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OzoNews

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

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GLOBAL

1. Cool Careers for a Better World



This year, we celebrate under the powerful theme: **“Cool Skills”** It’s a tribute to the dedicated professionals behind refrigeration, air-conditioning, and heat pump (RACHP) systems—the hidden champions who keep our world running.

From safeguarding vaccines and medicines to making food supplies dependable and heatwaves survivable, RACHP technicians and engineers are essential to public health, safety, and comfort. And they’re doing it all with sustainability in mind.

As our planet heats up, so does the demand for clean, efficient, and accessible cooling. That’s why we need more bright minds—from ambitious students to skilled technicians and engineers - equipped with the cool skills to create real change.

Women in Cooling: Breaking barriers with cool skills

The Refrigeration, Air Conditioning, and Heat Pumps (RACHP) sector is evolving - powered not just by technology, but by the people driving progress.

On this #WorldRefrigerationDay, we shine a light on the growing number of women changing the face of the sector.

From training centres to worksites, from research labs to policy roundtables, women are leading with skill, innovation, and tenacity in a field once seen as predominantly male.

But the journey toward equity isn’t over.

Disparities between women and men, especially in technical roles, still run deep. That's why expanding access to education, training and certification, and mentorship for women is key to building a stronger, more inclusive cooling industry.

Let's celebrate those breaking barriers, and keep pushing for progress.

The Future of Cooling Starts in the Classroom

As we transition to a low-carbon, energy-efficient future, we'll need a new generation of skilled professionals to lead the way.

That's why technical and vocational training in the Refrigeration, Air Conditioning, and Heat Pumps (RACHP) sector is more vital than ever.

From mastering refrigerants handling to ensuring high safety and performance standards, today's students are preparing to become tomorrow's innovators, policymakers, and frontline environmental heroes.

This day let's reaffirm the importance of quality education, practical training, and equal opportunity - for both women and men to thrive in this vital sector.

Because cool careers don't just offer jobs - they drive progress, empower communities, and help shape a more sustainable world.

The future of cooling starts in the classroom and continues with on-the-ground expertise that turns knowledge into real-world impact.

Ever stop to think how much of your life relies on cooling?

The milk in your coffee. The vaccines in your clinic. The server farms powering your internet. The air-conditioned bus rides, climate-controlled classrooms, precision-cooled factories, and fresh produce on your plate - they all depend on **cooling systems**.

And behind every one of those technologies is a **skilled force**: technicians, engineers, and innovators who design, install, maintain, and improve the cooling chain that keeps our world safe, comfortable, and connected.

This World Refrigeration Day, we honour the people who make it all possible and encourage everyone to explore what a cool career could mean—for themselves and for a better world.

Source/image: [UNEP OzonAction](#), 26 June 2025

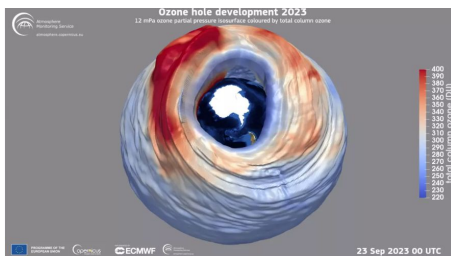
Related:

[Sponsoring World Refrigeration Day: A Community Effort](#)

[WRD and AREA to Sign New MoU at 21st EU Conference in Milan](#)

[World Refrigeration Day Launches 'IEQ Matters' on World Environment Day](#)

2. World Ozone and Climate Treaty Needs More Eyes on the Sky



A 3D rendering of the ozone hole above Antarctica | Source: [CAMS/ECMWF](#)

The Montreal Protocol protects the ozone layer and helps slow climate change. We rely on a complex atmospheric monitoring network to know how well this treaty is working. That network needs an upgrade.

The Montreal Protocol—a nearly 40-year-old treaty joined by every country on the planet—has curbed more than 100 chemicals that are dangerous to the ozone layer and the climate.

We explain [here](#) how it has protected the fragile stratospheric ozone layer that screens out dangerous ultraviolet radiation, saving millions of lives and avoiding untold harm to agriculture and other vital natural systems. The Montreal Protocol is also one of the biggest steps we've taken to reduce the speed of climate change.

But the Protocol does not operate in a vacuum, and its success depends on multiple external institutions. Among those are national and international science institutions that need to be maintained and strengthened. This is a focus of attention as country representatives, scientists, and observers gather in Bangkok in July for the semiannual meeting of the Montreal Protocol.

Successes and ongoing challenges

The Protocol relies on these institutions for one of the most critical scientific capacities: atmospheric measurement and monitoring. That is how we discovered the threat to the ozone layer in the first place. And continued monitoring capacity is essential to our understanding of evolving dangers and effective remedies.

The monitoring network we have today shows that the Protocol is, for the most part, working effectively. Atmospheric levels of most of the long-lived chemicals controlled under the Protocol are dropping at the rates scientists expected. And that's critical to closing the hole in the ozone layer later in this century and safeguarding the billions of people living on our planet.

But the monitoring network has identified outliers—chemicals whose concentrations are not declining as expected. This has raised concerns about noncompliance and prompted responses to get back on track.

Nothing illustrates this better than the detection of unexpected emissions of CFC-11, the

powerful ozone-depleting substance (and potent greenhouse gas) whose production was supposed to have [stopped in all countries by 2010](#).

In 2012, an atmospheric monitoring station atop a volcano in Hawaii, operated by the National Oceanic and Atmospheric Administration (NOAA), began detecting [unexpectedly high concentrations of CFC-11](#). Atmospheric levels should have been steadily dropping. Instead, NOAA researchers calculated that emissions of CFC-11 had increased 25 percent after 2012, compared to 2002–2012 average levels. These findings, later confirmed by other independent monitoring stations, were traced back to sources in eastern China. [Continue reading...](#)

Source/image: [NRDC](#), 17 June 2025

3. GIZ publishes updated guide on R290 split ACs for climate mitigation



The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) has released [Version 2.0 of its resource guide on R290 split air conditioners](#), aiming to support a global shift toward energy-efficient and climate-friendly cooling technologies. Published under the Cool Contributions fighting Climate Change II (C4II) project, the guide addresses key technical, regulatory, and market-related aspects of introducing R290 (propane) as a refrigerant in split-type AC systems.

According to the report, demand for space cooling is rising sharply due to urbanization, economic growth, and climate change, with single-split ACs accounting for the majority of residential cooling worldwide. However, many of these systems currently use high-GWP refrigerants like R22, R410A, and R32, contributing significantly to greenhouse gas emissions. The guide highlights R290 as a low-GWP alternative that offers comparable or superior energy performance.

The document outlines the technical specifications of R290, noting its high critical temperature, favorable heat transfer properties, and classification as an A3 refrigerant under ISO 817. Due to its flammability, the guide provides detailed safety recommendations for equipment design, production, installation, servicing, and technician training. It stresses that drop-in conversions of existing systems with R290 are not recommended due to safety and performance concerns.

Market transition examples include large-scale adoption in India, where more than 600,000 R290 split units have been sold, and pilot projects in Ghana and Costa Rica under the guidance of GIZ. The report states that with a 50% market share of R290 units by 2050, GHG emissions from the sector could be reduced by 25%.

“Transitioning the market from R22 and R410A directly to R290 as a sustainable solution for Ghana’s growing AC market is promoted as one of the key climate measures,” said Emmanuel Osae-Quansah, National Ozone Officer at Ghana’s Environmental Protection Agency.

The guide is intended for policy makers, standards bodies, manufacturers, and service providers, offering a comprehensive overview of regulatory pathways, product safety standards, energy performance testing, and technician certification.

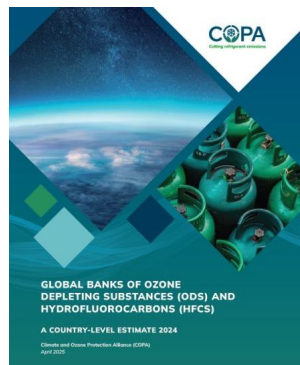
Source/image: [RefIndustry Refrigeration Tech Hub](#), 19 May 2025

4. New Publication - Global Banks of ODS and HFC banks update

Methodology and Results

In an online session on 6th of May 2024, the new COPA Publication for an update on the Global inventory of ODS and HFCs banks was presented by the authors. The purpose of this paper is to highlight the magnitude of the emissions potentially caused by ODS and HFC banks and to place them in the context of global greenhouse gas (GHG) emissions.

The new methodology estimates bank sizes for five most widely used ODS and eight HFCs commonly used in refrigeration, air-conditioning and foam applications.



The methodology approach used for this paper is new, it uses a country-based calculation derived from reported consumption data under Article 7 of the Montreal Protocol to determine bank size estimates at the country-level and make future projections. A detailed description of the methodology is provided in the Annex of the publication. The aim is to break down the global challenge of ODS and HFC banks through estimates for individual countries, which will also help raise awareness of the complex issue of ODS and HFC bank management at the national level.

Useful references to tools and guidelines developed within COPA for practical guidance is provided in the report too (e.g. the Gap Analysis helping countries in specifying their needs for support and the guidance published on policy measures to incentivize ODS and HFCs management). This is the third version of this paper, prepared after the addition of the most common HFCs into the calculation of the banks in 2024.

Source/image: [COPA](#), May 2025

AFRICA

5. NGOs, media partner to fight ozone depletion, climate crisis - Nigeria

A non-governmental organization, Sustainable Research and Action for Environmental Development (SRADeV Nigeria), and EnviroNews stated categorically that they are now working against ozone layer depletion and the worsening climate change in Nigeria.

They asserted this at a virtual workshop on “The Role of the Media, CSOs/NGOs in Advancing Nigeria’s Transition from ODS to Climate-Friendly Refrigerants and Cooling Technologies,” to fast-track Nigeria’s transition from harmful refrigerants to climate-friendly alternatives.

The Executive Director of SRADeV Nigeria, Dr. Leslie Adogame, outlined the need for more inclusive communication strategies to simplify the complex science of climate change for the wider public.

Adogame said, “Despite Nigeria’s progress in phasing out harmful refrigerants, there’s a noticeable knowledge gap, not only among citizens but also within the media and public institutions.

“We have teamed up to empower media professionals and civil society organisations with the tools to drive public engagement and policy advocacy. This initiative aims to bridge that gap through strategic awareness and capacity-building.”

The Executive Director further explained that this brought together journalists, CSOs, and international experts to highlight the urgency of phasing out ozone-depleting substances (ODS) and fluorinated greenhouse gases (F-GHGs), in line with the Kigali Amendment to the Montreal Protocol.

He added, “The workshop built on insights from a previous stakeholders’ meeting held on April 10 in Abuja, where participants stressed the importance of leveraging media and grassroots advocacy to accelerate Nigeria’s refrigerant transition.”

Also, Jeremiah Ato of SRADeV emphasized the environmental and health impacts of ODS, including Nigeria’s ongoing efforts to eliminate chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs).

Ato equally cited the country’s advancement to Stage III of its HCFC Phase-Out Management Plan (HPMP), targeting a 67.5% reduction in HCFCs by 2025 and a full phase-out by 2030.

He warned of the unintended climate consequences of hydrofluorocarbons (HFCs), which

replaced ODS but carry high global warming potential, saying, “We’re now in a race just against ozone depletion.” [Continue reading...](#)

Source/image : [TheGuardian](#), 15 June 2025

6. Tunisia: New measures for the recovery and recycling of refrigerant gases

Tunisia imports approximately 700 tons of these gases annually, with a significant negative impact on the country's finances.

On the occasion of World Refrigeration Day, celebrated every June 26, Tunisian authorities announced today new measures to improve the recovery, recycling and reuse of gases used in air conditioning and refrigeration systems.



The primary objective is twofold: to reduce imports of these products and, at the same time, protect the environment. The gases in question, known as Hcfc, are used in refrigerators, household air conditioners and for vehicles. However, they are recognized as highly polluting, capable of damaging the ozone layer and accelerating climate change. . As explained to the Tunisian news agency “Tap” by **Youssef Hammami**, coordinator of the National Ozone Unit at the Tunisian National Agency for Environmental Protection (ANPE), the country is now implementing a national system for recovering exhaust gases, recycling and purifying them, and then allowing them to be reused in still-operational equipment. This initiative is crucial to reducing dependence on imports and limiting environmental damage. In line with the provisions of the Montreal Protocol, an international agreement aimed at combating gases that destroy the ozone layer, equipment older than 15 years will have to be decommissioned by 2030.

The Tunisian program also plans to provide new equipment to 19 companies specialized in the refrigeration sector, train their technicians to use these new tools and promote the introduction of natural and less polluting refrigerants. Since 2012, Tunisia has already achieved significant results, reducing the consumption of HCFCs by more than 60 percent, thus avoiding the emission of an amount equivalent to 800 thousand tons of CO₂. The country has also trained 140 experts and equipped 11 training centers for better management of these substances. To complete the regulatory framework, a new legal framework remains to be adopted, the text of which has already been presented.

Source/image: [Agenzia Nova](#), 26 June 2025

ASIA AND THE PACIFIC

7. Pacific Island Countries Ozone Officers Brainstormed Implementation Experiences and Developed Action Plan to Strengthen HFC Licensing and Quota System



Nuku' Alofa, Tonga, 5-9 May 2025 – UNEP's OzonAction Asia-Pacific Compliance Assistance Programme (CAP) team in collaboration with the Government of Tonga organized a Network Meeting of the Pacific Island Countries (PIC) National Ozone Officers (NOOs) in Nuku' Alofa, Tonga, held from 5 to 7 May 2025 serving to share experiences and good practices by the Network countries in various areas under the Montreal Protocol including HFC phase-down.

This meeting was organized back-to-back with the Technical Workshop held on 8 and 9 May 2025 in which NOOs discussed options to strengthen the HFC licensing and quota system.

The events were attended in person by 29 participants (13 women, 16 men) from the 14 PIC countries, the Government of Australia as a developed country partner, the Ozone Secretariat, as well as experts from Refrigerants Australia and the International Institute for Energy Conservation. Four participants (3 women, 1 man) attended virtually from the Multilateral Fund Secretariat and the Government of Australia.

The PIC Network meeting took place at a most critical time to facilitate the network countries to share experiences and good practices in various areas under the Montreal Protocol to strengthen capacity of NOUs to take necessary actions to meet obligations under the

Montreal Protocol including the 67.5% HCFC consumption reduction and the freeze of HFC consumption in 2025. Specifically, for the PIC Network, UNEP launched 4 parallel regional Pacific projects, which were approved at the 95th Meeting of the Executive Committee in December 2024; discussions were held on a strategy to streamline project implementation, while achieving the project objectives.

“The Network Meeting welcomed new NOOs as we kicked off 4 Regional PIC Projects (KIP Stage I Tranche 1, Energy Efficiency in Servicing Sector, National Inventory of Banks of Used or Unwanted Controlled Substances, and HPMP Stage II Tranche 2) that were approved at the recent 95th ExCom. As we came together as one region, UNEP helped streamline these interrelated project components and explained the consolidated budget and workplan so that PICs can implement projects in a holistic manner, avoid duplication, and reduce administrative tasks. Though challenging, I think the Ozone family of the PIC will be able to achieve more through this approach,” said Ms. Camilla Noel, Vanuatu Assistant Ozone Officer.

Back-to-back with the network meeting, the NOOs joined **the Technical Workshop on Strengthening HFC Licensing and Quota System**. This workshop was organized as part of the approved activity under the Regional PIC Kigali HFC Implementation Plan (KIP) Stage I with the objective to further strengthen the licensing and quota systems for HFCs, which is the backbone of the Montreal Protocol control mechanisms. The workshop consisted of a plenary session to provide examples of best practices for managing licensing and quota systems, advanced compliance monitoring techniques, and effective enforcement strategies from Australia.

The unique arrangement of this technical workshop was a roundtable breakout session, which provided a platform for the NOO of each country to take a deep dive into the national implementation of their licensing and quota system on (i) HFC quota and linkage with license/permit, (ii) HFC licensing system procedures and template, (iii) data monitoring, reporting and illegal trade together with the resource persons from the Ozone Secretariat, the Government of Australia and UNEP OzonAction.

“I am a newly appointed NOO, and it was my first time joining a regional meeting. In the technical workshop, I learned from other countries about their licensing and quota systems, data collection, and reporting mechanisms. Through breakout roundtable sessions and country presentations, I could identify gaps and areas for improvement in my country, and I would like to apply these learnings to my day-to-day NOU work,” said Ms. Kaata Momoe, Kiribati National Ozone Officer. [Continue reading...](#)

Source/image: [UNEP OzonAction](#), 12 June 2025

EUROPE AND CENTRAL ASIA

8. UNIDO Centre in the Russian Federation supported the delegation from Turkmenistan, which arrived to work within the framework of UNIDO project on the Montreal Protocol



Turkmenistan is actively working to reduce greenhouse gas emissions that cause global warming. In 2020, the country acceded to the Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer. The amendment provides for a phased reduction in the consumption of hydrofluorocarbons (HFCs) — synthetic greenhouse gases with a very high global warming potential (GWP).

HFCs are used in many areas of economic activity, including refrigeration equipment and air conditioning systems.

As an executing agency, the United Nations Industrial Development Organization (UNIDO) is implementing projects in Turkmenistan to implement the Kigali Amendment (KIP) implementation plan and improve energy efficiency in light of the phase-out of HFCs.

Within the framework of these projects, a visit to the Russian capital of a delegation from Turkmenistan was organized, which included representatives of the Ministry of Environmental Protection, the Ministry of Energy, the Ministry of Construction and Architecture, the Ministry of Trade and Foreign Economic Relations and the State Customs Service of the country, the Main State Service „Turkmenstandartlary“, the State Concern „Turkmenhimiya“ and others.

The purpose of the trip was to study the experience of switching to natural refrigerants and increasing energy efficiency in light of reducing the consumption of hydrofluorocarbons (HFCs) as part of the implementation of the Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer.

The UNIDO Centre in Russia provided comprehensive support to the delegation, which ensured a fruitful trip and the implementation of all planned activities.

As part of the program, the guests visited the manufacturing plant of Industrial Solutions LLC, which manufactures industrial refrigeration equipment using natural refrigerants, as well as the TechnoFrost industrial refrigeration equipment plant. The delegation also took part in the conference „Energy efficiency of refrigeration systems in light of the rejection of hydrofluorocarbons“, which was held at the Scientific and Educational Center „Academy of CryoFrost“. The conference was organized by UNIDO, the Scientific and Educational Center „Academy of CryoFrost“ and the Russian Union of Refrigeration Industry Enterprises (Rossoyuzkholodprom).

Related: Turkmen delegation visited Moscow within the framework of UNIDO projects, [Turkmenistan Golden age](#), 24 June 2025

9. 13.6 tonnes of illegal refrigerant seized in Treviso



ITALY: Authorities in Italy have intercepted 13.6 tonnes of illegal virgin R404A and R507A of Chinese origin bound for Salerno.

The Guardia di Finanza stopped the articulated lorry, owned by a Polish company, in a motorway service area near Treviso.

Customs documents retrieved from the driver of the truck claimed that the shipment was bound for the French port of Dunkirk, from where it was to be exported by sea to the UAE.

However, the Guardia di Finanza in Treviso found inconsistencies in the documentation. It was found that the shipment originated from a Slovakian customs warehouse and the vehicles satnav indicated that it was actually bound for an address in a town near Salerno in south west Italy.

The use of virgin refrigerant with a GWP of 2500 or more – like R404A and R507A – is prohibited under the European F-gas phase down regulations. Only reclaimed material can continue to be used for servicing equipment.

Source/image: [Cooling Post](#), 20 June 2025

10. The Future of HVACR: Sustainability, Innovation, and Regulation at the XXI European Conference



The XXI European Conference on the Latest Technologies in Refrigeration and Air Conditioning, held at Politecnico di Milano on 12–13 June 2025, served as a pivotal forum for assessing the present and future of the HVACR sector.

Organized by Centro Studi Galileo and UNEP, IIR, AREA, ATF and REI, under the auspices of the Italian Ministry of Environment, the event brought together international institutions,

industry leaders, policymakers, and academics to address the sector's major challenges and pathways toward a more sustainable, energy-efficient future.

Throughout five thematic sessions, the conference examined the full spectrum of transformations impacting refrigeration and air conditioning: from refrigerant transition and energy performance to digitalisation, gender inclusion, policy updates and cold chain resilience. The shift toward low-GWP refrigerants—natural and synthetic—was at the heart of many technical discussions. The European F-Gas Regulation (EU 2024/573) and Kigali Amendment targets are accelerating the move away from high-GWP solutions, and manufacturers are increasingly embracing hydrocarbons, CO₂ and ammonia in both stationary and mobile systems. In parallel, technical updates covered innovations in components, compressors, and system design to optimise efficiency and ensure safety with flammable alternatives.

Equally central was the role of ecodesign and the integration of renewable energy with next-generation heat pumps. The European Green Deal is pushing for new minimum energy performance standards and lifecycle-based regulations, which are now reshaping manufacturing strategies across the continent. In this context, district cooling, geothermal applications, thermal storage, and decentralised micro-heat pumps were discussed as scalable tools for cities and buildings aiming to meet climate targets.

On the policy front, the EU's updated F-Gas framework was a dominant theme. Experts analysed new requirements around technician certification, product bans, PFAS restrictions, and quota mechanisms. The need for rapid and inclusive upskilling was strongly emphasised, with AREA and national bodies working to ensure compliance through updated training schemes, certification programmes, and mutual recognition systems.

In addition to the technical and regulatory focus, the conference also addressed the social dimension of the energy transition. A special session was dedicated to gender inclusion, highlighting the persistent underrepresentation of women in the sector and presenting global case studies on successful gender mainstreaming. The "Women in Cooling Video Competition" recognised outstanding contributions from professionals across Europe, reinforcing the importance of visibility and role models in shaping a diverse workforce.

Digitalisation and artificial intelligence also emerged as game changers. The integration of digital twins, predictive maintenance tools and Explainable AI (XAI) were presented as practical innovations offering immediate benefits: reduced energy use, enhanced fault detection and better long-term system performance. These technologies are already being applied in industrial, transport and commercial refrigeration, supporting both cost efficiency and climate objectives.

Finally, the cold chain—especially in the context of food security and international development—received renewed attention. Case studies from Africa and Europe showed how strategic investments, solar refrigeration and CO₂-based systems can strengthen supply

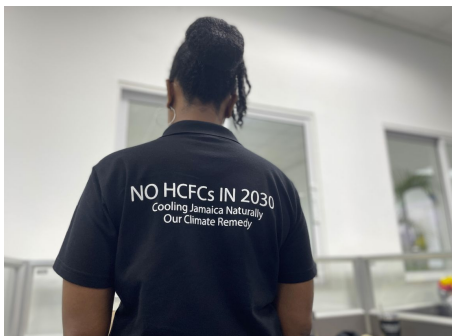
chains, reduce emissions, and deliver socioeconomic impact.

The conclusions of the conference will be publicly presented at **Refrigera 2025**, reaffirming the central role of international dialogue, regulation, and innovation in ensuring that HVACR technologies contribute concretely to global sustainability goals.

LATIN AMERICA AND THE CARIBBEAN

Source/image: [Industria e Formazione](#), 16 June 2025

11. Recovery and Recycling centres to accelerate circular economy and Jamaica's phase out of chemicals destructive to Earth's ozone layer



Multilateral Fund of the Montreal Protocol supports equipment purchase through UNDP

Jamaica is set to accelerate the phase out of chemicals destructive to the earth's ozone layer, by partnering with four organizations to establish seven Refrigerant Recovery, Recycling, and Reclamation (RRR&R) Centres.

Jamaica's phase out plans are in keeping with its commitments as a signatory to the Montreal Protocol, a global UN treaty that galvanizes global action to repair a hole in the Ozone Layer – earth's shield against catastrophic UV Ray exposure. Without the ozone layer, UV Ray exposure would dangerously impact skin cancer rates, food security and ecosystems.

Targeting Ozone Depleting Substances (ODS) used in the Refrigeration and Air Conditioning (RAC) sector, the centres are being spearheaded by the National Environment and Planning Agency (NEPA) with 70 000 USD in specialized equipment financed by the Multilateral Fund of the Montreal Protocol through the United Nations Development Programme (UNDP).

At a launch event on 30 April, HEART/NSTA Trust officially signed on to establish four RRR&R centres while the Caribbean Maritime University (CMU), CAC 2000 Limited and University of Technology (Utech) signed on to establish one each. This locates the centres in the parishes of St Ann, St Catherine, St Andrew and Manchester.

Permanent Secretary in the Ministry of Economic Growth and Job Creation (MEGJC), Arlene Williams said the RRR&R centres align with the Government of Jamaica's commitment to establishing a circular economy using a 'recover, recycle and reclaim' formula. "The more refrigerant recovered, reclaimed and repurposed, the greater the chance of reducing the industry's greenhouse gas emissions", she stated. The PS called for an effective management programme throughout the refrigerant life cycles as well as comprehensive

public awareness campaigns to bolster use of the centers and knowledge on the dangers of ozone depleting refrigerants.

UNDP Resident Representative Dr. Kishan Khoday lauded MEGJC and NEPA for providing an excellent blueprint for ODS removal, calling the RRR&R centers a landmark and innovative response to the requirements of the Montreal Protocol. Dr Khoday encouraged participating institutions to offer certified hands-on training programmes for HVAC technicians, engineers, and students to strengthen local expertise and trade in ozone and climate friendly substances and technologies. This, he said, could potentially establish Jamaica as a training and knowledge-sharing hub for the Caribbean. " By establishing the right policy environment along with proper logistics, monitoring, enforcement, reporting, and public awareness, we will ensure that Jamaica's blueprint for Refrigerant Recovery and Reclamation Centers offers the region and the world a best practice,". Building on the transition to less harmful chemicals, UNDP will also soon be launching a new initiative in Jamaica to expand energy efficient technology, with AC and refrigeration accounting for more than 25% of energy use globally, he added.

Speaking on behalf of NEPAs CEO, Leonard Francis, Anthony McKenzie, Director Environmental Management and Conservation Division said the RRR&R centres will help NEPA meet its commitment to phase out ODS by 2030 and help maintain its excellent compliance record. He said this has already included Jamaica phasing out the importation of chlorofluorocarbon refrigerants four years ahead of the 2006 schedule and building the capacity of 193 refrigeration and air conditioning technicians in good refrigeration practices and ozone friendly alternatives.

Dr Taneisha Ingleton, Managing Director, HEART/NSTA Trust committed to training students in good refrigeration practices while developing and enshrining best standards in recovery and recycling processes. She explained that this includes developing and incorporating new standards into all air conditioning and refrigeration programmes and development of job certifications. She said HEART NSTA Trust would not only reduce harmful gases but make the new technology available to trainees for entrepreneurial ventures. She called the initiative a pivotal step in safeguarding Earth's future and a powerful example of collaboration and commitment.

As a signatory to the Montreal Protocol since 1993, Jamaica is participating in a global movement to phase out ODS in the refrigeration and air conditioning sector by 2030. The Protocol is credited for shrinking the hole in the ozone, with full recovery expected by 2066.

Source/image: [UNDP Jamaica](#), 2 May 2025

12. Cuba reduces imports of gases harmful to the environment

Havana, Cuba, Jun 17 (ACN) Only between 2015 and 2024 alone, Cuba saw a decrease in imports of hydrochlorofluorocarbons (HCFCs), a prove to its national plan in response to the Montreal Protocol (1987) on the control and gradual elimination of the production and consumption of environmentally harmful industrial chemicals.



The reduction went from 283.6 metric tons to 44.45, which is equivalent to a significant ozone depletion potential of 16.9 to 2.44.

Helen Rodriguez, communications specialist at the Center for Information Management and Energy Development (CUBAENERGÍA), told the Cuban News Agency that the action program to sustainably reduce the import and consumption of these ozone-depleting substances has been in place for years. She added that in the current Phase II of the National HCFC Phase-Out Plan (2021–2030), the government seeks to reduce 67.5% of its expenditure with the goal of eliminating them completely by 2030.

Its progress is due to the strengthening of technical education, the replacement of technologies with others with low global warming potential, and a stricter legal framework for import controls, she said.

It also includes technological reconversion programs, training for technicians, customs officers, importers, and officials, and international exchanges with global experts and suppliers. In its commitment to equity, it promotes female participation in the refrigeration and air conditioning sector, incorporating women into technical training activities that favor their inclusion.

Outreach, she continued, has been equally strategic, with national campaigns in the media, social networks, schools, and public events, focused on protecting the ozone layer and mitigating climate change. These actions reaffirm the country's political will to fulfill its international commitments and consolidate a sustainable and responsible development model for future generations.

CUBAENERGIA and its Technical Ozone Office (OTOZ) are attached to the Agency for Nuclear Energy and Advanced Technologies (AENTA) of the Ministry of Science, Technology and Environment (CITMA).

OTOZ is promoting an action plan in preparation for the 30th anniversary of its establishment on September 16, coinciding with the International Day for the Preservation of the Ozone Layer, a kind of umbrella that protects the Earth from the sun's ultraviolet radiation.

Cuba is a signatory to the Vienna Convention for the Protection of the Ozone Layer (1985) and the Montreal Protocol (1987), related to the control and gradual elimination of the production and consumption of industrial chemicals that are harmful to the environment.

Source/image: [ACN Cuban News Agency](#), 18 June 2025

WEST ASIA

13. Jordan signs agreement to in eliminating greenhouse gases in air conditioning

Amman, June 24 (Petra) -- The Ministry of Environment and the United Nations Industrial Development Organisation (UNIDO) signed on Tuesday the project document for the first phase of the implementation plan for the Kigali Amendment to the Montreal Protocol.

The partnership seeks to assist Jordan in fulfilling its international commitments to phase out hydrofluorocarbons (HFCs), greenhouse gases commonly used in refrigeration and air conditioning sectors that have a detrimental impact on the ozone layer.

It aims to develop an integrated national framework for managing these substances and to promote a transition to environmentally friendly and climate-efficient alternatives.

Minister of Environment Muawiyah Radaideh stated that the first phase will focus on key activities, including supporting six Jordanian companies involved in manufacturing home and commercial refrigerators and air conditioning units.

The project will provide training and equipment to support workers in the refrigeration and air conditioning maintenance sector, particularly for transport.

It aims to enhance the capacities of the Vocational Training Corporation, the Customs Department, the Jordan Standards and Metrology Organisation, industrial schools and universities offering training programmes in air conditioning and refrigeration.

Radaideh emphasised that the initiative marks a pioneering step toward sustainable industrial development, enabling local companies to switch to environmentally friendly gases and strengthening Jordan's position as a country committed to international environmental agreements. He praised the partnership with UNIDO for its role.

For her part, UNIDO Resident Representative in Jordan, Sulafa Mdanat, highlighted that the project exemplifies effective international cooperation and demonstrates how strong partnerships can accelerate climate action and support the Sustainable Development Goals.

She expressed pride in the collaboration with the Ministry.

This initiative, part of Jordan's National Cooling Strategy, supports the Kingdom's climate objectives outlined in its Nationally Determined Contributions (NDCs), with funding of \$2.5 million.

The first phase is expected to pave the way for enhanced international cooperation and resource mobilisation in future stages, reinforcing Jordan's leadership in environmental protection and sustainable development in the region.

Source: [Jordan News Agency](#), 24 June 2025

14. Jordan's NOU and Enforcement Officers strengthen collaboration on Montreal Protocol compliance



Amman, Jordan, 28 May 2025 – The UNEP OzonAction Compliance Assistance Programme (CAP), West Asia Office, organized a training workshop for staff of the National Ozone Unit (NOU) and enforcement officers at the Ministry of Environment in Jordan.

The workshop was conducted as part of UNEP's Regional Network services to Article 5 countries in West Asia, and in its role as an Implementing Agency of the Multilateral Fund for the Implementation of the Montreal Protocol.

The two-day workshop, held from 27 to 28 May 2025 in Amman, brought together National Ozone Officers and enforcement staff at the Ministry of Environment in Jordan (one man, seven women). The main objective was to strengthen the capacity of the NOU and enhance its collaboration with enforcement officers at the Ministry, thereby contributing to Jordan's sustained compliance with the Montreal Protocol and its amendments and building on the significant achievements made to date.

The workshop also served as a platform to equip participants with key information, knowledge, tools, and contacts necessary for the effective management of the day-to-day work of the NOU, including the sound implementation of approved projects. Sessions included discussions on the challenges faced by NOUs in implementing activities under the Protocol and the development of practical solutions to address them.

This initiative forms part of UNEP's broader efforts to support institutional strengthening through capacity building, both directly and via South-South cooperation mechanisms, to ensure continuity and effectiveness of training efforts at the regional level.

Over the past two years, UNEP OzonAction CAP has intensified its capacity-building support

to NOUs, particularly as countries approach the total phase-out of hydrochlorofluorocarbons (HCFCs) by 2030 and prepare for the implementation of the Kigali Amendment, which introduces new obligations related to the phasedown of hydrofluorocarbons (HFCs). The workshop reaffirmed the importance of continuous coordination and training to ensure countries remain on track by meeting their obligations under the Montreal Protocol and the Kigali Amendment.

Source/image: [UNEP OzonAction](#), 18 June 2025

RESOURCES



FACTSHEET 1

Update on New Refrigerants Designations and Safety Classifications



May 2025

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.

Standard 34

ASHRAE Standard 34, *Designation and Safety Classification of Refrigerants*, establishes a simple means of referring to common refrigerants rather than by their chemical name, formula, or trade name. ASHRAE assigns numbers and safety classification to the refrigerants based on toxicity and flammability.

ASHRAE's Numbering System

Refrigerants are numbered with an R, followed by the ASHRAE-assigned number.

Isomers (molecule with the same chemical formula as another molecule but with a different chemical structure) are identified with a lower case letter after the number (for example, R-134a). Refrigerant blends having the same pure components but with different compositions are identified with an upper case letter after the number (for example, R-401A and R-401B).

Refrigerants having the form R-4xxx are zeotropic (blends of two or more refrigerants whose liquid phase and vapor phase always have different composition), while those with the form R-5xxx are azeotropes (blends of refrigerants whose liquid phase and vapor phase have the same compositions at a specific pressure).

Hazard Classification

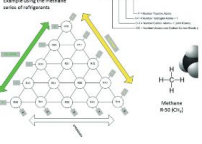
Standard 34 assigns an identifying reference letter and number to each refrigerant to classify it according to the hazard involved in its use.

The capital letter designates a toxicity class based on allowable exposure. The numeral denotes flammability.

data submitted by the refrigerant's producer. For pure compounds, the numbers are based on chemical formula. For blends, numbers are assigned sequentially based on the completion of a satisfactory review of data provided by the refrigerant's producer. Information is available in the current edition, ANSI/ASHRAE Standard 34-2022.

ASHRAE Standard 34

Example using the methanol series of refrigerants



Example: Methanol R-50 (R50)

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INFORMATION NOTE

FREE TRADE ZONES, TRANS-SHIPMENT AND MULTILATERAL ENVIRONMENTAL AGREEMENTS

[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](#)

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