlorofluorocarbon (HCFC) phase-down and HFC phase-out commitments, protects their markets, and ensures equitable progress toward global climate goals.

The 10th edition of Operation DEMETER marked a major milestone, with 110 Customs administrations participating—including growing engagement from African countries. Coordinated by the World Customs Organization (WCO) Secretariat, the operation received technical support from a Virtual Operational Coordination Unit (OCU), led by the WCO Environment Programme, the WCO Regional Intelligence Liaison Office for Asia and the Pacific (RILO A/P), and China Customs.

The following results were striking:

- 450 seizures were reported by 42.7% of participating administrations—a 28.2% increase from 2023.
- 99 seizures involved ODS, HFCs, or equipment containing controlled substances, reported by 17 Members—a 70% rise in reporting administrations and a 115% surge in

seizures compared to DEMETER IX.
- 344,625.9 kg of ODS & HFCs were intercepted, alongside 24,198.9 kg and 11,620 pieces of non-compliant equipment.

**Why Are HFCs and ODS Still Being Smuggled?**

The data reveals a troubling trend: HFCs are now the most-seized illicit commodity, reflecting disparities in phase-down schedules between developed and developing countries. High demand, coupled with attempts to bypass licensing systems, has created a lucrative black market. Smugglers exploit countries with remaining production quotas, shipping banned substances to regions where quotas are dwindling.

Additionally, Customs officials noted a rise in seizures of older equipment containing phased-out ODS/HFCs, as well as newer non-compliant devices. Equipment with obsolete refrigerants may fall under both the Basel Convention (as e-waste) and the Montreal Protocol, requiring close collaboration between Customs and environmental authorities to classify and act. During DEMETER X, eight administrations reported 27 seizures of illegal equipment, weighing over 24 metric tons, plus an additional 11,620 individual units.

**Challenges and the Path Forward**

Despite the surge in seizures, illegal trade remains widespread, with shipments originating from and destined for diverse locations, making patterns difficult to track. Most interceptions occurred during import and more than half involved transit points indicating the complexity of the routes, though inspections at warehouses, markets, and means of transport also proved effective.

The growing participation in DEMETER signals stronger global awareness of Customs' role in combating environmental crime. Yet, as smugglers adapt, so must enforcement strategies. With each iteration, DEMETER strengthens international collaboration- ensuring the Montreal Protocol's success is not just written in policy but enforced on the ground.

The efforts of Parties to the Montreal Protocol, including Article 5 countries, in contributing to the success of the DEMETER operations are highly commendable. Your commitment plays a critical role in closing loopholes within the global supply chain and safeguarding vulnerable markets. We encourage all Parties to join future DEMETER operations. Together, we can turn the tide against illegal trade and accelerate progress toward a healthier, more sustainable planet.

For more information, see the WCO press release **in English and French.**

Source: UNEP OzonAction, 17 April 2025 I Image: Sri Lanka Customs Demeter X

## 2. The ozone layer shields life on Earth. We'll soon lose a key way to monitor its health

NASA's Aura satellite (illustrated) has been orbiting Earth for more than 20 years. It is expected to run out of power in mid-2026.
NASA

Humankind will soon lose a great deal of vigilance over the ozone layer, which shields life on Earth from harmful solar radiation.

The impending loss of NASA's Aura and the Canadian Space Agency's SCISAT satellites threatens scientists' ability to closely monitor compounds that destroy ozone and alter stratospheric circulation.

With no planned missions to replace either satellite, a data desert in the stratosphere appears imminent, researchers warn in the March *Bulletin of the American Meteorological Society*.

"We've been thinking about this for years," says atmospheric scientist David Fahey of the National Oceanic and Atmospheric Administration in Boulder, Colo., who was not involved in the assessment. "These satellites, as of today, will go dark in the absence of a torchbearer into the future."

The satellites will sunset while the ozone layer's recovery has unpredictably stalled over the midlatitude Northern Hemisphere. And experts warn that increasing amounts of space debris from dying satellites could unleash more ozone-depleting substances. What's more, scientists will lose their ability to watch for harmful impacts to the ozone layer from wildfires and stratospheric aerosol injections aimed at countering climate warming.

To be clear, other instruments will continue monitoring the ozone layer itself. What will be lost is the ability to thoroughly scan the stratosphere for substances that can damage the ozone layer. "It's like taking MRI and CAT scanning away and going back to just X-rays," says coauthor Ross Salawitch, an atmospheric scientist at the University of Maryland in College Park. "We will know what is happening to the ozone. What we'll lack is why."

SCISAT took to the skies in 2003, followed the next year by Aura. Ever since, these satellites have advanced scientists' understanding of the stratosphere and ozone layer. But by mid-2026, Aura's solar panels will be unable to power its operations. And although SCISAT could theoretically remain in orbit until around 2035 — if no crucial hardware failures or funding issues arise — the spacecraft is already 18 years beyond its intended lifetime.

Once the satellites go dark, scientists will lose access to daily global measurements of ozone-destroying gases. These include halogenated gases such as hydrogen chloride and chlorine monoxide, as well as nitrogen oxides.

The origins of most of these gases can be traced to chemicals and materials manufactured by humans. Many of these source substances are regulated by the Montreal Protocol, an international agreement enacted in 1989 to phase out ozone-depleting substances. But without observations from both satellites, it will be more difficult to track how these substances are harming the ozone layer, Fahey says. "We're going to lose that vigilance factor."

What's more, data from SCISAT and Aura revealed how smoke from the 2019–2020 Australian wildfires damaged the ozone layer, an impact that was unanticipated at the time. "We're just at the beginning of trying to understand how that happens," says atmospheric chemist Lyatt Jaeglé of the University of Washington in Seattle.

As blazes are expected to become more intense and frequent due to climate change, some researchers have proposed that wildfire emissions could have increasingly significant effects on stratospheric ozone. And large-scale injections of stratospheric aerosols — a proposed technique to mitigate climate warming by reflecting sunlight back into space — could have effects similar to a volcanic winter. That means the aerosols could potentially damage the ozone layer over large portions of the globe. The loss of the ability to monitor these impacts is a major concern, Salawitch, Fahey and Jaeglé agree.

Two potential successor missions are being considered by NASA and the European Space Agency.

One is the Changing-Atmosphere Infra-Red Tomography Explorer, or CAIRT, a concept the ESA is weighing for its next Earth Explorer mission. The satellite would provide global observations of ozone, water vapor, aerosols and ozone-damaging compounds. A decision will be announced later this year, with plans to launch the selected mission around 2032.

Meanwhile, NASA is considering the Stratosphere Troposphere Response using Infrared Vertically-resolved light Explorer, or STRIVE. This satellite would wield Aura's monitoring capabilities and then some, providing enhanced resolution and greater coverage, says Jaeglé, who is lead investigator of the mission's science team. A decision could be made later this year, with a potential launch in 2030 or 2032.

"If either one of these goes forward, then that's obviously good news," Salawitch says. "We'd like to continue to be diagnosing the patient."

Source/image: ScienceNews, 4 April 2025

## 3. Supermarket Refrigeration: New Technologies and Global Trends in Emerging Markets

As sustainability takes centre stage and food safety standards tighten, **supermarket refrigeration** is undergoing a global transformation. From advanced **$CO_2$ systems** to **plug-and-play cabinets**, retailers across both mature and emerging markets are investing in the next generation of cooling technologies—balancing energy efficiency, environmental protection, and customer experience.

**Why Are Supermarkets Renovating Refrigeration Systems?**

Refrigeration accounts for up to **50% of a supermarket's total energy consumption**. With rising electricity costs and tougher carbon emission regulations, retailers are under pressure to **modernise outdated refrigeration systems**.

**Top renovation drivers include:**

- **Reducing carbon footprint**
- **Lowering electricity bills**
- **Meeting new environmental regulations (e.g., EU F-Gas rules)**
- **Improving food safety and shelf life**
- **Creating more attractive, shopper-friendly displays**

Large supermarket groups like Tesco, Carrefour, and SPAR are already rolling out **low-emission refrigeration upgrades** across their stores globally.

**What's Happening in Emerging Markets?**

In regions like **Africa, the Middle East, Southeast Asia, and Latin America**, supermarket chains are expanding fast. Many new stores are being built from scratch, which gives retailers the chance to install **modern, sustainable refrigeration technologies from the start.**

| **Key trends in emerging markets**<br>**Trends** | **Explanation** |
|---|---|
| Plug-and-play fridges | Easy to install, ideal for independent retailers |
| Solar-powered cold storage | Used in rural areas with unreliable electricity supply |
| $CO_2$-based refrigeration systems | Low Global Warming Potential (GWP), efficient and safe |
| Integrated cooling + air systems | Combined energy use for cooling and store temperature |
| Hybrid backup systems | Ensuring cold chain continuity during power outages |

Governments in countries like India, Kenya, and Indonesia are also offering **green energy incentives** for food retailers adopting climate-friendly technologies.

**What Types of Refrigeration Are Supermarkets Choosing?**
The global shift is moving away from HFC-based systems to **natural refrigerants** like $CO_2$ (R744), hydrocarbons (R290/propane), and ammonia (R717). These gases have **zero or very low Global Warming Potential**, aligning with international climate agreements. Read more...

Source/image: ISN Magazine, 5 May 2025

## 4. Cool Coalition Newsletter

The past two months have been marked by strategic progress across the Cool Coalition and Global Cooling Pledge. From advancing technical workstreams to deepening regional engagement, we are moving from momentum to delivery, positioning our work to drive measurable impact in the lead-up to COP30.

A big part of this effort is the collective alignment many of you helped shape during our first Membership Coordination Call of 2025. Your insights and engagement were instrumental in refining priorities, strengthening governance, and setting the course for the months ahead.

One of our most significant milestones ahead is the first Global Cooling Pledge Signatories Focal Points Meeting, taking place in Bonn between 13–14 June. Co-chaired by the COP30 Brazil Presidency and the COP28 United Arab Emirates (UAE) Presidency, and co-hosted by Germany, Italy and the UAE, the meeting will lay the groundwork for more inclusive governance of the Pledge through the Intergovernmental Committee on Cooling. It will also

help define priorities for COP30 and mark a critical step toward operationalizing the Pledge, shifting from high-level commitment to concrete, coordinated implementation across sectors and regions.

To further support implementation, we are launching a Global Cooling Pledge Helpdesk for Signatory countries. The Helpdesk will serve as a first port of call for technical and strategic support, connecting countries with resources, experts, and peer learning opportunities to turn commitments into action.

Momentum is also building in Africa, where we will hold a Ministerial Dialogue and a technical session at the 20th African Ministerial Conference on the Environment (AMCEN-20). Catalyzing African leadership and leveraging successful case studies from the BeCool programme in India, we will aim to facilitate knowledge exchange and promote sustainable cooling as an urgent priority for Africa's climate mitigation, adaptation and development.

We're especially encouraged by new commitments from our partners. The African Development Bank has committed $1 million in technical assistance to advance the district cooling project in Tunisia, building on a UNEP Cool Coalition prefeasibility study, and is supporting the development of National Cooling Action Plans in the region. Meanwhile, at the Sustainable Energy for All (SEforALL) Global Forum 2025, Small Island Developing States spotlighted sustainable cooling as a priority for resilience and energy security, firmly positioning it in the global spotlight ahead of COP30.

To top it all off, UNEP has announced nominations for the environmental honour of Champion of the Earth, and for the first time a Cooling Champion is set to be among the ones recognized. Submit your nominations by 9 May, and help us celebrate the pioneers who push the field forward.

- Subscribe to Newsletter

Source/image: Lily Riahi, Head, UNEP Cool Coalition Secretariat, March-April 2025

## 5. Webinar Series Driving the COP30 Buildings and Cooling Agenda

The Global Alliance for Buildings and Construction (GlobalABC) and the UNEP Cool Coalition are launching a new webinar series to mobilize sponsors, partners, and allies around one of the most solution-driven spaces at the 2025 United Nations Climate Change Conference (COP30): the Buildings and Cooling Pavilion.

Hosted in the Blue Zone area in Belém, Brazil from 10 to 21 November 2025, the Pavilion will spotlight how better buildings, sustainable cooling, and smarter materials can help create more resilient, equitable, and climate-aligned communities, especially in the context of an increasingly warming planet.

This five-part webinar series, running from June through November, offers an opportunity to stay informed, contribute directly to Pavilion planning, and ensure partner voices are reflected in the final programme. Each session lasts 40 minutes and offers targeted updates and practical input opportunities. Read more on the programme…

Source/image: Cool Coalition, May 2025

# AFRICA

## 6. Transforming Uganda's RAC Sector: Achievements of GCI III

The Green Cooling Initiative (GCI) III, which concluded in February 2025 in Uganda, marked a major success in transforming Uganda's refrigeration and air-conditioning (RAC) sector by promoting sustainable practices that will have lasting environmental, climate and economic benefits.

Group picture of all participants of the GCI III closing workshop in Uganda (GIZ Proklima)

The initiative, aimed at reducing the environmental and climate impact of the global RAC industry, not only met its objectives but also set a strong foundation for future green cooling solutions in Uganda.

**Achievements of GCI III in Uganda**

The project is part of a larger global effort, **implemented through the GIZ Proklima** program and supported by the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Consumer Protection **(BMUV)** under the International Climate Initiative **(IKI)**. The project implementation scope involved Thailand, Bangladesh, Vietnam, Kenya, Colombia and Honduras.

This aligns with the **Montreal Protocol Agreement** and the subsequent **Kigali Amendment**, which emphasises the phase-out of **CFCs** (chlorofluorocarbons), **HCFCs** (hydrochlorofluorocarbons) and **HFCs** (hydrofluorocarbons) gases commonly used in the foam, and applications, refrigeration and air conditioning sector. Since these refrigerants deplete the ozone layer and/or have high global warming potential (GWP) and thus a negative climate impact, they are being gradually eliminated under the Uganda's commitment to the Montreal Protocol and the Kigali Amendment which encourages the adoption of natural refrigerants, which have a low global warming potential and are per- and polyfluoroalkyl substances **(PFAS)** free.

In Uganda, the **project was launched in August 2021** with a focus on enhancing the capacity of public and private sector stakeholders to **drive a sustainable transformation in the RAC sector.** It aimed to increase access to green cooling solutions, **provide demand-driven support services, build networks, and identify appropriate financing mechanisms** to support the sector's shift to climate and environmentally friendly greener technologies. By fostering the adoption of ultra-low GWP and energy-efficient technologies, the project directly contributes to **Uganda's national commitment to reduce emissions by 24.7% by 2030**, playing a crucial role in the country's climate change mitigation efforts under the national determined contributions, to which the project provided inputs during the revision.. Throughout its duration, the project achieved several key milestones. One of its most significant accomplishments was the establishment of pilot projects at key sites such as the GIZ Uganda country office, **National Environment Management Authority (NEMA), and Kyambogo University (KU)**, where highly efficient air conditioners **(ACs) that use the ultra-low refrigerant R290 natural refrigerant air conditioners were installed.** Air conditioner data on energy efficiency was logged and calculated at the GIZ Uganda country office. These pilot projects, have been **operational for over two years,** served as real-world

demonstrations of the technology's effectiveness, **offering valuable experience and knowledge to stakeholders.**

To strengthen the local supply chain, the project worked with a **local distributor** to **import** and sell **one container of R290 ACs** at subsidised rates, **making green technologies more accessible to the community.**

The project also made a significant contribution to the national adoption of international safety standards in Uganda, including **ISO 5149** and **IEC 60335** which are key standards in **ensuring the safety,efficiency**, and **environmental compliance of refrigeration, air-conditioning, and heat pump systems.**

The project also **supported** the public reviews of East African Minimum Energy Performance Standards **(MEPS)** and labels for domestic refrigerators and air conditioners, pushing the region's standards towards **energy efficiency.**

The Uganda National Association of Refrigeration and Air Conditioning **(UNARA)** also made significant strides in supporting the industry. UNARA established a fully equipped training centre for hydrocarbons, where technicians can receive training at subsidised rates. Through concerted efforts with the **National Ozone Unit**, the process of establishing the **first fully hydrocarbon supermarket refrigeration equipment in Uganda** is in advanced stages.

The project overcame challenges like **limited access to hydrocarbon tools** through **partnerships with the National RAC Association**, offering discounts to registered technicians. The **National Ozone Unit** pledged continued support through **education**, **refresher courses, and awareness campaigns**. While successful, further curriculum revisions and working groups are needed to enhance hydrocarbon training and advance green cooling policies. The success of The Green Cooling Initiative III has laid a solid foundation for a **sustainable RAC sector**, with policies and practices that are expected to have **long-term benefits for the environment, climate and the economy.** The capacity-building efforts, along with the development of local supply chains and networks, will help ensure that the shift to green cooling technologies continues beyond the project's conclusion.

Source/image: Green Cooling Initiative, 11 March 2025

## 7. Latest developments shaping the HERVAC landscape at Frigair 2025

Leading companies in the heating, energy, refrigeration, ventilation and air conditioning (HERVAC) sector will exhibit innovations that are reshaping the industry landscape and beyond at the Frigair Exhibition 2025.

The South African Institute of Refrigeration and Air Conditioning's (SAIRAC) flagship event will take place from 4-6 June 2025 at Gallagher Convention Centre, Midrand, and is the go-to platform for industry professionals to connect, learn and grow. Organised by IMD Conferences, Exhibitions and Workshops in partnership with Specialised Exhibitions – a division of Montgomery Group, this year's event promises even more energy, innovation and expansion as leading companies showcase the latest products and developments in the sector.

The HERVAC sector has seen rapid advancements in technology and techniques in recent years — driven by the growing focus on indoor air quality, energy efficiency, and the urgent

global push to address climate change. As a key contributor to progress in energy use and refrigerant innovation, the sector continues to play a vital role in determining a more sustainable future. Frigair is perfectly positioned to showcase these latest breakthroughs, cutting-edge solutions, and forward-thinking technologies.

A highlight of FRIGAIR 2025 will be the FRIGAIR Skills Development Hub, where six contestants will compete head-to-head in challenges involving electrical testing and wiring, hand tools, refrigeration tubing, installation and commissioning. Visitors will have the opportunity to witness the competitors in action, from a safe distance.

The event will also include exciting SAIRAC workshops and seminars with top-tier insights presented by industry-leading speakers. The topics will be themed with the first day focussing on energy and engineering. While refrigeration technology has brought numerous benefits, it also has environmental implications that cannot be overlooked. The production and use of refrigerants, the energy consumption of cooling systems, and the disposal of refrigeration equipment all contribute to environmental challenges. Day two will discuss changes to the legislation as well as new occupations and trade testing within the HERVAC environment. Whilst the final day will delve into innovation and refrigerant trends.

Topics include the National Department of Forestry Fisheries and Environment's (DFFE) Margaret Molefe talking on South Africa's progress and obligations to the phase out and phase down of global warming substances and the impact on the industry; General Manager of Energy Partners Refrigeration Dawie Kriel will share on game changing case studies and success stories in the growing field of Cooling-as-a-Service; Tobias Fuhrer, Head of Center of Expertise Commercial Refrigeration will speak about refrigerant trends and innovations; and SAIRAC Vice President Gordon Banks will discuss the National Trade Test and the phasing out of legacy trades and the new trade test against occupations.

Frigair is the ideal environment to discover the latest innovations, advanced technologies and future-ready solutions for all those looking for the best in heating, ventilation, air conditioning, refrigeration, and energy products and services. This includes engineers, architects, technicians, designers, contractors, procurement managers, property developers, energy and environmental agencies.

More details and visitor registration are available at: www.frigairexpo.co.za

Source/image: Supermarket Retailer, 11 April 2025

## 8. Atelier régional sur la préparation du Plan de Mise en Œuvre de l'Amendement de Kigali (KIP) pour les pays Francophone Afrique

**23–25 avril 2025, Mombasa, Kenya** - Dans le cadre de la mise en œuvre de l'Amendement de Kigali au Protocole de Montréal, le Programme des Nations Unies pour l'Environnement (PNUE), à travers son bureau régional de l'Afrique francophone du programme d'assistance à la conformité (PAC) OzonAction, a organisé un atelier régional de trois jours à Mombasa, au Kenya.

Cet atelier a été spécifiquement conçu pour les quatorze (14) pays francophones dont les projets de préparation des Plans de Mise en Œuvre de l'Amendement de Kigali (KIP) ont été approuvés par le Comité exécutif du Fonds Multilatéral (MLF). Il s'est inscrit dans une dynamique interactive, centrée sur le renforcement des capacités techniques, la structuration des données et la planification stratégique.

L'objectif général de cet atelier était de permettre aux pays participants d'acquérir une compréhension approfondie des exigences du MLF, des outils disponibles pour l'élaboration des KIP, et des processus nécessaires pour garantir la qualité et la fiabilité des données à soumettre. Il visait également à tirer les leçons des quatre premiers projets KIP approuvés lors de la 95e réunion du Comité exécutif, afin d'identifier les bonnes pratiques, les défis récurrents et les points de vigilance soulignés lors de leur évaluation. À travers des présentations d'experts internationaux et régionaux, des partages d'expérience entre pays et des sessions de travail collaboratif, les participants ont pu renforcer leurs compétences techniques et consolider leurs approches nationales.

La première journée de l'atelier, le 23 avril, a été consacrée à la présentation du KIP, de son architecture, de ses principales composantes et des exigences de collecte des données. Les participants ont pu se familiariser avec les nouveaux outils mis en place par le PNUE et les attentes du Comité Exécutif du MLF, notamment en matière de cohérence des données, de justification des hypothèses et de coordination multisectorielle. Cette journée a également permis de souligner les défis récurrents rencontrés dans les soumissions de projets, ainsi que les recommandations issues des précédentes évaluations.

La deuxième journée, le 24 avril, a approfondi les aspects opérationnels liés à la collecte des données, un élément central pour la préparation des KIP. À travers une série de présentations techniques et d'études de cas, les participants ont examiné les différentes méthodologies de collecte, les outils disponibles, les sources primaires et secondaires, ainsi que les risques liés à la fiabilité ou à la disponibilité des données. Une session dédiée aux présentations pays a permis de mettre en lumière les mécanismes de coordination existants, les rôles des différentes parties prenantes et les solutions envisagées pour surmonter les obstacles spécifiques à chaque contexte national. La journée s'est conclue par la finalisation des plans de collecte des données, intégrant les retours des experts et des autres pays.

La troisième et dernière journée, le 25 avril, s'est concentrée sur la planification budgétaire et les outils de gestion du PNUE. Les participants ont été formés au nouveau format de budget des projets, à la catégorisation des dépenses et à la justification des coûts. Des modules pratiques sur la planification des activités et le suivi de l'exécution ont permis de structurer les calendriers d'intervention des pays. Un accent particulier a été mis sur les outils développés par OzonAction pour appuyer les NOU dans la mise en œuvre efficace de leurs plans. L'atelier s'est clôturé par une série de réunions bilatérales, offrant à chaque pays l'opportunité d'échanger directement avec le PNUE et de recevoir des conseils spécifiques pour l'ajustement ou la finalisation de leur KIP.

À l'issue de cet atelier, les participants repartent avec une meilleure maîtrise des outils de planification, une feuille de route claire pour la collecte des données, et une compréhension partagée des attentes du MLF. L'approche collaborative adoptée tout au long des trois jours aura permis non seulement de renforcer les capacités nationales, mais aussi de favoriser la synergie entre pays dans la mise en œuvre de l'Amendement de Kigali.

Source/image: UNEP OzonAction, 5 May 2025

# ASIA AND THE PACIFIC

## 9. Maldives' ambitious plan on early HCFC phase out and energy efficiency

In 2010, as part of its hydrochlorofluorocarbons (HCFC) phase-out management plan (HPMP), the Government of the Maldives set an ambitious goal to phase out HCFCs by 2020, ten years in advance of the Montreal Protocol target, with a small allowance for a servicing tail until 2025. Without intervention, HCFC consumption in the Maldives was projected to grow by 21 per cent annually.

As small islands do, the Maldives imported all its HCFCs, primarily HCFC-22, which were used in servicing equipment in the cold chain sector mainly fisheries and food processing, in the tourism sector which is very important for the country's growth, in the industrial and domestic refrigeration and air-conditioning (RAC) sector.

**An example to follow**

To achieve its ambitious plan, the Maldives developed a strategy, which considered the climate benefits of the phase-out in addition to the benefits for the ozone layer, and thus, included developing an energy efficiency standards and labelling programme to promote both benefits. This comprehensive approach was a model for low-volume consuming countries. The Government committed to take a lead role in providing counterpart funding for the elements of the HPMP which promoted climate benefits.

**Achievements surpassed commitments**

By 2015, the Maldives had reduced its HCFC consumption to 2.45 ODP tonnes, surpassing the required 10 per cent reduction target of the Montreal Protocol, and instead achieving a 46.7 per cent reduction from its baseline. The country's HCFC consumption continued to decline, and by 2020, it had achieved a 98 per cent reduction, far exceeding the 35 per cent reduction target of the Montreal Protocol and its accelerated goal of a 97.5 per cent reduction from the baseline. This reduction was sustained in subsequent years, and by 2023, the Maldives had completely phased out HCFCs.

**HCFCs and "Hakathari"**

The Government established minimum energy efficiency performance standards (MEPS) and implemented a voluntary energy efficiency labelling programme, called Hakathari – from the combination of words "hakatha", which means energy, and "thari", which means star, in the Dhivehi language. This programme covers appliances and certain equipment, including air conditioners and domestic refrigerators, providing information on the refrigerant's ozone depleting potential (ODP) and global warming potential (GWP), allowing consumers to better understand the climate impact of their purchasing choices. In 2022, the Maldives was the first country to seize the opportunity presented by a funding window approved by the Executive Committee at its 89th meeting to enhance energy efficiency while phasing-out HCFCs. Its HPMP had already been completed, so under this project the country enhanced the Hakathari programme to sustain HCFC phase-out, promoted energy-efficient and low-GWP alternatives in RAC equipment, strengthened its MEPS, improved coordination and

collaboration between stakeholders. The Maldives also carried out outreach and awareness raising activities related to the labelling programme focusing on increasing the demand for air conditioners and refrigerators operating with low- or zero-GWP refrigerants among all labelled energy-efficient products.

**A successful story**

The success of Maldives' HCFC phase-out was based on the vision that the country had to link the restoration of the ozone layer with climate goals, on the commitment at the highest-levels of Government and on weaving together activities from establishing policies and regulations, to providing technical assistance to technicians and end users, to conducting a pilot equipment replacement programme and a reclamation programme for HCFCs, and to raising awareness among stakeholders about the benefits of alternatives.

The Maldives' journey is an excellent example of commitment and determination. The country's proactive approach, strategic planning, and sustained efforts to contribute to the protection of the ozone layer and to climate change mitigation allowed for the completion of a fruitful and sustainable project.

Source/image: Multilateral Fund Secretariat, 1 May 2025

## 10. Experts urge reduction in use of ozone layer-destroying substances

KHULNA, April 29, 2025 (BSS) - Highlighting Bangladesh's success in implementing the Vienna Convention and the Montreal Protocol to protect the ozone layer, experts today emphasized the need for reducing the use of hydro fluorocarbons (HFCs) and other ozone-depleting substances.

They noted that HFCs are synthetic greenhouse gases introduced as substitutes for ozone-depleting substances under the Montreal Protocol. While HFCs help preserve the ozone layer, they have a high global warming potential (GWP), being thousands of times more potent than carbon dioxide.

The experts said that through the implementation of the HPMP Stage-2, it will be possible to avoid greenhouse gas emissions equivalent to approximately 1.7 million tons of carbon dioxide.

These observations came during a "Regional Dissemination Workshop on the Implementation of the Montreal Protocol in Bangladesh," held at the CSS Ava Centre in the city.

To mark 'World Ozone Day' today, the Department of Environment (DoE) under the Ministry of Forest, Environment and Climate Change organized the workshop under the HCFC Phase-out Management Plan (Stage-2) Project.

This year's theme for the day is: "To Preserve Ozone Layer, Protect Climate Change."

Speaking as the chief guest, Khulna Divisional Commissioner Md Firoz Sarkar said, "Bangladesh has successfully completed all stages of the Montreal Protocol's implementation and is complying with its obligations.

In recognition of this, Bangladesh has been praised and awarded by the United Nations Environment Programme."

He added, "In addition, the Department of Environment has been recognized by the World Customs Organization, the United Nations Environment Programme, and the Ozone Secretariat for its significant contributions to controlling the illegal entry and import of ozone-depleting substances."

Md Ziaul Haque, Director (Air Quality Management) of the DoE in Dhaka, presented the keynote paper, while Sheikh Obidullah Al Mahmud, Project Officer of the ODS Project at the DoE, presented a progress report on the Montreal Protocol's implementation.
Other speakers included Imran Ahmed, Conservator of Forest (CF) in the Khulna Region; Dr Md Monjur Morshed, Director of Health in the Khulna Division; and Sadikul Islam, Director of the DoE in Khulna Division.

The workshop was attended by government officials from various sectors, technicians, businessmen, teachers, NGO and media representatives, and other stakeholders.

Source/image: BSS News, 29 April 2025

# EUROPE AND CENTRAL ASIA

## 11. European Heat Pump Summit call for papers

GERMANY: The organiser of the biennial European Heat Pump Summit has announced a call for papers for the next event in October.

The European Heat Pump Summit is one of the world's most important congress events for the heat pump sector.

It is aimed at heat pump manufacturers, planners, architects, experts from research, development and technology as well as users of heat pumps in trade and industry.

Both the congress and the accompanying Foyer Expo will focus on the following topics: success, opportunities and challenges; research and development; potentials and applications; product and component development; large-scale heat pumps.

The European Heat Pump Summit will take place on 28 and 29 October at the Nuremberg Exhibition Centre.

"With the European Heat Pump Summit, we are offering a platform that combines knowledge with practice and specifically addresses the needs of the heat pump industry. After a successful Chillventa 2024, we look forward to welcoming experts from all over the world to Nuremberg again," said Daniela Heinkel, director of the European Heat Pump Summit and Chillventa, NürnbergMesse.

Further details can be found on the Heat Pump Summit website

Source/image: Cooling Post, 14 April 2025

## 12. Centro Studi Galileo and ATF Strengthen UNEP and IIR Ties in Paris Meetings

On April 16, 2025, a delegation from Centro Studi Galileo (CSG) and the Associazione dei Tecnici del Freddo (ATF) held key institutional meetings in Paris with UNEP OzonAction and the International Institute of Refrigeration (IIR).

The CSG and ATF team, including Marco Buoni (CEO of CSG, ATF Secretary, and former AREA President, currently focused on International Affairs), Silvia Romanò (Chief International Affairs), and Luisa Girolami (Project Coordinator), met with Jim Curlin (Principal Programme Management, Law Division - DELC) and Sonja Wagner (Programme Management Office) at UNEP OzonAction headquarters. Discussions reinforced ongoing collaborations, finalized the special "Women in Refrigeration and Air Conditioning" session for the XXI European Conference, and launched a related video contest aimed at highlighting women in the sector. The team also reviewed the conference abstracts and program structure. Progress on the UNEP-AREA training manual was discussed, with mutual interest confirmed for new joint technical training opportunities with ATF in 2025.

In the afternoon, the delegation met with Yosr Allouche (Director General of the IIR) and Nathalie de Grissac (Head of Communications) at the IIR headquarters. The meeting focused on refining the XXI European Conference agenda, discussing the sequence of presentations, key speakers, and the potential involvement of IIR in a side event during the OEWG 47 session in Bangkok (July 7–11, 2025). The side event, organized in collaboration with IGSD, will concentrate on "International Training Standards."

"These meetings in Paris solidify our role in promoting international technical cooperation in the HVAC/R sector," said Marco Buoni, CEO of Centro Studi Galileo and Secretary of ATF.

The outcomes of these strategic meetings will be officially presented at the XXI European Conference on the HVAC/R sector, scheduled for June 12–13, 2025, in Milan, gathering global experts to address emerging technologies, ecological transition policies, and sector challenges.

Source/image: Refindustry Refrigeration Tech Hub, 12 May 2025

# LATIN AMERICA AND THE CARIBBEAN

## 13. Brazil Trains Instructors on Flammable Refrigerants for National Rollout

27 trainers prepared to teach 700 technicians in safe handling of R-290 systems.

Brazil has launched its first national “Training of Trainers” program for flammable refrigerants, equipping 27 instructors to teach safe handling practices for low-GWP alternatives in air conditioning systems.

The initiative, held in March and April as part of the country's HCFC Phase-out Management Plan (HPMP), supports Brazil’s transition to sustainable cooling technologies.

The training took place at SENAI-SP in São Paulo and CTGAS-RN in Rio Grande do Norte, involving participants from five states. It was coordinated by the Ministry of the Environment and Climate Change, implemented by GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH), and led by international refrigeration consultant Dennis Frieske.

Each course lasted 40 hours and included theoretical and practical modules on flammable refrigerants such as propane (R-290). Topics covered included safety standards (EN 378, ISO 5149), refrigerant charging and recovery, electrical safety, leak detection, installation techniques, tightness testing, and system commissioning.

The newly trained instructors will return to their regional SENAI partner schools in São Paulo, Goiânia, Porto Velho, Toledo, and Natal. By the end of 2025, they are expected to collectively train 700 refrigeration technicians nationwide.

“This training initiative is critical for ensuring the safe adoption of flammable refrigerants in Brazil’s HVACR sector,” said Dennis Frieske, international consultant and course leader. “The instructors demonstrated strong technical knowledge and commitment to advancing sustainable refrigeration.”

The program promotes the use of natural refrigerants and supports Brazil’s compliance with international environmental agreements, including the Montreal Protocol and Kigali Amendment, by reducing reliance on high-GWP substances.

Source/image: Refindustry Refrigeration Tech Hub, 4 May 2025

## 14. HEART/NSTA Trust Champions Sustainability with New Refrigerant Recovery Centres

HEART/NSTA Trust has reaffirmed its leadership in climate-smart training by supporting the establishment of four Refrigerant Recovery, Recycling, and Reclamation (RRR&R) Centres across multiple institutions.
These Centres form part of a national initiative to establish seven such facilities in Jamaica, with HEART hosting more than half of them.

The three remaining Centres will be located at the Caribbean Maritime University (CMU), CAC 2000 Limited and the University of Technology (UTech).

Funded through a US$70,000 investment by the United Nations Development Programme (UNDP) and led by the National Environment and Planning Agency (NEPA) through its National Ozone Unit, the facilities are designed to phase out harmful refrigerants that contribute to ozone layer depletion and climate change.

Speaking during the official launch and signing ceremony at the HEART/NSTA Trust College of Construction Services in St. Catherine on Wednesday (April 30), Managing Director, Dr. Taneisha Ingleton, declared the agency's support for the project, describing it as a bold, transformative step for Jamaica's human capital development.

"This is not just a unique initiative but a bold one that engenders pride for all parties involved. We are particularly proud because four of the Centres will be located at the following HEART institutions: the HEART College of Construction Services, the National Tools and Engineering Institute, the Southwest TVET Institute (Newport Campus), and the Beechamville Vocational Centre," she informed.

The Centres will enable the next generation of air-conditioning and refrigeration technicians to gain hands-on training in responsible refrigerant management, contributing to a safer and more sustainable future.

Dr. Ingleton described this as a natural extension of the agency's 42-year legacy of empowering Jamaicans through skills training.

She noted that, since its inception, HEART "has satisfied the mandate of equipping Jamaicans with the required skills to build our country, to drive economic growth, and with this new initiative, we will be empowering our citizens to protect our environment".

"Not only will these efforts secure our future but they will also safeguard our people," the Managing Director added.

Dr. Ingleton further informed that the Centres will advance several outcomes, as "new Standards for Heating, Ventilation, and Air Conditioning (HVAC) systems will be developed and embedded in training programmes, while job certifications will be introduced for industry professionals."

"Trainees will be taught to safely manage refrigerant gases, and harmful emissions will be reclaimed and repurposed to support entrepreneurial ventures, opening up new income-generating opportunities," she stated.

Beyond technical training, the initiative will promote experiential learning, build capacity among instructors, encourage the transfer of knowledge from industry veterans to newcomers, and reduce harmful emissions, all contributing to a healthier environment.
Dr. Ingleton affirmed that HEART's collaboration on the RRR&R Centres aligns with Jamaica's pursuit of the Sustainable Development Goals (SDGs), particularly by fostering strong public-private partnerships.

"I am quite pleased that this partnership represents our acceptance of the SDGs, particularly government and private-sector partnerships. I do believe with all my heart that the absolute best gift we can bestow on the next generation is simply a healthier and a more sustainable planet," she stated.

Dr. Ingleton thanked the UNDP and NEPA for their investment in the initiative through funding, equipment, and ongoing oversight.

Together, she said, the partners are creating a blueprint for climate-smart training that will serve Jamaica and, potentially, the region for years to come.

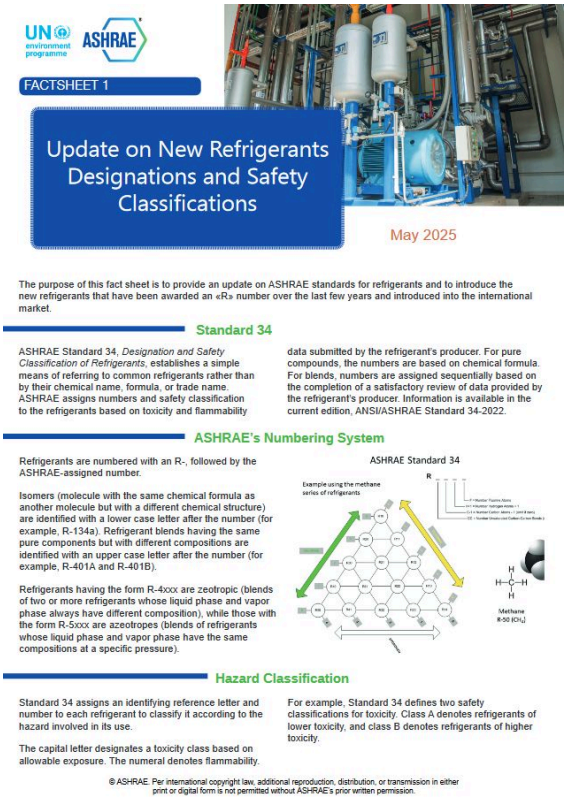
“The launch of the RRR&R initiative marks a crucial step in protecting the ozone layer, the Earth’s natural defence against harmful ultraviolet rays. Let’s consider for a moment a world where crops no longer grow due to relentless heat, where rivers run dry and stepping outdoors becomes a danger rather than freedom. Such a future is not a distant fantasy. It is a stark possibility if we fail to act,” Dr. Ingleton cautioned.

However, she maintained, “There is hope… there is action we can take”, pointing out that, “the RRR&R initiative and the steadfast support of our partners at the UNDP and NEPA stand as a powerful example of what collaboration and commitment can achieve.

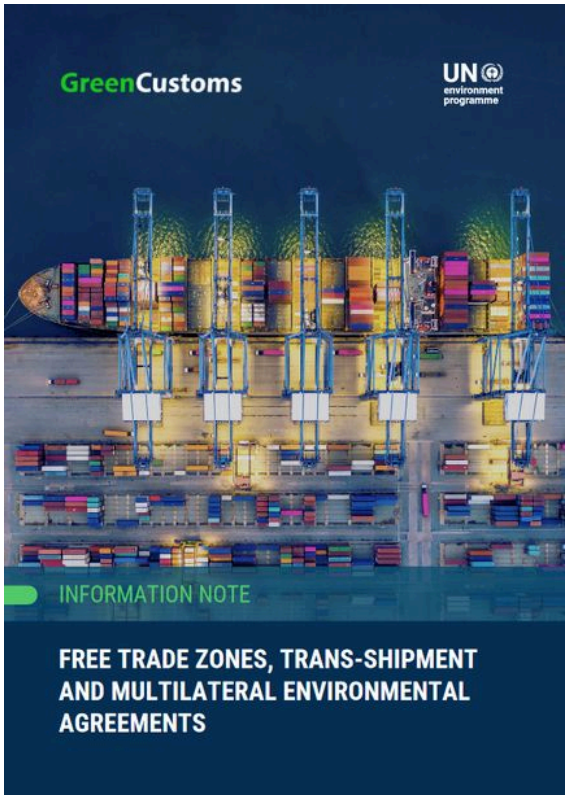
“Together, we are not just protecting the ozone, we are preserving life itself,” Dr. Ingleton added.

Source/image: Jamaica Information Service, 2 May 2025

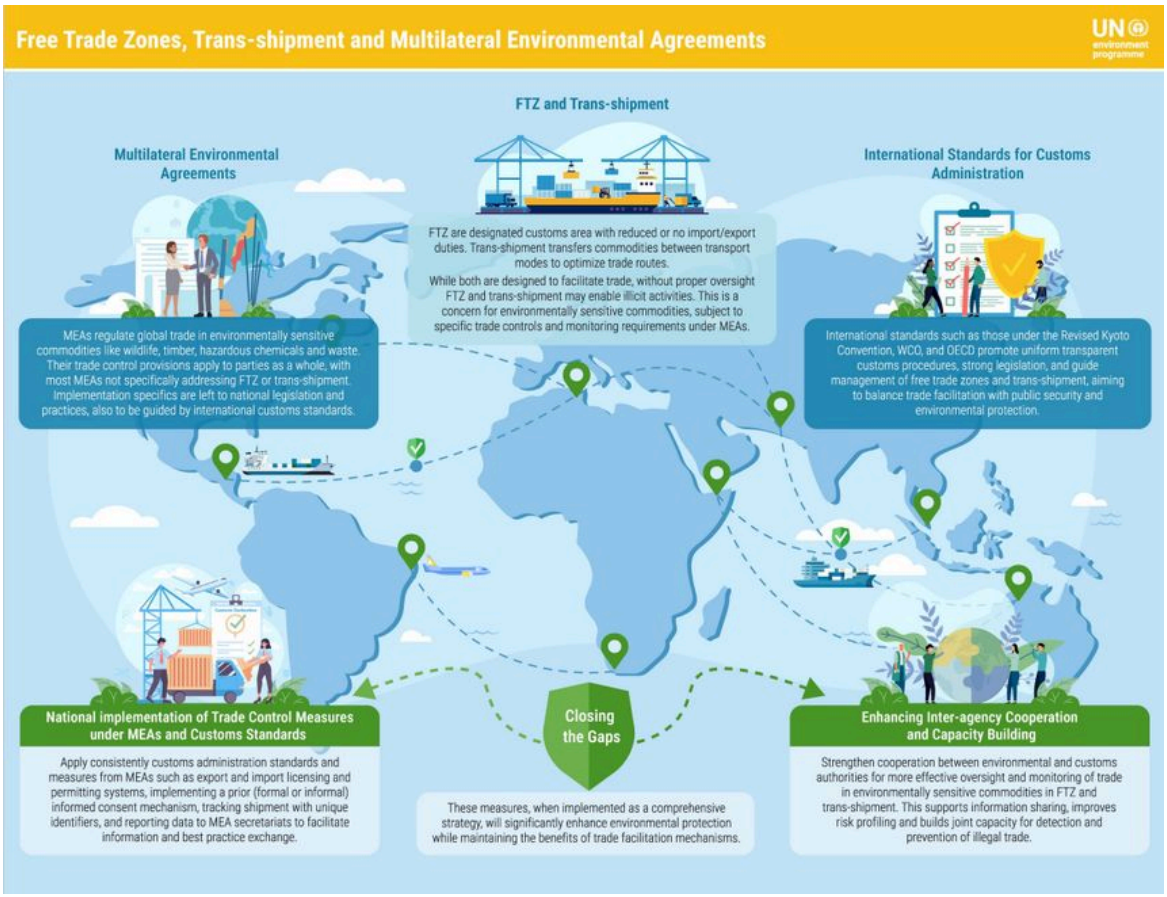
# RESOURCES




**FACTSHEET**: Update on New Refrigerants Designations and Safety Classifications - May 2025. Also available in French and Spanish




**INFORMATION NOTE:** Green Customs – Free Trade Zone, trans-shipment and Multilateral Environmental Agreements




**INFOGRAPHIC**: Free Trade Zones, Trans-shipment and Multilateral Environmental Agreements

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