

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. Kigali Amendment latest ratifications

The latest countries that have ratified the Kigali Amendment in 2025:

[Mauritania, 11 November 2025](#)

[Central African Republic, 15 October 2025](#)

[Pakistan, 22 October 2025](#)

[Brunei Darussalam, 18 September 2025](#)

[Saudi Arabia, 10 September 2025](#)

[St. Kitts and Nevis, 29 August 2025](#)

[Nepal, 6 August 2025](#)



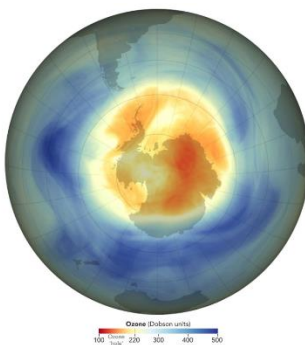
At the Twenty-Eighth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, held in Kigali from 10 to 15 October 2016, the Parties adopted, in accordance with the procedure laid down in paragraph 4 of article 9 of the 1985 Vienna Convention for the Protection of the Ozone Layer, a further amendment to the Montreal Protocol as set out in Annex I to the report of the Twenty-Eighth Meeting of the Parties (Decision XXVIII/1).

Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, Status of Ratification 15 October 2016 to date.

Source/image: [UN Treaty Collection](#)

2. 2025 Antarctic Ozone Hole Among Smallest in Decades

The annual ozone hole over Antarctica this year was relatively modest in size, ranking as the fifth smallest since 1992, according to new assessments from the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA). Scientists attribute this encouraging trend to the ongoing decline of ozone-depleting chemicals in the atmosphere - a direct result of global action under the Montreal Protocol.



Ozone thinning typically peaks during the Antarctic in late winter or early spring when sunlight returns to the polar region and interacts with frigid stratospheric conditions. To track these changes, researchers rely on a combination of satellite sensors, ground-based instruments, and balloon-borne measurements.

Between 7 September and 13 October, the ozone hole averaged 7.23 million square miles (18.71 million square kilometres) equal to roughly twice the size of the continental United States. Its largest single-day extent occurred on 9 September, reaching 8.83 million square miles (22.86 million square kilometres). While still vast, this year's hole was significantly smaller than the record set in 1996, which averaged 10.27 million square miles (26.60 million square kilometres).

Looking at the full historical record dating back to 1979, 2025 ranks as the 14th smallest ozone hole in 46 years of satellite observations. The improvement reflects a steady recovery trend since the early 2000s, though experts caution that full restoration to pre-1980 levels will take decades.

The ozone layer is crucial to protect life on Earth as we know it because it acts like a sunshield against harmful ultraviolet (UV) radiation. When depleted, more UV rays reach the surface, increasing risks of skin cancer, cataracts, and crop damage. The primary culprits, chlorine and bromine-based compounds once common in refrigerants and aerosols, remain in the atmosphere for decades, even after being banned under the 1987 Montreal Protocol.

"We're seeing ozone holes form later, break up earlier, and trend smaller than in previous decades," said Paul Newman, a senior scientist at the University of Maryland-Baltimore and longtime leader of NASA's ozone research team at Goddard Space Flight Center as well as a former co-chair of the Scientific Assessment Panel to the Montreal Protocol.

While this year's update is great news for ozone layer recovery, the size and depth of the annual hole can vary greatly from year to year, and vigilance is crucial. While the parties to the Montreal Protocol are 'fixing the hole' it is far from a job completed as noted by Paul Newman when he said, "We still have a long way to go before we recover to 1980s levels."

Source/image: [Ozone Secretariat](#), 25 November 2025

3. Kigali Sim: AI open-source modelling unlocks potential for reducing HFCs

A new catalyst for environmental action



Kigali Sim is redefining what is possible through use of latest IT tools for environmental policy and decision-making worldwide. The free and open-source modelling tool provides unprecedented analytical and computing power for understanding the consumption trends and possible policy options for regulating the use of hydrofluorocarbons (HFCs) by expanding access to advanced scenario analysis and enabling more efficient, timely decision-making. To be debuted at the

97th meeting of the Executive Committee, Kigali Sim was co-developed by the Eric and Wendy Schmidt Center for Data Science and Environment at the University of California, Berkeley, in close partnership with the Multilateral Fund, United Nations delegates and supporting organizations.

From complexity to clarity: what makes Kigali Sim different

Until now, modelling the impacts of policy interventions on HFC phase-down in refrigeration, air-conditioning and the food sector required specialist programming skills and proprietary software. Kigali Sim removes these barriers, offering advanced simulation capabilities on a web browser or desktop application and a user-friendly interface that requires no coding experience, enabling policymakers and a broader community of users to run country-specific analyses, offering them flexibility for considering multiple policy options and making respective projections.

Users can input national data, model the outcomes of different policy approaches, and compare projected effects on emissions, consumption and equipment across multiple scenarios. An optional artificial intelligence (AI) assistant streamlines data import, working with information from diverse formats and sources. Through simple questions and answers, AI helps users explore policy ideas, providing rapid and tailored analysis while maintaining their data privacy. What once took days can now be accomplished in hours, facilitating rapid, evidence-based decision-making.

Empowering HFC phasedown in Article 5 countries

The Multilateral Fund is central to the accessibility that defines Kigali Sim. Reducing HFCs presents complex technical and regulatory challenges, further complicated by limited access to high-quality analytical tools in many developing nations. Kigali Sim bridges this gap, responding to policy needs and building capacity in Article 5 countries. By lowering barriers to advanced modelling, the Fund and its partners empower the development of strategies that are both ambitious and achievable, underpinned by robust evidence and analysis.

Looking ahead: scaling impact and fostering collaboration

Kigali Sim arrives at a pivotal moment for international environmental policy. The need for democratic access to high-quality modelling has never been greater. With its user-friendly design, support for rapid scenario testing and AI-powered features, the tool enables more countries to take informed action on their Montreal Protocol commitments. Kigali Sim stands as a clear example of how partnership and innovation can close gaps and accelerate progress towards the world's environmental and climate objectives.

Source/image: [Multilateral Fund for the Implementation of the Montreal Protocol](#), 24 November 2025

4. In warming world, new report charts how to expand cooling access to all without spiking emissions



- Launched at COP30, UNEP's [Global Cooling Watch 2025](#) report warns that global cooling capacity could more than triple by 2050, nearly doubling cooling-related emissions under business-as-usual and straining grids during peak power demand.
- The report sets out a Sustainable Cooling Pathway that could deliver a 64% reduction in emissions by 2050, and 97% with electricity decarbonisation, while expanding lifesaving cooling to those most at risk.
- The economic case is compelling: an estimated US\$17 trillion in cumulative energy savings and up to US\$26 trillion in avoided grid investments by 2050.
- The report urges treating cooling as essential infrastructure and adopting policies that get us on a sustainable cooling pathway.

What is the most important takeaway from Global Cooling Watch 2025?

Heatwaves are the deadliest climate hazard. As populations, cities and incomes grow alongside intensifying heat, the race to deliver life-saving cooling must be won sustainably and equitably. Cooling - which spans space cooling for safety and comfort, process cooling for industry, and cold chains that protect food, medicines and crops - is now essential infrastructure, especially in cities where heat islands can raise temperatures by 5 to 10 °C.

The way forward must balance both mitigation and adaptation goals. Unsustainable cooling drives emissions, grid stress and inequality, but too tight of a focus on equipment emissions overlooks affordable, equitable ways to expand cooling.

How big is the heat and access divide, and who's most at risk?

More than 1 billion people already lack access to adequate cooling – and without action, this number could triple by 2050 – contributing to hundreds of thousands of heat-related deaths each year. Most vulnerable are low-income and high-risk groups, including women, the elderly, and people living in poorly built housing with limited green space, outdoor workers, and smallholder farmers whose livelihoods depend on cold storage to bring their produce to market.

During heatwaves, surging demand for cooling strains electricity systems, turning grid resilience into a public health issue. A “passive-first” approach – prioritizing passive cooling, low-energy and hybrid solutions combining fans and air conditioners – can cut demand, emissions and costly infrastructure needs.

What happens on a business-as-usual path for cooling demand?

Cooling demand is set to surge, with global cooling capacity projected to more than triple from 22 TW in 2022 to 68 TW by 2050. Even with efficiency gains and phase-downs of hydrofluorocarbons (HFCs) - powerful greenhouse gases used mainly in refrigeration and air-conditioning - emissions from cooling could still climb from 4.1 Gt to 7.2 Gt over the same period.

Demand is growing most quickly in Africa and South Asia, where unmanaged air-conditioner adoption risks overloading grids, triggering power outages and heightening costs of power generation.

What is the Sustainable Cooling Pathway, and how far can it bend the curve?

The Sustainable Cooling Pathway laid out in the report combines passive design, low-energy and hybrid options (fans, evaporative coolers, hybrid fan-AC systems, and off-grid appliances), rapid uptake of high-efficiency equipment, and an accelerated HFC phase-down.

This would reduce emissions to 64 per cent - 2.6 billion tons of carbon dioxide - below the levels expected in 2050. Crucially, about two-thirds of the mitigation comes from passive and low-energy cooling. The economic upside is substantial: around US\$17 trillion in energy savings and up to US\$26 trillion in avoided grid investments.

As cooling is powered by electricity, if the grid is fully decarbonized, this would cut cooling-related emissions up to 97 per cent by 2050, as compared to business-as-usual. [Continue reading...](#)

Source/image: [UNEP](#), 11 November 2025 | Image: Shutterstock

5. Global Cooling Watch 2025: The Free Degrees



The second edition of UNEP’s Global Cooling Watch Report takes a deep dive into one of the decade’s most urgent challenges: surging heat, soaring cooling demand, and stark inequalities in access. Produced by the UNEP-led Cool Coalition, the report provides a comprehensive assessment of the rapidly growing global demand for cooling and the need for climate-friendly solutions to the issue. The 2025 report builds on the first Global Cooling Watch (2023), which established the Sustainable Cooling Pathway framework. The new edition deepens analysis of intensifying extreme heat and its effect on cooling

demand, improved assessment of passive cooling, and coverage of low-energy and hybrid systems that reduce power use while maintaining comfort. [View report](#)

Source/image: [UNEP](#), November 2025

6. Refrigerating the future: women leading with climate-smart solutions



From an early age Roselene Kunkel was drawn to her father's refrigeration company Klima Refrigeração, fascinated by industrial production and eager to learn. "Even before university I was already involved with the factory and curious about how everything worked," she recalls.

She officially joined the company 24 years ago at the start of her Business

Administration degree, introducing innovations from day one. Her early work included digitalizing hand-written technical sheets and gradually implementing safety protocols, uniforms and structured catalogue alongside her father.

Roselene's leadership role grew over time. In 2017, following changes in the family business's ownership, she assumed full management just as she became a mother. By 2018 she was guiding 70 employees through a judicial recovery process, maintaining operations under significant pressure.

In 2019 Klima Refrigeração partnered with the United Nations Industrial Development Organization (UNIDO) in Brazil under the HCFC Phase-Out Management Plan of the Montreal Protocol, funded by the Multilateral Fund for the Implementation of the Montreal Protocol. The project supported the transition from ozone-depleting substances to R-290, a natural refrigerant with low global warming potential. With UNIDO's guidance Roselene's team installed a new injection machine and safety infrastructure, creating a safer and more sustainable production process.

However, the company faced further challenges. The COVID-19 pandemic stalled production and disrupted supply chains, and floods in southern Brazil in 2024 isolated Venâncio Aires and affected many employees. Yet Roselene persevered.

Today she manages around 50 employees, more than half women, including engineers and factory technicians. Klima Refrigeração's R-290 refrigeration units, including beverage coolers and beer displays, are in active production with customers in Brazil, Uruguay, Paraguay and Bolivia.

Roselene emphasizes both technological progress and resilience. "Through persistence I turned every setback into a stepping stone for reinvention," she says.

Source/image: [UNIDO](#), 20 November 2025

ASIA AND THE PACIFIC

7. Customs Officers trained to fight illegal trade of ozone-depleting and climate-warming substances – Philippines



The Philippine Ozone Desk of the Environmental Management Bureau facilitated a comprehensive, four-day training among frontline enforcement officers of the Bureau of Customs (BOC) to bolster the Philippines' capacity to control the trade of substances harmful to the ozone layer and climate. The training, held from November 4 to 7, 2025, in Clark, Pampanga, focused on strengthening the enforcement of the country's obligations under the Montreal Protocol and its Kigali Amendment.

The intensive program, titled "Customs and Enforcement Officers' Training Workshop on Strengthening Trade Control of Substances Under the Montreal Protocol", aims to equip participants with the skills needed to combat the illegal trade of Ozone-Depleting Substances (ODS) and climate-warming Hydrofluorocarbons (HFCs).

The training, in collaboration with the BOC, was convened in recognition of its crucial role in frontline enforcement, particularly in implementing the national licensing and quota system managed by the EMB through the POD.

Addressing persistent challenges such as misdeclaration, smuggling, and limited technical knowledge, the workshop was designed to build the capacity of BOC's Customs and Enforcement Officers from various BOC posts and units, including those involved in reviewing, assessing, and examining ODS and HFC importation.

During the opening ceremonies, Engr. Raldy Pagador, Chief of the Chemical and Waste Management Section of EMB Region 3, addressed the participants on behalf of EMB Regional Director Martin Jose V. Despi, emphasizing the significance of inter-agency collaboration for compliance monitoring.

"The fight against ozone layer depletion and climate change demands more than just policy—it requires unified action at our borders. This training represents the crucial fusion of environmental policy and Customs enforcement, guaranteeing that the Philippines fulfills its global commitments under the Montreal Protocol for the benefit of all Filipinos," Despi stated.

Atty. Charles Almond D. Mateo, Acting Chief of the Air Express Cargo Processing Division at BOC Port, emphasized in his opening message the importance of strengthening knowledge about controlled substances, their corresponding Harmonized System (HS) codes, and common misdeclaration practices. He stated, "The BOC is the nation's frontline, and we must be equipped with surgical precision wherein this workshop will provide our officers with the technical mastery—from identifying complex HS codes to spotting sophisticated misdeclaration attempts—that will directly translate into successful seizures and a fortified defense against the illegal importation of these harmful substances."

The comprehensive training program, which is vital to strengthening environmental protection efforts, utilized a mix of presentations, case studies, group exercises, and practical demonstrations covered essential topics.

The initial focus centered on the Policy and Regulatory Framework, providing participants with a thorough overview of international and national commitments. This included a detailed exploration of the Montreal Protocol and the Kigali Amendment, the status of their implementation, and the specific, critical roles of the Bureau of Customs (BOC), particularly regarding its Customs Memorandum Order (CMO) 38-2019. [Continue reading...](#)

Source/image: [GOVPH](#), 7 November 2025

EUROPE AND CENTRAL ASIA

8. France reports declining HFC emissions and outlines key F-Gas regulation changes

In September 2025, the AFCE (Alliance Froid Climatisation Environnement) and Citepa published France's latest refrigerant emissions inventory, covering 2023 data with provisional estimates for 2024. The report details emissions, bank volumes, recovery, and demand for all refrigerant types, including CFC, HCFC, HFC (including HFOs), and non-fluorinated gases such as CO₂ and NH₃.

In 2023, HFC emissions accounted for 2.3% of France's total greenhouse gas emissions, with refrigeration and air conditioning contributing 84% of the country's fluorinated gas emissions. The total refrigerant bank reached 67,000 tonnes, a 4.5% increase from 2022, with R-410A representing the largest share. Emissions totaled 5,910 tonnes in 2023, down 1.7% from 2022, with a continued decline expected for 2024.

The report attributes these reductions to improved leak management, better training, more efficient recovery, and the rising use of low-GWP alternatives. Emissions in CO₂ equivalent dropped by 10% between 2022 and 2023, reaching 7.1 million tonnes.

In parallel, the updated European F-Gas Regulation (EU) 2024/573, effective since March 2024, introduces stricter measures. These include expanded training and certification requirements, new labeling rules using GWP values from different IPCC reports depending on gas type, and broadened leak detection obligations to cover HFOs and mobile systems. New bans target the placing on the market of certain fixed refrigeration and air conditioning equipment, with gradual phase-out timelines extending to 2050.

Technicians must undergo retraining within five years, and new categories have been added for working with CO₂, NH₃, and hydrocarbons. From 2025, all systems using fluorinated gases, including HFOs, must carry updated labels. The regulation also tightens rules on reuse of high-GWP fluids and expands mandatory recovery responsibilities.

According to AFCE and Citepa, 75% of operating refrigerants in France still belong to the HFC family, underlining the importance of recovery and transition planning.

"The new structure of the 2025 edition improves clarity and sector comparison, offering a comprehensive view of refrigerant emissions and usage trends in France," notes the report introduction.

Source: [Refindustry Refrigeration Tech Hub](#), 24 November 2025

Related: [2025 AFCE report highlights HFC emission trends and France's transition toward low-GWP refrigerants](#)

9. Fines totalling over £400K for F-gas quota violations – United Kingdom

UK: The Environment Agency has issued fines totalling over £400,000 for breaches of the F-gas refrigerant regulations.



The 10 companies were all fined under regulation 31A of the F-gas regulations 2015 for failing to obtain sufficient quota authorisations before placing HFCs on the GB market.

The fines, totalling £426,300, were imposed on 10 companies. The largest fine of £165,000 was imposed on temperature-controlled transport company Schmitz Cargobull UK. One of the most prominent companies, Rolls Royce Motor Cars, received two fines totalling £24,000.

While the Environment Agency does not publish the dates of these civil fines, they would all have been imposed at least 12 months ago.

Source/image: [Cooling Post](#), 1 November 2025

10. One medical inhaler can have the impact of 30kg of carbon dioxide



Propellants in asthma inhalers produce greenhouse gas emissions equivalent to driving 200 miles, yet most healthcare systems overlook this climate impact. New low-carbon alternatives are in development, Andy Extance reports, but barriers remain

In 2022, allergist and immunologist [Jyothi Tirumalasetty](#) discovered that Stanford Medicine, where she works, had overlooked a big contributor to its climate impact. Metered dose inhalers (MDIs) containing drugs like salbutamol are massively important to people with asthma. Yet, perhaps surprisingly, the propellants used to fire medicine into users' lungs are powerful greenhouse gases. Emissions from one inhaler, in use for about two months, can be equivalent to those from driving 200 miles in a petrol-powered family car. And those who weren't aware of this apparently included most of the US healthcare system.

A colleague of Tirumalasetty's wanted to cut greenhouse gas emissions from MDIs at their hospital, part of a medical system linked to Stanford University in California, US. After he approached Tirumalasetty for help, and she did some research, she remembers telling him 'We can't, because we don't know exactly what our inhaler emissions are here.' 'That's not been included in our carbon footprint analysis for the hospital, and it's not been included in the one [national analysis of the US carbon footprint either](#),' she recalls saying.

Thankfully some are aware of inhalers' climate impact. They include drug companies, who are already developing inhalers with alternative propellants. In May [the UK's drug regulator approved](#) an inhaler for chronic obstructive pulmonary disorder (COPD) from UK-based drug company AstraZeneca. The amount of warming that propellants cause relative to the carbon dioxide we produce from burning fossil fuels is known as their global warming potential (GWP).

AstraZeneca uses [HFO-1234ze, or trans-1,3,3,3-tetrafluoropropene](#), which it says has just one-thousandth the GWP of existing propellants.

For the manufacturer of the salbutamol brand Ventolin, UK-headquartered pharma giant GSK, the inhaler is responsible for almost [half of its climate impact](#). The GWP of Ventolin's current propellant, [1,1,1,2-tetrafluoroethane or HFC-134a](#), is 1530. Overall MDIs of various brands are responsible for around [3% of the UK National Health Service \(NHS\)'s climate impact](#). Therefore [GSK is putting a more climate friendly formulation through trials](#) using [HFC-152a or 1,1-difluoroethane](#), whose GWP is one-tenth of that of HFC-134a.

These promising new products should soon be available, but another type of inhaler already exist with a smaller climate impact than current propellants. You could ask your doctor for one – but you might not get it, because they often cost more. Patients can join researchers like Tirumalasetty and campaigning organisations in insisting medical systems offer these green inhalers. But changes needed to avoid the worst gases for the climate are ultimately driven by governments and laws. And unlike many other climate issues, there is a past example of success to build on.

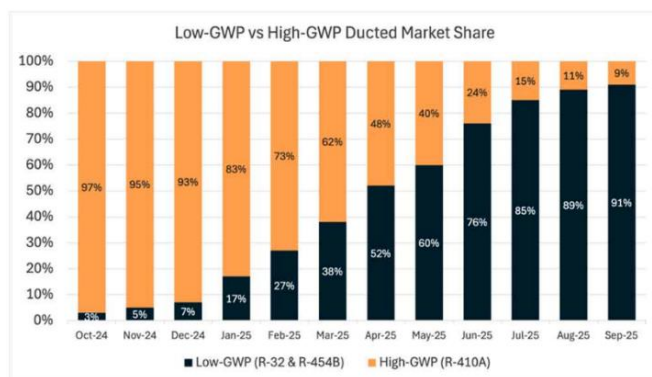
From ozone depletion to global warming

In 1994, University of Manchester respiratory physician Ashley Woodcock received an unexpected phone call from the UK's then-Department for the Environment. The caller brought up the 1987 Montreal Protocol treaty banning ozone-depleting substances like chlorofluorocarbons (CFCs). "Do you realise that means there's going to be no inhalers?" Woodcock recalls the speaker saying. 'I said "Well, that could be a challenge."' [Continue reading...](#)

Source/image: [Royal Society of Chemistry](#), 17 November 2025

NORTH AMERICA

11. US sales of low-GWP A2L unitary AC hit 91%



USA: A new report claims that the US has nearly completed its transition to lower-global warming potential refrigerants in central ducted air conditioning systems.

According to the latest Unitary Market Intelligence Report from HARDI, the US HVACR distributors association, low-GWP A2L equipment accounted for 91% of their sales in September 2025. This caps a year long acceleration that began with single-

digit adoption at the end of 2024.

Under the US AIM Act, a GWP limit of 700 was placed on new residential and light commercial air conditioning and heat pump systems from January 1 of this year.

"This transition has happened fast," said HARDI CEO Talbot Gee. "Distributors and contractors have moved decisively toward the next generation of low-GWP refrigerants; now HARDI is focused

on ensuring distributors are protected from risks created by installation deadlines that we oppose while ensuring the industry is protected from future unnecessary transitions.”

Despite the industry’s rapid adoption of A2L equipment, many distributors are reported to still hold limited R410A inventory, which is at risk due to the installation prohibition in the EPA’s Technology Transition Rule.

Under current rules, certain categories of residential and light commercial equipment may not be installed after specific deadlines, even if the equipment was manufactured before those dates and purchased in good faith.

To address this issue, HARDI has expressed support for the Environmental Protection Agency’s proposal to repeal the prohibition on installing these products based on their installation date. The change would allow distributors to responsibly sell through their remaining R410A inventory without creating unnecessary waste or financial loss.

“With the transition effectively complete, there is no environmental justification for preventing the installation of compliant equipment already in the supply chain,” said Alex Ayers, HARDI’s vice president of government affairs. “EPA’s proposal is a sensible fix, and we urge the agency to provide certainty for the entire channel quickly.”

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

WEST ASIA

12. Saudi Arabia To Reduce Ozone-Depleting Compounds By 67.5% By End Of 2025

Saudi Minister of Environment, Water and Agriculture Eng. Abdulrahman Al-Fadley said that Saudi Arabia is keen to bring down ozone-depleting compounds by 67.5 percent by end of 2025

Saudi Minister of Environment, Water and Agriculture and Chairman of the Board of Directors of the National Center for Environmental Compliance Eng. Abdulrahman Al-Fadley said that Saudi Arabia is keen to bring down ozone-depleting compounds by 67.5 percent by end of 2025.



“The actual reduction began in 2015 at 10 percent, reaching 35 percent in 2020, and is scheduled to rise to 67.5 percent by the end of 2025, culminating in complete elimination with 100 percent by 2030,” he said.

The minister emphasized that the relevant authorities in the Ministry of Commerce must strictly adhere to the established timelines for phasing out certain ozone-depleting chemicals. He confirmed that the second phase of the plan for the final phase-out of hydrochlorofluorocarbons (HCFCs) includes precise timelines.

“The annual quota system for these compounds has been in effect since January 1, 2013,” the minister said while stressing the necessity of full compliance with the Unified Law of the Gulf

Cooperation Council (GCC) countries regarding ozone-depleting substances, the executive regulations of the Saudi Environmental Law related to these substances, and hydrofluorocarbons.

Al-Fadley affirmed that the regulations stipulate the necessity of obtaining prior environmental approval when concluding any contracts or projects related to controlled materials, devices, and equipment. The regulations stipulate obtaining a permit to import, export, or re-export substances listed in the Montreal Protocol and its amendments. The minister stated that these measures are in line with the Kingdom's commitment to the Vienna Convention for the Protection of the Ozone Layer, the Montreal Protocol on Substances that Deplete the Ozone Layer, and its amendments.

It is noteworthy that the ozone-depleting compounds (ODCs) are man-made chemicals, primarily containing chlorine or bromine, that, when released, travel to the stratosphere and break down under UV light, releasing atoms that catalyze the destruction of the ozone layer, reducing Earth's protection from harmful [ultraviolet radiation](#).

Source/image: [GulfInsider](#), November 2025

13. MECC Organizes Workshop on Montreal Protocol, Kigali Amendment - Qatar



Doha, November 18 (QNA) - The Ministry of Environment and Climate Change (MECC), represented by the Chemical and Hazardous Waste Department, organized a technical workshop on the Montreal Protocol (MP) and the Kigali Amendment.

The workshop was part of the national efforts dedicated to protecting the ozone layer, reducing Ozone-Depleting Substances (ODSs), and reviewing the latest technical

developments related to controlled substances.

The participants broadly deliberated on the technical and applied aspects related to the enforcement of both the aforementioned protocol and amendment, along with the required measures to strengthen cooperation among the relevant national agencies, in addition to avenues for incremental transition toward eco-friendly alternatives and their impact on energizing technical efforts throughout the upcoming period.

The workshop was an opportunity to discuss what had previously been achieved at the level of technical programs in connection with the protocol and the amendment, alongside aspects that require further advancement to enhance technical efficiency in handling substances subject to control and compliance under the Protocol, outlined Assistant Undersecretary for Environmental Affairs, Youssef Ibrahim Al Hamar.

Al Hamar further indicated that sharing expertise among specialists contributes to forging a common understanding for technical evolution, particularly in sectors that rely on cooling and air-conditioning systems.

Learning from global experiences offers a scientific basis that helps national agencies keep up with updated technical requirements, he elaborated, noting that capacity-building for those operating in this field represents an essential component in executing the nation's commitments.

In addition, Al Hamar pointed out that professional training programs help boost awareness of proper practices in handling ozone-layer-associated equipment and substances.

The event included primers on Qatar's commitment under the MP and Kigali Amendment, along with the engagement of a technical expert from the MP's Technology and Evaluation Team, as well as Qatar University's offer to train technicians in the cooling and air-conditioning sectors, thereby augmenting the operators' capabilities and promoting proper environmental practices. (QNA)

Source/image: [Qatar News Agency](#), 18 November 2025

14. Environment Ministry Launches National Strategy for Sustainable Cooling, Refrigeration - Jordan



Ammon News -The Ministry of Environment, in cooperation with the Royal Scientific Society and with support from the CoolUp Project, launched the National Strategy and Plan for Sustainable Air Conditioning and Refrigeration in Jordan on Monday, as part of the Kingdom's efforts to advance highly efficient and climate-friendly cooling solutions.

The National Sustainable Cooling and Air Conditioning Plan serves as a strategic framework guiding Jordan's transition toward efficient, climate-friendly cooling solutions and positions the Kingdom as a regional leader in sustainable cooling and environmental action.

Minister of Environment Ayman Suleiman said the plan constitutes a national milestone in environmental and climate action, underscoring Jordan's commitment to the Sustainable Development Goals and to mitigating the impacts of climate change. He noted that public- and private-sector institutions, along with civil society organizations, contributed through scientific proposals and feedback.

Suleiman added that Jordan's commitments under the Paris Agreement and the Kigali Amendment guide national efforts to reduce emissions, enhance efficiency, and support initiatives that advance climate action. He said the plan serves as a national guide for coordinated action that balances environmental protection with energy efficiency and improves citizens' quality of life.

He explained that launching the plan marks the beginning of a new phase requiring close cooperation among all stakeholders, alongside sustained technical and institutional support to implement its measures and achieve national and environmental objectives.

Royal Scientific Society Vice President Rafat Assi said the strategy reflects five years of joint work under the CoolUp Project, noting that it provides a roadmap for transitioning to efficient, sustainable cooling and refrigeration systems and expanding the use of environmentally friendly natural refrigerants. He said the plan aligns with Jordan's economic modernization vision and its energy and climate goals.

Assi highlighted the Society's role as national partner for the CoolUp Project, including organizing workshops, preparing technical studies, and issuing reports on sustainable cooling solutions, sector assessments, technical guidelines, and projected savings and emission reductions through 2050, all of which contributed to the development of the strategy.

UNDP Resident Representative Randa Abu Hassan said the National Cooling Action Plan reflects the UNDP's support for Jordan's transition to safe alternatives consistent with the country's Nationally Determined Contributions and its Economic Modernization Vision. She stressed that the project aims to present a regional model for reducing energy consumption and adopting environmentally friendly refrigerants amid rising demand and climate pressures.

German Ambassador to Amman Bertram von Moltke expressed appreciation for the Ministry of Environment and participating institutions for their contributions in workshops, data provision, review, and feedback. He also recognized the efforts of Guidehouse, the CoolUp Project's main partner, and the Royal Scientific Society for their technical support.

Source/image: [Ammon](#), 24 November 2025

RESOURCES

[Legal Advice to support the Implementation of the Montreal Protocol and its Kigali Amendment in Article 5 Countries on the Pilot Basis](#)



[The Informal Prior-Informed Consent \(iPIC\) Mechanism - 2024 Annual Report](#)



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