

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. 96th meeting of the Executive Committee concludes successfully



After the adoption of the operational framework for energy efficiency and the new revolving fund modality, the Executive Committee approved at its 96th meeting, preparatory requests for pilot revolving funds in 3 countries and one global programme; agreed on the operational modalities of the implementation of the revolving fund for energy efficiency for end users for these pilot projects; considered the cost funding modalities for atmospheric monitoring and observations, and requested the Secretariat to do further work; agreed on the methodology to estimate the maximum eligible consumption of HFCs for funding. The Committee also agreed on reviewing the supply chain challenges on equipment, components and cooling technologies in developing countries and on the capacity of end users to adopt sustainable cooling technologies while promoting innovation in the refrigeration and air-conditioning servicing sector through digital and AI tools. The meeting approved over USD \$38 million in projects including 9 Kigali HFC implementation plans (KIPs), 4 new stages of HCFC phase out management plans (HPMPs), 14 tranches of HPMPs, 1 for HFC-23 emission control, and other 61 activities. For more information, please check the meeting report at <https://multilateralfund.org/meetings/96/post-session>

Source/image: [Multilateral Fund Secretariat](#), 17 June 2025

2. 47th Meeting of the Open-ended Working Group of the Parties to the Montreal Protocol - Summary report, 7-11 July 2025



The Montreal Protocol on Substances that Deplete the Ozone Layer has successfully addressed threats to the Earth's protective ozone layer, from chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and other synthetic ozone-depleting substances (ODS), for nearly 40 years. Today, the Protocol not only provides a clear phase-out schedule for ODS, but with the adoption of the Kigali Amendment in 2016, it has also set a phase-down schedule for hydrofluorocarbons (HFCs), a group of synthetic gases that were developed to replace ODS, but are powerful greenhouse gases. While the fruits of concerted efforts to curb ozone-depleting substances and HFCs are paying off, much remains to be done to ensure the continued success of the Protocol and its parent treaty, the Vienna Convention for the Protection of the Ozone Layer.

Scientific assessments underpin the actions of parties, enabling them to respond to new and emerging challenges to the health of the ozone layer. At the 47th meeting of the Open-ended Working Group (OWEG 47), delegates benefited from the work of the Protocol's Technology and Economic Assessment Panel (TEAP). Its latest report informed discussions on the items under consideration at this meeting, with delegates relying on the experts of the Panel and its Technical Options Committees (TOCs) to make progress on the negotiation of draft decisions and other issues that will be further discussed at the 37th Meeting of the Parties to the Protocol (MOP 37) in November 2025.

The OWEG 47 agenda addressed a range of issues, including:

- terms of reference for the study on the next replenishment of the Multilateral Fund for the Implementation of the Montreal Protocol (MLF);
- options for the organization of the TEAP and its TOCs;
- life-cycle refrigerant management;
- metered-dose inhalers with low global-warming-potential propellants;
- halon 1301 and other controlled substances used for fire suppression;
- feedstock uses of controlled substances;
- enhancing regional atmospheric monitoring of controlled substances;
- further strengthening Montreal Protocol institutions;

- review of the need for the annual average of 2.5% of the baseline for HCFC to be used for servicing and non-servicing applications for Article 5 (developing countries) during the period 2030–2040; and
- national and regional initiatives to support the implementation of the Kigali Amendment.

Delegates engaged in a collegial manner to address these challenging issues. They also reopened discussions on some longer-standing issues, such as the classification of the State of Palestine as a developing country party under the Montreal Protocol and access to support from the MLF.

OEWG 47 convened in Bangkok, Thailand, from 7–11 July 2025, with over 500 registered participants representing governments, academia, industry, and civil society.

[Continue reading...](#)

Source/image: [IISD Earth Negotiations Bulletin](#), July 2025

3. OEWG-47 Side Event Highlights on International Training and Certification Standards for RACHP



The Centro Studi Galileo (CSG) and the European association of refrigeration, air conditioning with support from the International Institute of Refrigeration (IIR) and Institute For Governance & Sustainable Development (IGSD), brought together global experts to address the need for harmonised training and certification in the refrigeration, air conditioning, and heat pump (RACHP) sectors.

Bangkok, 9 July 2025 – At the 47th Open-Ended Working Group (OEWG-47) of the Montreal Protocol, the “International Training and Certification Standards for RACHP: Advancing Energy Efficiency and Preventing Refrigerant Emissions” brought together global experts to discuss the status of certification in the refrigeration, air conditioning, and heat pump (RACHP) sectors and raise awareness on the need for harmonised training, recognition for certified professionals and adequate monitoring.

The Importance of Skilled Technicians for safe and environmentally friendly handling of refrigeration equipment

As global demand for refrigeration continues to grow, ensuring the energy efficiency and environmental sustainability of RACHP systems is critical. While technological innovation plays a key role, the competence of technicians who install, maintain, and service these systems is equally vital. Without proper training, even the most advanced systems risk underperformance, leading to refrigerant leaks, excessive energy use and increased safety risks.

This side event emphasised that harmonised international training standards and robust certification schemes are essential tools for ensuring a sustainability in the sector as well as to contribute to comply with the goals of the Montreal Protocol. Skilled technicians are the frontline defenders of system efficiency, safety, and environmental compliance.

A Global Exchange of Best Practices

Moderated by Marco Buoni (Centro Studi Galileo, AREA), the event featured a distinguished panel of speakers:

- Marco Duran, International Institute of Refrigeration (IIR)
- Stephen Andersen, Institute for Governance & Sustainable Development (IGSD)
- Marco Buoni, Centro Studi Galileo (CSG), ATF, and AREA
- Baolong Wang, Chinese Association of Refrigeration (CAR)
- Youssef Hammami, National Ozone Unit Tunisia (NOU Tunisia)

The session opened with a welcome reception and remarks by Marco Buoni, setting the stage for a dynamic exchange of insights and strategies.

Key Themes Explored

The event explored four central themes:

- **International Standards and Global Perspectives on Regulation and Certification:** Marco Duran presented an overview of the international reference standards for safety and environmental requirements for the operation, maintenance, repair, and recovery of refrigerating systems and how they are translated into national and regional regulation and certification programmes.
- **Reducing Emissions Through Training:** Presenters shared how targeted training programmes help prevent refrigerant leaks and promote best practices in installation and maintenance. Stephen Andersen discussed best practices for the installation of room air conditioners and how these considerations can be translated into contract templates for users to ensure adequate operation of the purchased equipment.
- **Certification and Skills Recognition:** Discussions highlighted how certification schemes ensure quality servicing, reduce emissions, and support energy performance across the equipment lifecycle.
- **Energy Efficiency Across the Lifecycle:** Emphasis was placed on how training supports sustained efficiency from system installation to decommissioning.

National and Regional Models from EU, US, Tunisia and China

Case studies from EU, US, China and Tunisia illustrated how national certification schemes—aligned with international standards—can be successfully implemented and scaled.

Marco Buoni introduced the European experience on certification, highlighting the legislation, monitoring practices and its evolution to comply with the [EU F-Gas regulation](#). Stephen Andersen presented the experience in the USA with [EPA 608](#). Youssef Hammami spoke about Tunisia's programme, supported by UNIDO and aligned with EU regulations, which has certified over 140 trainers and established 40 vocational centres. Baolong Wang elaborated on China's regulation for the building of training facilities and competencies for HVAC professionals training, highlighting the importance of certification, re-certification and the opportunity to find better ways to train for real life conditions such as with Virtual Reality assisted tools.

[The EU Sophia project](#) was mentioned, as an example of an effort to provide sustainable off-grid cooling solutions and clean drinking water for rural and remote health facilities in Africa, together with technology and knowledge transfer through training of local professionals.

Conclusion: A Call for Unified Action

The event concluded with a Q&A session and interactive discussion, reinforcing the

consensus that technician certification is a cornerstone in the refrigerant transition. Governments, industry stakeholders, and training institutions must collaborate to expand certification programmes, harmonise standards, ensure recognition for certified professionals and invest in vocational education.

Source/image: [IIR](#), 11 July 2025

4. OEWG-47 Side Event Highlights Urgent Need for Sustainable Cooling in Data Centres

The Climate and Clean Air Coalition (CCAC) and the International Institute of Refrigeration (IIR), with support from UNEP United for Efficiency (U4E), brought together experts, policymakers, and industry leaders to discuss sustainable solutions for managing emissions from data centre cooling.

Bangkok, 7 July 2025 — The side event titled "Cooling Systems Emissions from Data Centres", held during [OEWG-47](#) at the UNCC in Bangkok, concluded successfully, drawing attention to one of the fastest-growing sources of greenhouse gas emissions: data centre cooling systems. Organised by the Climate and Clean Air Coalition (CCAC) and the International Institute of Refrigeration (IIR), with support from UNEP United for Efficiency (U4E), the event brought together experts, policymakers, and industry leaders to discuss sustainable solutions for managing emissions from data centre cooling.

A Growing Challenge

Opening remarks by Ms. Souhir Al-Hammami (IIR) and Ms. Denise San Valentin (CCAC Secretariat, UNEP) set the tone for the session, emphasising the critical intersection of digital infrastructure and environmental sustainability. According to the International Energy Agency (IEA), global data centre electricity consumption in 2022 was estimated at 240 to 340 terawatt-hours, and roughly 1–1.3% of global electricity demand.

Looking ahead, the IEA projects that [electricity demand from data centres](#) will more than double by 2030, reaching around 945 TWh—equivalent to the entire electricity consumption of Japan today.

Expert Insights and Solutions

Dr. Baolong Wang, Associate Professor at Tsinghua University and Chair of the IIR Working Group on Dehumidification, delivered a comprehensive presentation that explored:

- Innovative cooling architectures: He provided detailed insights into liquid cooling, air cooling, and hybrid systems that maximise energy efficiency while minimising environmental impact.
- Energy-saving strategies: Dr. Wang highlighted the potential of natural cooling technologies, AI-powered intelligent operation systems, and waste heat recovery as key components of sustainable data centre practices.
- Global perspective: He outlined a roadmap for achieving carbon neutrality in data centre operations, emphasising the integration of renewable energy and holistic system optimisation.
- Future-oriented insights: His recommendations targeted policymakers, researchers, and industry leaders, urging them to adopt forward-looking strategies that align with the rapid growth of the digital economy.

Country-Level Experiences

Dr. Pattanan Tarin, Head of Thailand's Ozone Protection Unit, shared Thailand's proactive

strategies in managing emissions from its growing data centre sector. Her intervention underscored the importance of national policy frameworks aligned with Montreal Protocol and Kigali Amendment commitments.

Global Collaboration and Dialogue

A dynamic roundtable discussion followed, featuring insights from:

- Dr. Shazwin Binti (Universiti Teknologi Malaysia)
- Dr. Rajan Ranjendran (TEAP RTOC Co-Chair)
- Mr. Kennedy Amankwa (Ghana Energy Commission)
- Ms. Miruza Mohamed (CCAC Co-Lead, Maldives)

Panellists and audience members explored how the international community can collaborate to ensure compliance with the Kigali Amendment while accommodating the exponential growth of digital infrastructure.

Tools for the Future

Mr. Miquel Pitarch, International Consultant with UNEP U4E, concluded the session by presenting the [“U4E Procurement Guideline for Sustainable Data Centres and Computer Servers.”](#) This practical tool aims to guide governments and organisations in making environmentally responsible procurement decisions that reduce both energy use and refrigerant emissions.

Looking Ahead

The event concluded with a strong call to action: to integrate sustainable cooling technologies into the digital transformation agenda and in the Kigali Implementation Plan. As data centres continue to expand globally, the Montreal Protocol community and its partners must act swiftly to ensure that climate progress is not undermined by the digital age.

Source: [IIR](#), 8 July 2025

5. DEMETER: how an enforcement operation is driving Customs' efforts against illicit trade in waste, ODS and potent greenhouse gases

The WCO aims through Operation DEMETER to equip Customs officers with the knowledge, tools, and cross-border networks needed to address environmental crime related to waste, ODS and potent greenhouse gases with agility and precision.

The first Operation DEMETER was launched in 2009 by the WCO with the objective of mobilizing Customs administrations on the implementation of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (the “Basel Convention”). It was the first time that an international enforcement operation focused on waste covered by the Convention at the time, namely hazardous wastes, household waste and incinerator ash.

Seizures reported by Customs administrations during this first operation evidenced the dumping of waste containing toxic chemicals in the developing world, and the trafficking of household waste and e-waste. The operation also revealed major discrepancies among national legislations governing transboundary movements of waste, with some countries not yet having put legislation in place for the implementation of the Basel Convention and its

notification and consent procedure, known as “prior informed consent” (PIC). The WCO and China Customs, which funded the operation, decided to repeat the exercise regularly to keep on mobilizing Customs administrations on the issue of illicit waste and contribute to developing their enforcement capacity.

Extended scope

In 2019, substances controlled under the Montreal Protocol on Substances that Deplete the Ozone Layer (the “Montreal Protocol”), including those introduced by its Kigali Amendment in the same year, were added to the list of targeted commodities. They include nearly 100 industrial chemicals, such as ozone depleting substances (ODS) like chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), as well as hydrofluorocarbons (HFCs), which are potent greenhouse gases regulated under the Kigali Amendment. Subsequently, in 2021, following the entry into force of the Basel Convention Plastic Waste Amendments, participating administrations were asked to strengthen controls on the transboundary movements of plastic wastes. As for e-waste, it became a focus of the operation, even before the Basel Convention E-Waste Amendments came into force on 1 January 2025.

Originally focused on Asia and Europe, the operation soon welcomed administrations from South America, the Caribbean, and Africa, where recent capacity-building workshops and enforcement efforts sparked a noticeable increase in reported cases. This broadened reach enabled the WCO to address the challenge of shifting smuggling routes and to leave no region behind.



China Customs intercepted 79.1 tonnes of illicit plastic waste at Huangdao Port. Declared as PET roll film, the shipment consisted of re-rolled and mixed scraps recovered during production or use.

Outcomes

Today, ten operations have already taken place, and a new one is planned. China Customs has been instrumental in the organization of each of them, from funding critical capacity-building activities, to providing consistent operational support. Although the number of administrations has varied from one iteration to the other, the ratio of seizures/administrations

has grown steadily (see graph below). In total, participants have seized 519 million kg and 1.78 million pieces of waste, nearly 553,000 kg of ODS and HFCs, and 28,152 kg and 12,195 pieces of equipment using ODS and HFCs. [Continue reading...](#)

Source/image: [WCO News](#), 22 June 2025

6. The Accra-Helsinki Group on Sustainable Cooling: A Worthy Successor in the Tradition of Montreal Protocol Collaboration and Ambition to Protect the Earth

The inaugural side event of the Accra-Helsinki Group on Sustainable Cooling was convened at the 47th Open-Ended Working Group Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, held in Bangkok, Thailand. Kofi Agyarko of Ghana co-chaired the event with Tapio Reinikainen of Finland. The Climate & Clean Air Coalition (CCAC) hosted the event. The Institute for Governance & Sustainable Development (IGSD) serves as the Group rapporteur and provides technical legal support.

The Accra-Helsinki Group evolved from predecessors in the Montreal Protocol community, the Toronto Group and Stockholm Group. Similar to these predecessors, the Accra-Helsinki Group offers an open and informal forum for the Montreal Protocol community to discuss issues crucial to maintaining the ozone layer's protection, preventing catastrophic climate tipping points and feedbacks. The Accra-Helsinki Group, as reflected in its name and co-chairs, also fosters collaboration between developing and developed countries.

During the event, convened under the Chatham House Rule, Dr. Stephen Andersen, IGSD's Director of Research (presenting also for Marco González), described the ambition-strengthening roles of the Accra-Helsinki Group predecessors in the Montreal Protocol history.

Denise San Valentin, CCAC Programme Management Officer, provided the audience with an update on the status of the CCAC project "Pathways to Stop Dumping of Climate-Harming Room Air Conditioners in Latin America and the Caribbean," underway with implementing partners CLASP and IGSD, with report launch planned for the 37th Meeting of the Parties to the Montreal Protocol in Nairobi, Kenya, 3-7 November 2025.

The co-chairs then invited Professor David Kanter, co-chair of the Nitrous Oxide Assessment, participating via remote connection, to provide the audience with a refresher on the key findings of the Assessment. Tad Ferris, IGSD's Senior Counsel, followed with a review of the compelling governance history of the Montreal Protocol concerning nitrous oxide, starting with early negotiations leading to the adoption of the Vienna Convention on the Protection of the Ozone Layer. Nathan ("BP") Borgford-Parnell, CCAC Scientific Affairs Advisor, provided CCAC perspectives on the nitrous oxide assessment findings. Tom Nickson, Climate Campaigner at the Environmental Investigation Agency, then offered additional perspectives on the urgency of Montreal Protocol consideration of nitrous oxide control.

Question-and-answer exchanges with presenters occurred throughout the side event. The co-chairs concluded the event, noting that this Accra-Helsinki Group will provide a forum for raising important topics, such as those discussed today, on the sidelines of future meetings of the Montreal Protocol Parties, consistent with the traditions of the predecessor Toronto and Stockholm Groups. The co-chairs welcomed participants to invite colleagues to future sessions and feel free to propose topics to the co-chairs for consideration. At the co-chair's invitation, Tad Ferris closed with a recommendation that the Accra-Helsinki Group support an

ambitious Kigali +10 anniversary agenda.

Resource Link 1 (Planning Meeting for Accra-Helsinki Group, CCAC headquarters): https://www.linkedin.com/posts/kofi-a-agyarko-90b76b28_this-year-marks-40-years-of-the-vienna-convention-activity-7331015632529838080-oAH9?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAawrpkB9qwco7-9srib1E8U8uhLbryyi60.

Resource Link 2 (47th OEWS Side Events, scroll down for Accra-Helsinki Group side event, 7 July 2025, with presentations): https://ozone.unep.org/meetings/47th-meeting-open-ended-working-group-parties/side-events?arg_1=2025-07-07

7 Montreal Protocol Success Highlighted in Decision by the Inter-American Human Rights Court Obliging States to Act on Climate Emergency

On 3 July 2025 the Inter-American Court of Human Rights published its groundbreaking legal opinion on the climate emergency and human rights. The Opinion declares that States have a wide range of human rights obligations to address what the Court unanimously agreed to be a real and escalating climate emergency. In order to protect and guarantee multiple human rights including the newly articulated right to a healthy climate, States must undertake urgent and effective actions on mitigation, adaptation, and progress toward sustainable.

Among other conclusions, [Advisory Opinion \(OC-32/25\)](#) also declared that States have duties to cooperate internationally on climate measures, noting specifically the success of the Montreal Protocol on Substances that Deplete the Ozone Layer as successful model:

*"122. Although the shaping of an international regime specifically dedicated to addressing climate change began with the adoption of the **United Nations Framework Convention on Climate Change (hereinafter "UNFCCC" or "Framework Convention")** in 1992, two earlier events are worth noting. First, the adoption in 1985 of the **Vienna Convention on the Protection of the Ozone Layer** and two years later of the **Montreal Protocol on Substances that Deplete the Ozone Layer**, instruments aimed at preventing the adverse effects of ozone layer depletion, among others, on the global climate²¹⁵. The Protocol became the first and only environmental treaty ratified by all the world's States, and thanks to its compliance, around 99% of ozone-depleting substances have been eliminated²¹⁶. The Protocol was modified through the **Kigali Amendment** to also eliminate the production and use of hydrofluorocarbons (HFCs), compounds that replaced other ozone depleting substances, but whose global warming potential is much higher than carbon dioxide and which are harmful to the climate²¹⁷. It is estimated that the Montreal Protocol, considered one of the world's most successful environmental treaties,²¹⁸ will restore the ozone layer to its original levels 1980 values by the middle of this century²¹⁹ and close the ozone hole over Antarctica by 2060²²⁰." [unofficial translation from Spanish original]*

Reflecting on the Opinion, Marco Gonzalez, Former Executive Director of the Montreal Protocol Ozone Secretariat and Senior Expert Member of its Technology and Economic Assessment Panel (TEAP), stated "this landmark ruling of the Inter-American Court of Human Rights is expected to galvanize renewed commitment within the Montreal Protocol and Climate Treaties to take more decisive action in protecting the Earth's environment for current and future generations."

Countries are legally required to comply with the Opinion, as the highest authoritative interpretation of binding human rights obligations. Under the doctrine of 'conventionality

control,' all domestic authorities—in judicial, legislative, and executive functions—must act in conformity with the Court's pronouncements.

“The Opinion is destined to become one of the most important legal documents of the century. It provides the roadmap for litigators and judges throughout the world, giving them the guidance they need to effectively address the climate emergency,” said IGSD President Durwood Zaelke. “The Court stresses the need for speed and the need for binding mitigation at national and global level. The Court recognizes that promises and pledges are not a substitute for binding legal requirements,” he added.

On July 4th, IGSD, the Grantham Institute, and the Center for Human Rights and Environment, co-hosted the first of a four-part series of webinars to explain the decision and its implications. [Recording available here](#).

See:

- *Agência Brasil*, Fabíola Sinimbú, [Corte Define Que Enfrentar Crise Climática É Obrigação Dos Países](#), 7 July 2025.
- *One Earth Now*, Dana Drugmand, [A Human Rights Court Just Declared the Right to a Healthy Climate](#), 7 July 2025.

Source: [Institute for Governance & Sustainable Development](#), 3 July 2025

8. Cooling the Climate Crisis: Why investing in sustainable refrigeration is crucial for decarbonising supermarkets

This report analyses the climate impact of supermarket refrigeration, revealing that up to 70 per cent of a supermarket's non-supply chain emissions stem from cooling – primarily from energy consumption and the use of hydrofluorocarbon (HFC) refrigerants, potent greenhouse gases.

Fortunately, cost-effective sustainable cooling alternatives exist. Drawing on EIA's extensive expertise as well as detailed data from five major European retailers – Ahold Delhaize, Carrefour, Jerónimo Martins, Metro AG and Tesco – the report identifies leading practices and highlights gaps to develop EIA's Net Zero Supermarket Cooling Pathway, a strategic roadmap for investors and retailers alike centred around four pillars – disclosing data, cutting refrigerant emissions, reducing energy use and engaging the supply chain.

Case studies and Carbon Disclosure Project (CDP) data show that investing in natural refrigerant systems yields strong financial returns, with payback periods of 4-10 years. Given their 15-year lifespans, these systems continue to cut operational costs well beyond repayment.

EIA's Investor Note accompanies this report and is intended as a tool for investors seeking to assess risk, evaluate sustainability performance and drive supermarket decarbonisation in alignment with global climate goals.

[Go to all Reports](#)

Source: [EIA](#), 26 June 2025

AFRICA

9. Kenya Validates National Inventory of ODS and HFC Banks



Nairobi, June 18, 2025 — The Ministry of Environment, Climate Change and Forestry, in collaboration with the GIZ- ODS banks project convened a national validation workshop for Kenya's Inventory of Ozone-Depleting Substances (ODS) and Hydrofluorocarbon (HFC) Banks.

The workshop took place at the Radisson Blu Hotel, Nairobi, with participation from key stakeholders across government, industry, academia, importers and civil society.

The comprehensive national ODS and HFC inventory and validation workshop has been funded by the Multilateral Fund of the Montreal Protocol through the German Federal Ministry for Economic Cooperation and Development and implemented by GIZ. The ODS and HFC inventory represents a major step forward in Kenya's efforts to phase-down harmful substances (mainly refrigerants) to the ozone layer and which have a high Global Warming impact, under its obligations to the Montreal Protocol and the Kigali Amendment. The data collection and analysis process included the quantification of existing ODS and HFC banks across various sectors, including refrigeration, air conditioning, and waste management.

The inventory also covered unwanted ODS/HFCs in recovery cylinders and other storage systems, providing a critical baseline for planning recovery, recycling, and destruction initiatives.

Speaking at the workshop, representatives from the importers emphasized the importance of accurate data in guiding evidence-based policy and investment decisions that support Kenya's transition to climate-friendly cooling technologies.

The validated findings will now be integrated into Kenya's national strategies for sustainable cooling, contributing to environmental protection, energy efficiency, and public health outcomes.

Source: [Green Cooling Initiative](#), 2 July 2025 | Image: GIZ, Philipp Denzinger

10. Côte d'Ivoire-AIP / Des agents des douanes et des contrôleurs du commerce formés à la lutte contre les substances appauvrissant la couche d'ozone



San Pedro, 29 mai 2025 (AIP) – Des agents des douanes et des contrôleurs du Commerce et de l'Industrie, des directions régionales de San Pedro, ont bénéficié, les mardi 27 et mercredi 28 mai 2025 à San Pedro, d'un renforcement de capacités portant sur l'identification et le contrôle des Substances appauvrissant la couche d'Ozone (SAO), afin de lutter efficacement contre leur trafic et utilisation.

Organisé par le ministère de l'Environnement, du Développement durable et de la Transition écologique, à travers le Bureau national ozone, en collaboration avec l'Organisation des Nations Unies pour l'environnement (ONU-Environnement), cet atelier s'inscrit dans le cadre du plan de gestion et d'élimination des Hydrochlorofluorocarbones (HCFC), substances faisant partie des SAO. Ces dernières sont encore importées et utilisées illicitement, notamment dans les secteurs de la climatisation, de la réfrigération et dans divers équipements.

La formation a été dispensée par la coordonnatrice nationale par intérim du projet Ozone Côte d'Ivoire, Konan Odile Haphouet épouse Kouassi, accompagnée des experts Kouamé Kouadio Arounan, Koffi Kouacou et Kouadio Kouassi Daniel.

Les participants ont été formés sur les textes juridiques encadrant leurs missions, en particulier les nouvelles exigences réglementaires du Protocole de Montréal et celles de la Côte d'Ivoire relatives au contrôle des SAO, ainsi que le règlement de l'Union économique et monétaire ouest-africaine (UEMOA) datant de janvier 2006.

Ils ont également été instruits sur les alternatives aux HCFC, leurs caractéristiques, les méthodes d'identification des SAO, les réfrigérants de remplacement ainsi que les produits en contenant. La session s'est conclue par des travaux pratiques de groupe, portant sur l'utilisation d'un identificateur de réfrigérant pour contrôler les bouteilles de gaz utilisées dans la climatisation et la réfrigération.

Le directeur régional de l'Environnement, colonel Tissé Tokpa, et son homologue du Commerce et de l'Industrie, Akangni Amandin N'Guessan, ont exhorté les participants à capitaliser les acquis de cette formation.

Les techniciens du froid bénéficieront également, vendredi et samedi, d'une formation sur les

nouvelles technologies de réfrigération et de climatisation.

La stratégie nationale d'élimination progressive des substances appauvrissant la couche d'ozone, incluant le plan national de gestion et d'élimination des HCFC, s'inscrit dans le cadre de la mise en œuvre des traités internationaux ratifiés par la Côte d'Ivoire depuis plus de 30 ans, notamment le Protocole de Montréal.

Le pays ambitionne d'atteindre une élimination totale de la consommation de ces substances, avec un objectif de réduction de 100 % des HCFC d'ici au 1er janvier 2030. La Côte d'Ivoire a déjà éliminé les chlorofluorocarbones (CFC-12), autrefois utilisés en réfrigération, en les remplaçant par d'autres gaz.

Depuis un quart de siècle, l'humanité est confrontée au défi de l'appauvrissement de la couche d'ozone, qui protège la vie sur terre des rayons ultraviolets nocifs émis par le soleil. Sa dégradation entraîne des maladies telles que la cataracte et les cancers de la peau.

Source/image : [Agence Ivoirienne de Presse](#), 29 mai 2025

EUROPE AND CENTRAL ASIA

11. Green Cooling Webinar #4: Climate- and Environmentally-friendly Solar Cooling Technology Solutions

Event, 27 August 2025, 12:00pm - 1:00pm UTC

Virtually, MS Teams

Solar cooling technologies present a significant opportunity to contribute to the economic livelihood of communities and reaching at the same time global climate goals. Solar cooling technologies strengthen cold chains in communities with poor access to electricity and cooling by providing reliable, sustainable, and inclusive refrigeration options that reduce postharvest losses, enhance economic opportunities, and contribute to environmental sustainability.

About this webinar

The webinar will provide insights into the findings of the publication on "Climate- and environmentally-friendly solar cooling technology solutions" where decision makers are invited to consider solar cooling technologies with natural refrigerants and blowing agents and ideally thermal storage as a solution for their cooling needs, especially to strengthen cold chains (refrigeration) and cooling in buildings (air-conditioning). These solutions are truly sustainable, climate and environmentally-friendly, and often can benefit the development of communities.

For Agenda and Registration, [continue reading...](#)

Source: [Green Cooling Initiative](#)

LATIN AMERICA AND THE CARIBBEAN

12. Brazil: Inauguration of the First Training Laboratory for the Safe and

Efficient Use of Natural Refrigerants



In June, the first training laboratory in Brazil simulating a mini-supermarket with natural refrigerants CO₂ and R-290 was inaugurated at FAPRO-ETP Technical School, in Curitiba (PR), in the framework of the Brazilian HCFC Phase-out Management Programme (HPMP). The initiative marks an important step in the country's transition towards sustainable refrigeration in the commercial sector.

Inauguration ceremony

The inauguration ceremony brought together key actors from the sector, including representatives from MMA, GIZ, UNDP, UNIDO, private sector associations, such as ASBRAV, ABRAVA, and APRAS, and the technology provider Eletrofrio, highlighting the relevance and high expectations for the training.

Developed under the HPMP, coordinated by the Ministry of the Environment and Climate Change (MMA/NOU) and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, the modern lab consists of a cascade refrigeration system and will offer the new free-of-charge course “Training for the Safe and Efficient Use of CO₂ and R-290 in Commercial Refrigeration Systems.”

Training of Trainers

In preparation for the course, a “**Training of Trainers Workshop**” took place from June 10 to 14 with eight instructors from FAPRO-ETP. Led by Dr. Gutenberg da Silva Pereira, a mechanical engineer and professor, the sessions included theoretical and hands-on content based on international safety standards and practices. Guest speakers from industry partners such as Eletrofrio, Bitzer, and Carel contributed to the sessions, together with a technical visit to a local supermarket.

The course will be delivered by trained teachers from FAPRO-ETP and includes 40 hours of in-person training, with 70% practical content carried out in the new lab. Pedagogical materials were developed with support from international experts, and the first classes begin in July 2025. Registration is open and free-of-charge for technicians and engineers working in the commercial refrigeration sector, particularly in supermarkets and similar establishments.

The goal is to train at least 150 professionals by December. Additional mini-supermarket labs are planned under the HPMP, including a second one to be inaugurated this year at SENAI-RJ in Rio de Janeiro, with two more planned for other regions of the country in the next few years.

The initiative is part of HPMP's strategy to phase out HCFCs and reduce HFCs. It aligns with Brazil's international commitments under the Montreal Protocol and its Kigali Amendment and promotes the use of climate-friendly natural refrigerants.

13. Cuba makes progress in environmental protection

HAVANA, Cuba, July 4 (ACN) Cuba has made progress in environmental protection since the ratification of the Kigali Amendment, on June 20, 2019, according to officials from the Ozone Technical Office (OTOZ).



In an assessment of their results, they explained that they are based on a strategy based on the experience gained with the Montreal Protocol, concluded in 1987 to protect the stratospheric ozone layer by phasing out the production and consumption of ozone-depleting substances (ODS).

This includes initiatives in key sectors such as the manufacturing of refrigeration and air conditioning equipment, foam and aerosol production, and the technical maintenance of Refrigeration and Air Conditioning (RAC) systems, they added exclusively to the Cuban News Agency.

They gave importance to the implementation of the Kigali Amendment Implementation Plan for Hydrofluorocarbons (HFCs) in Cuba / KIP Phase I project, which marks a significant step toward fulfilling the nation's international commitments regarding environmental preservation.

Initiatives in this field are led by the Ministry of Science, Technology, and Environment, the Office of Environmental Safety Regulation, and the OTOZ (Other Organization of the Zones of Ozone), attached to the Center for Information Management and Energy Development (CUBAENERGIA) of the Agency for Nuclear Energy and Advanced Technologies.

The success of this phase will depend on the coordinated and committed work of all parties involved, stated Mechanical Engineer Armando Lazaro Gomez Díaz, OTOZ specialist and head of the KIP project.

Source/image: [ACN Cuban News Agency](#), 5 July 2025

WEST ASIA

14. Oman Participates in Meeting of GCC Legislative Departments Held in Riyadh



Riyadh, 25 Jun (ONA) --- The Sultanate of Oman took part in the 28th meeting of heads of GCC states' legislative departments held in Riyadh, Kingdom of Saudi Arabia (KSA) today.

Oman was represented at the meeting by Dr. Yahya bin Nasser Al Khusaibi, Undersecretary of the Ministry of Justice and Legal Affairs.

The meeting reviewed the strategy of the Permanent Committee of Officials of GCC Legislative Departments, in addition to the recommendations of the working group entrusted with listing legislative principles that were issued by GCC legislative departments.

The meeting discussed the recommendations of the GCC Committee of Experts and Specialists about four main draft laws:

The draft GCC unified law on the "Montreal protocol on controlled substances that deplete the ozone layer and their alternatives";

The draft executive regulation on the GCC unified law for the management of plant genetic resources;

The draft GCC unified law for organic inputs and products; and

The draft GCC unified law on meteorology.

By virtue of the powers assigned to it under Royal Decree No. 88/2020, the Ministry of Justice and Legal Affairs represents the Sultanate of Oman at meetings of the GCC Permanent Committee of Legislative Departments.

Source/image: [Oman News Agency](#), 25 June 2025

RESOURCES



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

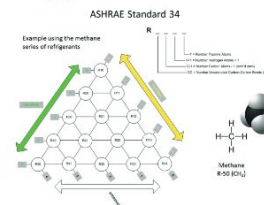
data submitted by the refrigerant's producer. For pure compounds, the numbers are based on chemical formula. For blends, numbers are assigned sequentially based on the completion of a satisfactory review of data provided by the refrigerant's producer. Information is available in the current edition,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

ASHRAE'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).





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