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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. World Refrigeration Day 2025 Theme Announced: “Cool Skills”



Celebrating the People and Expertise Behind Cooling and Sustainable Heating

World Refrigeration Day is pleased to announce the theme for 2025: **Cool Skills**.

This year's theme celebrates the incredible range of skills that make modern life possible through **refrigeration, air-conditioning, heat pumps, and sustainable heating technologies**. From hands-on technicians to engineers, trainers, researchers, and innovators – *Cool Skills* honours the human expertise that keeps our world cool, warm, comfortable, and sustainable.

Why “Cool Skills”?

Cooling and heating are essential to our daily lives – from keeping food safe and medicines effective, to ensuring thermal comfort, enabling data connectivity, and supporting resilient infrastructure in the face of a changing climate. Behind these critical services are skilled professionals applying science, technology, and practical know-how to manage thermal energy and master the elements.

And yet, these skills often go unnoticed. Globally, the sector faces a growing demand for cooling and low-carbon heating, alongside an urgent need for trained professionals. In the context of climate action, energy efficiency, and human wellbeing, promoting and supporting these *cool skills* is more important than ever.

New Graphics Now Released

To mark the launch of this year's campaign, we're excited to unveil the official **Cool Skills** graphics. The central image shows a pair of hands – one radiating heat, the other cooling – symbolising the dual mastery of thermal energy. It's a powerful representation of the skills within our sector: the ability to harness and balance heating and cooling, to shape environments, protect health, and support sustainable living.



This image embodies the blend of science, technology, and practical problem-solving that our industry brings to bear every day. These really are *cool* skills.

A Global Call to Action

The 2025 theme is deliberately broad and inclusive.

We invite everyone – from individuals and educators to businesses, trade bodies, and governments – to interpret **Cool Skills** in a way that suits their audience and geography. You might choose to:

- Promote career pathways in cooling and sustainable heating
- Recognise and celebrate the professionals behind your systems
- Highlight how skills in heat pumps, refrigeration, and system design support climate targets
- Share stories from across the sector to inspire the next generation

Whether through social media, open days, public events, school activities, or internal campaigns, *Cool Skills* is a global opportunity to raise awareness of the people and professions that keep our modern world running.

  Join us in celebrating these essential skills on **June 26**.

 Start planning your activities today!

Source/image: [WRD](#), 27 May 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](#)

 [WREFD 2025 Campaign Celebrates the Real People Behind Our Industry – Join the “Cool Skills” Showcase!](#)

2. UNIDO secures US\$18.7m to accelerate climate action and reduce ozone-depleting substances



Montreal, June 2025 - Twenty-two Member States of the United Nations Industrial Development Organization (UNIDO) will benefit from the US\$18.7 million in new funding secured from the Multilateral Fund for the implementation of the Montreal Protocol (MLF).

At its 96th Executive Committee meeting held in May 2025, the MLF approved all project proposals submitted by UNIDO on behalf of its member-states. The Committee meets twice a

year, to discuss and decide on policies, procedures and guidelines of the Fund's operation and to approve investment and non-investment projects in developing countries.

The earlier meeting in December approved approximately \$28 million. Projects approved this time relate to Hydrochlorofluorocarbons (HCFC) Phase-out and Hydrofluorocarbon (HFC) Phase-down plans in various countries, assisting countries in the preparation of national plans and inventories of controlled substances and chemicals under the Montreal Protocol, energy efficiency measures and promoting refrigeration technologies which use substances with low global warming potential (GWP), helping industries to leapfrog to climate-friendly production processes and stay competitive.

A major highlight of this round of approvals includes projects related to industrial transitions of refrigeration and air conditioning equipment manufacturers to climate-friendly production processes in Egypt. "Around 30 enterprises will benefit from this—leading to job creation and fostering economic competitiveness, while addressing climate challenges," said Yunrui Zhou, Industrial Development Officer. UNIDO's work under the Montreal Protocol has already enabled the conversion of over 448 enterprises so far.

"UNIDO is at the forefront of accelerating innovation for ozone protection and climate action. As an implementing agency of the Montreal Protocol, our priority is to support industry to deliver innovative climate solutions and remain competitive," said Alois Mhlanga, Director of Climate Innovation and Montreal Protocol division, who led the UNIDO delegation to the meeting. He also had meetings with various representatives from the member-states to review the implementation of projects in their countries and contributed to discussions on the future programming directions of the Montreal Protocol. Mhlanga met with other Implementing Agencies, representatives of donor countries, to deepen collaboration and UNIDO's planned work on sustainable cooling.

Source/image: [UNIDO](#), 10 June 2025

3. CaRe Working Group: Discover the Women in Cooling database - IIR

This interactive tool compiles data from a comprehensive international survey on women working in the refrigeration, air conditioning and heat pump sector, highlighting their inspiring stories.

We are delighted to introduce the "Women in Cooling" database, developed by CGA intern David. Many thanks to him for his outstanding contribution!

This unique database showcases the inspirational career journeys of 1,306 women working across the refrigeration, air conditioning and heat pump (RACHP) sector worldwide. Alongside these inspiring stories, the database also sheds light on the ongoing challenges faced by women in the industry.

To better understand the backgrounds, motivations, challenges, and opportunities of women working in RACHP, the International Institute of Refrigeration (IIR) and UNEP OzonAction launched a global survey in 2022, in cooperation with several partners. The findings were published in the *Women in Cooling* booklet, which you can access [here](#).

Since then, the survey has since been updated with more responses from North and Latin America, in collaboration with Women in HVACR, ASHRAE, and FAIAR – all founding partners of INWIC (the International Network of Women in Cooling).

Explore the “Women in Cooling” database [here](#).

Source/image: [UN](#), 23 May 2025

AFRICA

4. Secteur industriel : La Tunisie est parvenue en 2024, à réduire environ 13,3 millions de tonnes équivalent CO₂

L'Organisation des Nations unies pour le développement industriel (ONUDI) accompagne la transition écologique du secteur industriel en Tunisie à travers un ensemble d'initiatives, a indiqué le représentant de l'organisation onusienne en Tunisie, Lassaad Ben Hassine.



Dans une interview télévisée réalisée au studio de l'Agence TAP, il a ajouté que depuis la réalisation des projets liés à cette transition, la Tunisie est parvenue en 2024, à réduire environ 13,3 millions de tonnes équivalent CO₂, et ce, dans le cadre des efforts déployés pour assurer la transition vers une économie industrielle verte.

Ben Hassine a présenté, à cette occasion, une panoplie de projets contribuant à la réduction des gaz à effet de serre, dont , essentiellement, le projet de l'Amendement de Kigali au Protocole de Montréal lequel intègre les technologies de réfrigération écologiques et développant des systèmes de collecte et de traitement des gaz usagés dans le secteur de la réfrigération.

Il a, également, cité le projet de transport électrique propre, visant à mettre en place un cadre réglementaire et fiscal pour encourager l'adoption du transport urbain électrique, considéré comme un moyen efficace pour réduire la pollution de l'air en milieu urbain et promouvoir l'utilisation des énergies renouvelables.

Ce projet qui s'étale jusqu'à 2028, ambitionne de réduire les émissions directs de gaz à effet de serre de 1,5 million de tonnes équivalent CO₂ et 3,5 millions de tonnes indirectement, au cours de la période 2022/2037.

Le responsable a souligné que davantage d'efforts seront déployés pour améliorer la performance environnementale des entreprises industrielles, à travers l'accompagnement de 24 établissements dans l'adoption de solutions technologiques en vue de réduire la consommation d'énergie et d'eau, tout en améliorant leur impact environnemental, en particulier, dans les secteurs à fort impact écologique.

Et de poursuivre que l'économie circulaire et l'innovation industrielle ont un rôle central dans la transition vers un modèle économique tunisien plus compétitif et durable. [Read more...](#)

Source/Image : [La Presse tunisienne](#), 9 June 2025

ASIA AND THE PACIFIC

5. Workshop on implementation of Montreal Protocol held in Khulna - Bangladesh

KHULNA, June 01, 2025 (BSS) - An awareness workshop on the implementation of the Montreal Protocol for the protection of the ozone layer was held today at the CSS Ava Center in Khulna City.



The workshop was organized under the "Renewal of Institutional Strengthening for the Phase-Out of ODS (Phase-10)" project, implemented by the Department of Environment (DoE).

Speaking as the chief guest, the Divisional Commissioner of Khulna Md. Firoz Sarkar said that Bangladesh has played a significant role in meeting the targets of phasing out ozone-depleting substances under the Montreal Protocol.

He emphasized the importance of raising awareness about actions needed under the changing circumstances. Stakeholders should be encouraged to use refrigerant gases that are not harmful to the environment.

He further pointed out that ozone-depleting substances not only harm the ozone layer but also contribute significantly to climate change.

Due to the impact of climate change, the southern region of Bangladesh is frequently experiencing natural disasters. Therefore, it is essential to eliminate the use of harmful gases, he added.

He also urged people to service their refrigerators and air conditioners regularly and to avoid setting air conditioners below 25°C. [Read more...](#)

6. SEA National Ozone Officers Discuss Viable Low-GWP and Energy Efficient Alternatives to HCFCs/HFCs to Achieve Dual Obligations



Penang, Malaysia, 22-25 April 2025 – UNEP's OzonAction Asia-Pacific Compliance Assistance Programme (CAP) team in collaboration with the Department of Environment, Ministry of Natural Resources and Environmental Sustainability of Malaysia organized a Network Meeting of Southeast Asia (SEA) National Ozone Officers (NOOs) in Penang, Malaysia from 22 to 25 April 2025. The meeting aimed to facilitate the Network countries sharing their experience and good practices in various areas under the Montreal Protocol. The CAP team gratefully acknowledges the Multilateral Fund for its generous financial support in organizing this meeting.

The Network Meeting had both plenary and breakout sessions with 26 participants (11 women and 15 men) from ten Network countries, which joined the meeting in person. Also in attendance were resource persons and representatives from the Department of Climate Change, Energy, the Environment and Water of Australia, the Ozone Secretariat, the Multilateral Fund Secretariat, the United Nations Development Programme (UNDP), the United Nations Industrial Development Organization (UNIDO), the World Bank, UNEP Cool Coalition, and Government and industry resource persons from Australia, China, Japan, and Malaysia.

The network meeting took place at the most critical time to strengthen the capacity of the NOOs to meet two parallel obligations under the Montreal Protocol, including the 67.5% hydrochlorofluorocarbon (HCFC) consumption reduction and the freeze of hydrofluorocarbon (HFC) consumption in 2025. The meeting focused on options for suitable low Global Warming Potential (GWP) and energy efficient alternatives to HCFC/HFC to address the challenges of Article 5 countries in the network. It provided a platform for the network countries to learn about the developments in the policy and technical aspects of low-GWP and energy efficient alternatives, share experiences and lessons learned, and better understand how to integrate relevant activities into the HCFC phase-out and HFC phase-down in a holistic approach. Other topics for discussion included updates on Montreal

Protocol related meetings, digitalization of licensing systems and reporting, gender mainstreaming, and 2025 CAP services. [Read more...](#)

Source/image: [UNEP OzonAction](#), 9 June 2025

7. New rules for cleaner cooling from 1 July 2025 - Australia

We are changing permitting for imported air conditioning equipment parts orders and equipment.

From 1 July 2025, it will be illegal to import or make small multi-head split air conditioning systems that use hydrofluorocarbons (HFCs) with a high global warming potential (GWP).

You can get ready by:

- planning ahead so you don't get caught out
- checking what equipment you are planning to import
- find environmentally safe and compliant alternatives for any banned equipment.

Certain air condition equipment and equipment designed to use refrigerant over 750 GWP is banned.

This ban builds on earlier rules that already apply to small single-head split systems, portable units and window or wall air conditioners.

The ban applies to outdoor units for multi-head split systems, including variable refrigerant flow systems, if the equipment:

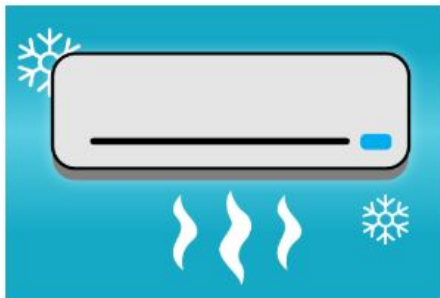
- is made to cool or heat indoor spaces for comfort
- has a refrigerant charge of 2.6 kg or less
- uses an HFC with a GWP higher than 750 (even if it is not charged when imported).

There are some exemptions and more bans may be introduced later.

These rules are part of the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989*, which helps Australia meet its goals under the Montreal Protocol – an international agreement to protect the ozone layer and cut emissions.

These bans remove outdated, climate-damaging air conditioning systems from use in Australia. Most new systems now use R32 (GWP 675) or, for small portable units, R-290 (propane).

To support businesses, our department is working with industry to:



New regulations banning high-GWP air conditioners to help reduce emissions and protect the climate are starting 1 July 2025.

- help businesses understand their responsibilities
- make sure they follow the law.

Importing or exporting a controlled substance without a valid licence or exemption is against the law and can lead to penalties.

These may include:

- official warnings
- licence suspension
- large fines.

If you see something that doesn't look right or may be against the rules, check the details on the [HFC phase-down](#) and consider reporting it by email: ozonereporting@dcceew.gov.au.

Source/image: [Australian Government, Dept of Climate Change, Energy, the Environment and Water](#), 3 June 2025

8. China and India Can Produce Up to 5.3 Million R290 Split AC Units Per Year, According to New GIZ Guide



Together China and India have the capacity to produce up to 5.3 million propane (R290) split air-conditioning units per year, according to a [recently published guide](#) on R290 splits written by the [GIZ](#) (the German Society for International Cooperation).

The number of propane units currently produced is low compared to global sales, admitted Bettina Rechenberg, German Environmental Agency Director General of Division III – Sustainable Production and Products of Waste Management. But she said that R290 is the “only viable and future-proof choice” for residential and light commercial applications when considering the phasedown of HFCs to adhere to climate protocols.

The GIZ forecasts that the number of split AC units on the market will go from just under 850 million to over 3.7 billion by 2050. Today's split AC units generate around 1,800 metric tons of CO₂e annually, with 700 metric tons resulting directly from refrigerant leakage.

If a business-as-usual (BAU) scenario plays out, the group predicts that total emissions will rise to 2,750 metric tons of CO₂e annually by 2050, with 600 metric tons resulting directly from refrigerant leakage. “[However], a R290 split AC [market share of 50%](#) until 2050, may cut down total GHG emissions by 25% by 2050,” the GIZ said.

The group generated the resource guide based on interviews with industry players and experience gained from GIZ Proklima-supported projects to introduce R290 AC equipment in developing countries.

Rising production: “So far, the capacity to manufacture R290 split AC units is limited to China and India,” the GIZ said.

China has the capacity to produce roughly 5 million R290 split AC units a year and 10 million R290 AC compressors. “Such units are now being marketed in Europe, and millions of portable/movable room AC units are being produced each year with R290,” according to the GIZ.

In India, the GIZ assisted Godrej & Boyce in converting its split AC manufacturing from R22 to R290, with a production capacity of 300,000 units per year. The 5kW (1.4TR) capacity units follow the IEC 60335-2-40 standard, with a maximum 360g propane charge.

“Other countries, like Egypt, Pakistan, Brazil, etc., are about to convert production lines under their stage II HCFC phaseout management plans of the Montreal Protocol,” the GIZ said.

Pilot projects: Under its Cool Contributions Fighting Climate Change (C4) Projects, the GIZ has funded the introduction of R290 splits along with technician training in Africa and Latin America.

The group introduced 380 units to the market in Ghana. Midea and the GIZ jointly trained technicians from local AC dealers in safe installation, servicing and repair procedures.

In Costa Rica, a project imported R290 units for demonstration and training, with installations in hotels and government buildings. “It will be indispensable for our country to know all the benefits of [R290] and to be trained in its use and applications,” said Marvin Donel Zuríga Alvarez, Engineer at Ensayos Laboratory of Energy Efficiency.

Train the trainer: In the Philippines, a project is training 32 refrigeration and air-conditioning technicians on the safe and proper use of R290 splits.

“The trainers will cascade what they have learned to their students in [technical education] training centers throughout the archipelago,” the GIZ said.

Quotable: “Accelerating the transition to more energy-efficient split ACs that use the natural refrigerant R290 can play a key role in creating a more sustainable RACHP [refrigeration, air-conditioning, heat pumps] sector,” the GIZ said. “[The R290 units] reduce the energy consumption and GHG emissions.”

A previous version of this article stated that China and India produce roughly 15.3 million R290 split ACs per year. That information was incorrect and this article has been updated to accurately reflect the information in the GIZ guide.

Source: [Natural Refrigerants](#); Image: GIZ, 6 June 2025

EUROPE AND CENTRAL ASIA

9. Italy seized 500 tonnes of illegal HFC last year



ITALY: ADM, Italy's Customs and Monopolies Agency, claims to have uncovered and seized nearly 500 tonnes of illegal refrigerant last year.

An independent agency within the Italian Ministry of Finance, ADM is responsible for securing and managing customs revenue, monitoring imports, transit and exports. It has been responsible for a number of large seizures of HFC refrigerants.

After the imposition of the European F-gas phase down, Italy became a hotspot for the black market trade, both as a consumer and as one of the main transit countries. According to the Environmental Investigation Agency, in 2022 Italy had the highest number of companies reporting illegal activities to the EU's F-gas Registry; 222 of the 809 companies reporting imports were based in Italy.

However, ADM has been cracking down. Recent data and operations confirm an ever-increasing attention and effectiveness in blocking illegal shipments that damage the environment and distort the market.

On March 7, 2024, at the Port of Naples, ADM seized approximately 150 tonnes of HFC gas declared as being for military use, which is exempt from the European F-gas regulation quotas. Investigations had revealed that the military destination covered only a part of the shipment.

On July 17 last year, at the Port of Genoa-Prà, an unnamed “specialised” company from the Piedmont region of northwest Italy was fined for importing an 18 tonne isotank of R32 refrigerant gas from China that exceeded the assigned F-gas quota.

The following month, at the Port of Gioia Tauro, ADM blocked a cargo of over 40 tonnes of HFCs. The shipment included 112 illegal non-refillable cylinders and 3377 refillable cylinders for which the F-gas quota had been exceeded.

From May to October last year, ADM participated in the European-wide JCO KHIONE operation led by OLAF, the European Commissions anti-fraud office. In Italy, it led to the seizure of approximately 4,100 cylinders (64,223kg) in the operational phase and the identification of irregularities for a total quantity of 163,000kg (over 10,000 cylinders) in the pre/post-operational phases, in particular in Brindisi.

Italy also participated in the JO DEMETER X operation coordinated by the World Customs Organisation between July and September 2024. This led to the detection of violations in Italy

for 80,293kg of refrigerant.

Source: [Cooling Post](#), 21 June 2025

10. Chemours fined €1m for alleged F-gas breach



NETHERLANDS: Chemours must pay a penalty of €1m for violating the European F-gas regulation by importing the high GWP HFC23 gas for use at its polymer and elastomer plant in Dordrecht.

According to the Human Environment and Transport Inspectorate (ILT), which is responsible for enforcing compliance with the F-gas regulation in the Netherlands, claims that the company repeatedly placed more HFCs on the European market than it was allowed under the company's F-gas quota.

The violation specifically concerns the import of HFC23 (trifluoromethane), a gas with a high GWP of 14,800. It is a by-product of the manufacture of a number of refrigerants but is also used as a feedstock.

Chemours reported to the European Commission that the gas was imported to its Dordrecht site for destruction, which is exempt from quota. However, research by the ILT showed that Chemours was using HFC23 in the production process and that in fact there was a quota exceedance.

The chemical manufacturer claims to have filed reports in full compliance with its F-gas reporting obligations on the amount of F-gases it produces, imports, exports and destroys. Despite this, Chemours claims that there was an "administrative difference of opinion" with ILT about the method of reporting quantities of HFC23 that Chemours has imported and subsequently destroyed in the production process.

"Despite Chemours being fully transparent about the different process flows, there is a difference in the interpretation of the F-gas regulation and the way Chemours has reported this particular flow," the company said.

The ILT reveals that In 2023, Chemours placed a total of 98,515 tonnes of CO₂ equivalent more hydrofluorocarbons on the market than permitted. While it admits that the use of HFC23 in the production process results in limited emissions to atmosphere, it points out that HFC23 has a huge GWP.

"Chemours considers it unfortunate that a penalty of €1m is now being imposed for an alleged exceedance of quota for what is disputed to be placing on the market of destroyed HFC23. The alleged exceedance concerns an HFC23 stream that is imported for destruction. Chemours therefore considers that this falls under the exemption referred to in Article 15(2) (a) of the F-gas regulation 517/2014 and should not be quota-consuming.

“The spirit of the F-gas regulation and quotas is to reduce overall greenhouse gas emissions. Chemours is constantly and demonstrably making efforts to achieve this,” it adds.

Source/image: [Cooling Post](#), 29 May 2025

11. Winners Announced for the 3rd Edition of the European Women in Cooling Video Competition

World Refrigeration Day and AREA are proud to announce the winners of the 3rd edition of the Women in Cooling Competition (WiCC25).

This initiative is a key part of WRD and AREA's shared commitment to fostering inclusion and diversity in the cooling sector, with a particular focus on encouraging more women to pursue and thrive in careers within the RACHP field.

WiCC25 aims to highlight the expertise, innovation, and achievements of talented European women working in the sector, through compelling short video submissions. This year's edition attracted inspiring entries from across the continent, reaffirming the importance of this platform in promoting gender representation and visibility in the industry.



Our winner for Cat. A: Chloe Jennings, One of our Winners for Cat. B: Hannan Romberg

A panel of 12 judges carefully evaluated 11 entries across the two categories:

- **Category A – RACHP Best Practice Mastery: Handling of a refrigeration, air conditioning or heat pump system**
- **Category B – RACHP Design Excellence: Design and application of RACHP systems.**

Winners

The winners of the Women in Cooling Competition 2025 are:

Category A – RACHP Best Practice Mastery

1st place: Chloe Jennings – United Kingdom

2nd place: Milena Boettcher – Germany

3rd place: Millie Edwards – United Kingdom

Category B – RACHP Design Excellence

1st place: Hannah Romberg, Katharina Breuer, and Anna Halle – Germany

2nd place: Aleksandra Milic – Italy

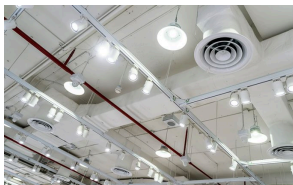
3rd place: Araceli Pino – Spain

Prize

First-place winners in both categories will receive a **cash prize of €1,000**, generously offered by World Refrigeration Day. They are also invited to attend the **21st European Conference on “The Latest Technologies in Refrigeration and Air Conditioning”** at the **Politecnico di Milano**, where the **official award ceremony** will take place on the **evening of 12 June 2025**. Travel, accommodation, and conference participation fee will be **covered by AREA** through its member ATF. [Read more...](#)

Source/image: [World Refrigeration Day](#), 29 May 2025

12. Government could tighten rules on restricting refrigerant gases to help net zero goals - UK



The government could tighten up the rules that restrict the use of global warming refrigerant gases including "speeding up phase out programmes and introducing new bans", according to a spokesman from the Department for Environment, Food and Rural Affairs (DEFRA).

Jacob Andresen told a briefing event hosted by the UK's F-Gas registration scheme, REFCOM, that the government "was still listening to the industry" and looking for ideas to help it meet increasingly demanding safety and environmental targets, including potentially speeding up the removal of HFC gases from the market.

Andresen, who leads the department's F-Gas policy team, said the government was planning to consult the sector later this year on reforming its approach as it seeks to meet its obligations of remaining in step with the EU on refrigerant management and contribute to the UK's own net zero targets.

He said DEFRA was also keen to hear from the industry about barriers to wider uptake of lower GWP alternative refrigerants including technology and safety issues.

Other topics discussed at the event included how the flammability of alternative gases was a growing concern and called for the government to provide an information campaign and ensure more people undertook training.

One of the attendees, Kevin Morrissey, technical director at trade body the Building Engineering Services Association, told the meeting that alternative refrigerants were one of the most common technical queries raised by callers to his department along with issues linked to the phase down of HFCs.

REFCOM, which carries out regular audits to help companies remain compliant with the F-Gas regulations, found that the most common issues identified by its auditors included businesses not having their own environmental policies, failing to provide full records of reclaimed refrigerant, and not ensuring job sheets were uploaded and included refrigerant returns.

Morrissey said: "This is a tough and challenging industry and there is now much greater focus on competence and compliance...However, the fact that there are around 9,000 businesses in REFCOM helps us to address the big issues that many have in common."

Source: [Facilitate Magazine](#), 1 May 2025 | Image : iStock

13. Ministry of Environmental Protection and Natural Resources: Ukraine is preparing to ratify the Kigali Amendment

The Verkhovna Rada Committees on Foreign Policy and Interparliamentary Cooperation and on Environmental Policy and Nature Management supported the draft law on ratification of the Kigali Amendment to the Montreal Protocol No. 0303, submitted by the President of Ukraine.

Why is it important?

The document defines the procedure for reducing the use of hydrofluorocarbons (HFCs), substances used in refrigeration and air conditioning, which are highly potent greenhouse gases.

The Kigali Amendment has already been ratified by 163 countries. It establishes timetables for reducing the consumption of hydrofluorocarbons regardless of the time of ratification. Delaying this process could lead to the need to drastically reduce the use of HFCs, which would have serious economic consequences. For example, if Ukraine ratifies the amendment now, the reduction will be 40% of the baseline. However, if this step is postponed, in 2029, 70% will have to be reduced immediately without a transition period, which will deal a significant blow to industry and the economy.

In addition, from 1 January 2028, the EU will introduce a ban on trade with countries that are not parties to the amendment, and from 1 January 2033, imports and exports of these substances will be banned in all countries of the world.

According to Svitlana Grynchuk, Minister of Environmental Protection and Natural Resources, ratification of the Kigali Amendment is an important step not only for environmental protection but also for the future of the Ukrainian economy.

“We cannot afford to stay away from global environmental initiatives. Failure to ratify means losing access to international markets and investments, and lagging behind in technological development,” said the Minister. “Implementing modern, energy-efficient solutions will help us reduce harmful emissions, cut energy costs and create new business opportunities. Ukraine must act now to have time to adapt and not lose its competitive advantage.”

Switching to alternative refrigerants, while requiring an initial investment, will in the long run facilitate the introduction of more energy-efficient equipment. In addition, the modernisation of technologies will open up new opportunities for the development of the market for energy-efficient solutions.

Source: [GOV.UA, State site of Ukraine](https://gov.ua), 19 March 2025

LATIN AMERICA AND THE CARIBBEAN

14. Ecuador sets a green standard in refrigeration manufacturing



Over the years, Ecuador has worked successfully towards meeting its obligations to the Montreal Protocol and its Amendments. One of the country's most inspiring success stories comes from Induglob, a locally owned manufacturing enterprise that revolutionized its refrigeration manufacturing processes to align with the Protocol's goals, with the assistance of funding from the Multilateral Fund.

A legacy of environmental leadership

Ecuador's leadership in meeting international environmental commitments was mirrored by Induglob. In 1998, the company transitioned from using high ozone-depleting CFC-12 to HFC-134a with support from the Multilateral Fund. But the journey didn't stop there. In 2018, just two years after the adoption of the Kigali Amendment to the Montreal Protocol, Induglob independently converted one of its manufacturing lines that was producing domestic refrigeration equipment to use R-600a—a refrigerant with zero ozone-depleting potential and very low global warming potential. This bold move, utilizing the company's own funding, reduced HFC-134a consumption by 16.33 metric tonnes, equivalent to 23,352 tonnes of CO₂ emissions annually.

A pioneering project with global impact

Building on the momentum from this successful project, Ecuador prepared with its own resources a project proposal in 2022 to convert Induglob's second manufacturing line

producing domestic and commercial refrigerators to R-600a and R-290. This project was the first of its kind receiving assistance from the Multilateral Fund even before the country's Kigali HFC Implementation Plan (KIP) was approved. The Government of Ecuador also developed a ban on the import and manufacture of domestic refrigerators using HFC-134a that was set to come into force upon completion of the project. This ensured the project's sustainability beyond the implementation period.

The results? Outstanding. The project was completed on schedule in two years and eliminated an additional 10.42 metric tonnes of HFC-134a—equivalent to 14,901 tonnes of CO₂ emissions annually. Combined, the two conversions now prevent approximately 38,253 tonnes of CO₂-equivalent emissions each year.

More than just environmental gains

The benefits of the initiative go beyond just emission reductions. The switch to newer refrigerants allowed for technical modernization of the production process along with energy efficiency improvements. It also allowed for a roughly 60% reduction in the refrigerant charge per unit, thanks to the higher thermodynamic efficiency of hydrocarbon refrigerants. Induglob also adopted safety protocols and trained its personnel to ensure safe handling of flammable refrigerants during the manufacturing process.

A model of collaboration and commitment

The success of this project was made possible through the collaboration of Induglob's technical team, the Government of Ecuador, and the United Nations Industrial Development Organization (UNIDO) as the implementing agency. The funding model showcased a strong partnership and commitment from Induglob, which in addition to the Multilateral Fund's funding approved for the project, invested in complementary infrastructure, safety systems and engineering work to modernize operations in both manufacturing lines, enhancing the overall efficiency, traceability and quality of the final product.

Sharing the success

Ecuador's achievements are now being shared globally as a model for sustainable industrial transformation. For more information you can watch a video about the project:

<https://youtu.be/Qg2lC7q9Dng>

Source/image: [Multilateral Fund Secretariat](#), 5 June 2025

NORTH AMERICA

15. US industry surprised by R454B demand



USA: Refrigerant and cylinder manufacturers in the US have admitted to being caught by surprise at the high level of demand for the lower GWP refrigerant R454B.

The US Environmental Protection Agency's imposition of an HFC phase down under the AIM Act has created unprecedented demand for the A2L refrigerant blend R454B, a lower GWP replacement for R410A.

Under the AIM Act, R410A with its GWP of over 750 has been banned from use in new stationary residential and light commercial air conditioning and heat pumps since January 1.

While Japanese air conditioning manufacturers plumped for R32 as the lower GWP of choice for split systems, multi splits and small VRF, R454B was widely adopted by the major US air conditioning equipment manufacturers, including Carrier, Johnson Controls, Lennox and Trane.

Commercially produced by Chemours, and marketed as Opteon XL41, R454B is a blend of 68.9% R32 and 31.1% 1234yf and has a GWP of 466.

The shortage, which has also seen rapidly escalating prices, has caused considerable concern amongst contractors and end users in the US market. The limited availability of the refrigerant is said to have been exacerbated by a lack of cylinders equipped with pressure relief valves with the left-handed threads required for flammable A2L refrigerants, raw material shortages and limited production capacity.

Wayne Powers, senior director of sales, cooling and construction – building products, for leading US cylinder manufacturer Worthington Enterprises, has admitted that the demand took the company by surprise.

Talking to *RSES Journal*, the magazine of the Refrigeration Service Engineers Society (RSES), Powers claimed that the shortage was not due to a lack of advance planning but more due to the huge demand and unexpected decisions by OEMs to increase equipment production.

"The construction of A2L refrigerant cylinders is unique, involving technically demanding processes and requiring a specific grade of steel and more sophisticated pressure relief device," Powers is quoted as saying.

Worthington Enterprises says it has taken steps to increase cylinder production, adding two additional production crews to its operation in Columbus, Ohio and added a full third shift at

its Paducah, Kentucky facility. Powers added that he expected lead times to continue to improve through the summer.

Speaking at Chemours’ Q1 conference call earlier this month, the company’s president and CEO Denise Dignam said: “While we understand that there is tightness in the supply of cylinders used, we are increasing our line fill capacity in order to quickly fill cylinders as they arrive from our sources. We believe this situation will correct itself quickly and will not be a long-term issue for Chemours’ ability to support the R454B market transition.”

Source/image: [Cooling Post](#), 23 May 2025

RESOURCES



FACTSHEET 1

Update on New Refrigerants Designations and Safety Classifications

May 2025



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 azeotropic (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.

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GreenCustoms



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](#)

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Prepared by: UNEP OzonAction
Reviewed by: James S. Curlin

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jo.chona@un.org



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