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GLOBAL

1. Celebrating 40 Years of the Vienna Convention: From Science to Global Action - A brief history

"Of all the multitude of threats facing the global environment, none are greater than the changes taking place in the very atmosphere of the planet. In recent years, painstaking scientific work has demonstrated that man-made chemicals

are destroying the ozone layer which shields all life from the lethal ultraviolet rays of the sun. Scientists are also now agreed that pollution is warming the world's climate, threatening to bring about changes unparalleled in the history of human civilisation, raising sea levels and devastating food production worldwide. In 1988 the World Conference on the Changing Atmosphere reported that these dangers rank second only to nuclear war."

Foreword by Dr Mostafa Tolba, Executive Director, UNEP (1975 – 1992) in Action on Ozone, UNEP, 1989.

An accident revolutionises cooling

For over half a century, the chemicals that were doing most of the damage to the ozone layer were regarded as miracle substances, uniquely useful to both industry and consumers and harmless to human beings and the environment alike. Inert and immensely stable, neither flammable nor poisonous, easy to store and cheap to produce, these chlorofluorocarbons (CFCs) seemed designed for the modern world. They do no damage whatsoever to land, sea or the air we breathe, they neither react with other substances in the biosphere nor dissolve to pollute the rain.

Not surprisingly, they became more and more widespread. Invented by accident in 1928, they were first developed as the working fluid for refrigerators. From 1950, they were used as propellants in aerosol cans, providing the power behind a wide range of sprays. The computer revolution proved their usefulness as solvents because they cleaned delicate circuitry without damaging its plastic mountings, and the fast-food revolution enlisted them to blow foam for polystyrene cups and food cartons. At the time about 30 per cent of world CFC production was used in fridges, freezers and air conditioners, about 25 per cent in spray cans, another 25 per cent in blowing foams for various uses from buildings and cars to fast food containers, and the remaining 20 per cent for cleaning and other purposes.

From miracle to environmental catastrophe....

But the high stability of CFCs, making them so useful on earth, enables them to attack the ozone layer. Unchanged, they slowly drift up to the stratosphere, where intense solar ultraviolet radiation servers their chemical bonds, releasing chlorine which strips an atom from the ozone molecule, turning it into oxygen. The chlorine acts as a catalyst, accomplishing this destruction without itself undergoing any permanent change, so it can go on to repeat the process. In this way, every CFC molecule destroys thousands of molecules of ozone, and we were blissfully unaware of the damage we were wreaking.

But in the autumn of 1973 two scientists, Rowland Sherwood and Mario Molina, began investigating the role of CFCs. Realising that all the long-lived CFCs ever released remained in the atmosphere, they decided to discover what happened to them. They soon worked out that the gases would drift unchanged up to the atmosphere and have a catastrophic effect on ozone – so great in fact, that at first, they didn't believe their own calculations. At the time, their hypothesis, published in 1974, was controversial and for years afterwards it was debated by scientists and challenged by industry. However, they remained steadfast and convinced of their findings.

In the meantime, the United Nations Environment Programme (UNEP) started laying the foundation for international action. In April 1975, the third meeting of its Governing Council

backed a programme proposed by the Executive Director, Dr Mostafa Tolba, on risks to the ozone layer and in 1976 the "World Plan of Action on the Ozone Layer" the first international agreement on the issue, was adopted. The plan of action included research into the monitoring of ozone and solar radiation, the assessment of the effect of ozone depletion in human health, ecosystems and the climate, and the development of ways of assessing the costs and benefits of control measures. Adopting the Action Plan was a clear signal and acceptance by the delegates that there was a potential problem, though the extent had yet to be determined.

But progress was slow. UNEP's coordinating committee in charge of implementing the Action Plan continued to meet regularly and issuing reports throughout the 1970s. It was a difficult time, not least because the means of assessing the effects of CFCs on the ozone layer were still in their infancy. As new research came in, estimates of the likely depletion fluctuated widely from year to year, and the uncertainty was used by some to cast doubt on the while hypothesis of Rowland and Molina. But they and other scientists at the heart of the assessment process remained resolute, standing by their findings and convinced that a global environmental issue was unfolding.

.....to global cooperation

The Convention for the Protection of the Ozone Layer, adopted in Vienna in 1985, had nations agree to take "appropriate measures…to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer." Twenty nations signed it at the time; most did not rush to ratify it. However, it did set an important precedent: for the first time nations agreed, in principle, to tackle a global environmental problem before its effects were felt, or more importantly perhaps, before it was scientifically proven.

To this day, scientific work to protect the ozone layer continues under the Vienna Convention. Supported by the Convention's Trust Fund and Ozone Research Managers, scientists around the world monitor the atmosphere to check on levels of ODSs as well as other substances such as hydrofluorocarbons (HFCs) that replaced CFCs. While HFCs are not ozone-depleting, they are potent greenhouse gases affecting our climate.

This continued observation of our atmosphere is crucial to protecting our environment, ensuring countries adhere to their commitments and that any unusual emissions are detected and addressed early.

Excerpt from Action on Ozone, UNEP, 1989.

Source/Image: UNEP Ozone Secretariat, 17 March 2025

2. Science for life: 40 years of the Vienna Convention

This week marks the 40th anniversary of the Vienna Convention for the Protection of the Ozone Layer, a landmark agreement for the protection of the ozone layer, an invisible shield that protects us from the UV radiation, known as UV-B. Long-term exposure to high levels of this radiation threatens human health and damages most animals, plants and microbes. The ozone layer protects all life on Earth.

The story of the Vienna Convention to rid the world of the chemicals that are destroying the earth's protective ozone layer starts in 1974 when Mario Molina and F. Sherwood Rowland published their

groundbreaking research warning that chlorofluorocarbons (CFCs) would destroy the ozone layer. Then in 1985, Joseph Farman, Brian Gardiner and Jonathan Shanklin published the evidence of a recurring springtime Antarctic ozone hole.

Convinced of the seriousness of the threat, the United Nations Environment Programme, then led by the Egyptian scientist Dr. Mustafa Tolba, contributed to a diplomatic effort to negotiate a treaty to protect the stratospheric ozone layer. The result was the adoption of the Vienna Convention for the Protection of the Ozone Layer in 1985, and its Montreal Protocol two years later. The Montreal Protocol gave the signal to industry to invest in research and technology to pursue alternatives for chemicals that were thought to be indispensable.

Anniversaries apart from celebration provide an opportunity to reflect on what worked, what can change and what can be replicated to different settings. Forty years after the Vienna Convention was adopted, there are many achievements of which nations can be collectively proud. Its significance lies on united action and universal membership of 197 parties to the ozone treaties to achieve results; right science and an agreement on finance and technology through the Multilateral Fund to reconcile nations' different needs and act as one on a global challenge; and results that keeps countries motivated to achieve more.

Source: Multilateral Fund Secretariat; Image credit: Associated Press; 19 March 2025

3. CCAC NDC Watch: Latest on Non-CO_2 Pollutants in National Climate Plans

In February 2025, eleven countries submitted updated Nationally Determined Contributions (NDCs), showcasing a growing commitment to addressing non-CO_2 pollutants.

Notably, Canada has pledged a 35% reduction in methane emissions across all sectors by 2030, with a 75% decrease in the oil and gas sector compared to 2012 levels. New Zealand aims for a 51-55% reduction in greenhouse gases by 2035 from 2005 levels, aligning with its long-term goal to cut 'biogenic' methane emissions by 24-47% from 2017 levels by 2050. Zimbabwe committed to a 40% greenhouse gas reduction and a 35% methane cut in the waste sector, while Lesotho aims for a 29% emissions cut in energy by promoting cleaner cooking fuels. The Marshall Islands is collaborating with the International Maritime Organization to reduce shipping emissions and has launched a low-carbon vessel powered by wind, solar, and fuel-efficient engines.

Ecuador is addressing HFCs and methane through the Kigali Amendment and waste sector improvements, with Saint Lucia, Singapore, and Ecuador incorporating Kigali commitments into their NDCs to reduce HFC emissions. These updated NDCs highlight sector-specific strategies and co-benefits, integrating air quality improvements and public health considerations into national climate policies. Read more…

Source/image: CCAC, February 2025

4. CAMS monitors unusually low Arctic ozone levels during 2025

While not large and persistent enough to be considered an Arctic ozone hole, Arctic ozone columns have been lower than usual during early 2025, showing some record low ozone values

over Northern Europe. The Copernicus Atmosphere Monitoring Service (CAMS) has been tracking the evolution of the Arctic ozone layer since the start of 2025. Stronger than usual winds in the stratosphere have resulted in a stable polar vortex, associated with very cold temperatures over the northern polar region. In Scandinavia, observers have photographed mother of pearl clouds, which form in the stratosphere under very cold conditions and can be an indicator of potential chemical ozone depletion.

The stratosphere over the Arctic has been impacted by strong winds and extremely low stratospheric temperatures since November 2024 creating a stronger than usual polar vortex which has persisted into 2025. As a result, daily total column ozone minimum values have been significantly below average levels through February and March so far, based on merged ERA5* and CAMS reanalysis data records.

The lowest ozone column value was recorded on 17 February at 214 Dobson Units (DU), below 220DU, the threshold below which we talk about an ozone hole in the Southern Hemisphere. While these episodes were short-lived and restricted geographically, CAMS data have shown several episodes with values below 250DU through February and early March, which is an unusual behaviour at a time when ozone columns usually increase in the Arctic towards reaching their annual maximum during April. Given the distinct meteorological conditions in the Arctic stratosphere compared to the Antarctic, ozone columns below 250-275 DU can already be considered exceptional in the Arctic. Read more…

Source: Copernicus, Europe's eyes on Earth, 18 March 2025

5. InstallerSHOW and World Refrigeration Day to partner again in 2025

InstallerSHOW (24-26 June, NEC Birmingham) is partnering with World Refrigeration Day again, hosting a programme of activity on Thursday 26th June, the day when the cooling industry marks its contribution to life and health.

In 2025, the show will have even more focus on the cooling industry, addressing its technology and its people, with features including the World Skills Refrigeration Finals, IOR Masterclasses and a range of exhibitors.

Building on the success of the partnership at the 2024 show, WRD members will be taking part in sessions to highlight its 2025 theme of Cool Skills at InstallerSHOW.

The events on Thursday will include panels and talks looking at:

- Encouraging the skills for an inclusive industry
- Celebrating the skills of Thinking Differently
- Emphasizing the skills of up-and-coming engineers

World Refrigeration Day founder Steve Gill said: "InstallerSHOW provides a perfect platform for World Refrigeration Day to showcase the vital role of cooling and the people behind it. This year's theme 'Cool Skills' is all about recognising the expertise, innovation, and problem-solving abilities of those in our industry. It's exciting to see InstallerSHOW putting an even greater focus on the cooling sector in 2025, making it the ideal place to celebrate and inspire the next generation of skilled professionals."

He underlined his enthusiasm for the 'Thinking Differently' focus, which continues a series of collaborative initiatives focusing on neurodiversity: "Recognising and embracing neurodivergent talent isn't just about inclusivity—it's about unlocking a wealth of problem-solving skills, creativity, and innovative thinking that directly benefit our industry. As we push the boundaries of cooling and heating technology and sustainability, having a workforce that thinks differently is not just an advantage; it's essential to our future success."

Andrew Gaved, Editor at Large for elemental and Installer said: "World Refrigeration Day once again falls within the show week, so it gives us a great opportunity to draw attention to the cooling industry's achievements, along with its challenges and opportunities. It will also allow us to highlight how important it is to have cooling alongside heating in the heart of Net Zero conversations."

The two organisations will also be collaborating on industry events at InstallerSHOW's sister show, elementalLONDON, which is dedicated to improving the efficiency of buildings, and which takes place on 19-20 November, at ExCeL London.

Source: WRD, 17 March 2025

6. Keeping homes cool on a warming planet

Extreme heat in India, China and the US fueled a surge in global energy demand in 2024, according to the latest IEA figures

Image: Sahiba Chawdhary/REUTERS

Rising temperatures have led to a surge in demand for cooling. But, ironically, the more we rely on energy-intensive air conditioners, the more the planet warms. How can we do things differently?

In many places, keeping cool when the mercury climbs isn't just a matter of comfort — sweltering temperatures can affect our health, our productivity, our economies and even our survival.

An increase of just 1.5 degrees Celsius (2.7 degrees Fahrenheit) above pre-industrial levels could put 2.3 billion people at risk of severe heat waves. Scientists have said we could hit that temperature rise by the early 2030s if we don't cut carbon emissions.

Hot weather is already responsible for some 12,000 deaths each year. By 2030, the World Health Organization has conservatively predicted there could be 38,000 additional deaths annually due to heat exposure in elderly people.

Buying an air conditioner might be a quick and easy fix, but these energy-intensive appliances are only adding to the problem. Not only that: air conditioners can leak damaging refrigerants that can also contribute to global warming.

"We need to get out of this cycle," Lily Riahi from the United Nations Environment Program told DW. "The way we currently cool our homes and workplaces is a huge driver of climate change."

Cooling conundrum

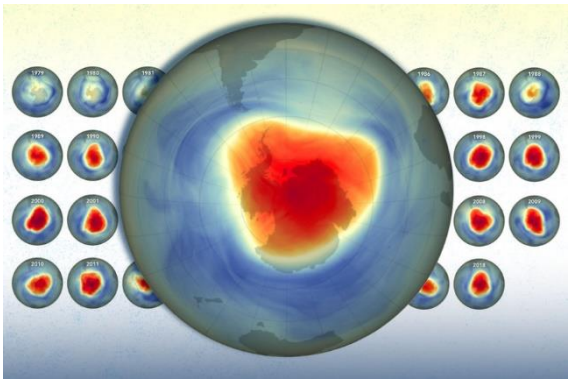
In 2024 — the hottest year on record — electricity demand surged to nearly double the growth rate of the last decade, according to the latest figures from the International Energy Agency. A spark of good news, however: the largest slice of that growth was supplied by renewable energy, at 38%.

But much of that electricity is still supplied by fossil fuels. The IEA said two-thirds of the world's electricity was provided by coal in 2024, with coal power growing by nearly 1%. A major contributor to growing electricity demand: air conditioning.

That finding was also confirmed in an analysis of the world's three largest power markets, India, China and the US, by energy think tank Ember. "Extreme heat events drove air conditioner use to a record high, increasing electricity demand and putting pressure on grids," said the report, released in early March 2025. Read more…

Source/image: DW, 24 March 2025

7. Study: The ozone hole is healing, thanks to global reduction of CFCs



New results show with high statistical confidence that ozone recovery is going strong.

A new MIT-led study confirms that the Antarctic ozone layer is healing, as a direct result of global efforts to reduce ozone-depleting substances.

Scientists including the MIT team have observed signs of ozone recovery in the past. But the new study is the first to show, with high statistical confidence, that this recovery is due primarily to the reduction of ozone-depleting substances, versus other influences such as natural weather variability or increased greenhouse gas emissions to the stratosphere.

“There’s been a lot of qualitative evidence showing that the Antarctic ozone hole is getting better. This is really the first study that has quantified confidence in the recovery of the ozone hole,” says study author Susan Solomon, the Lee and Geraldine Martin Professor of Environmental Studies and Chemistry. “The conclusion is, with 95 percent confidence, it is recovering. Which is awesome. And it shows we can actually solve environmental problems.”

The new study appears today in the journal *Nature*. Graduate student Peidong Wang from the Solomon group in the Department of Earth, Atmospheric and Planetary Sciences (EAPS) is the lead author. His co-authors include Solomon and EAPS Research Scientist Kane Stone, along with collaborators from multiple other institutions.

Roots of ozone recovery

Within the Earth's stratosphere, ozone is a naturally occurring gas that acts as a sort of sunscreen, protecting the planet from the sun's harmful ultraviolet radiation. In 1985, scientists discovered a "hole" in the ozone layer over Antarctica that opened up during the austral spring, between September and December. This seasonal ozone depletion was suddenly allowing UV rays to filter down to the surface, leading to skin cancer and other adverse health effects.

In 1986, Solomon, who was then working at the National Oceanic and Atmospheric Administration (NOAA), led expeditions to the Antarctic, where she and her colleagues gathered evidence that quickly confirmed the ozone hole's cause: chlorofluorocarbons, or CFCs — chemicals that were then used in refrigeration, air conditioning, insulation, and aerosol propellants. When CFCs drift up into the stratosphere, they can break down ozone under certain seasonal conditions.

The following year, those relevations led to the drafting of the Montreal Protocol — an international treaty that aimed to phase out the production of CFCs and other ozone-depleting substances, in hopes of healing the ozone hole.

In 2016, Solomon led a study reporting key signs of ozone recovery. The ozone hole seemed to be shrinking with each year, especially in September, the time of year when it opens up. Still, these observations were qualitative. The study showed large uncertainties regarding how much of this recovery was due to concerted efforts to reduce ozone-depleting substances, or if the shrinking ozone hole was a result of other "forcings," such as year-to-year weather variability from El Niño, La Niña, and the polar vortex.

"While detecting a statistically significant increase in ozone is relatively straightforward, attributing these changes to specific forcings is more challenging," says Wang.

Anthropogenic healing

In their new study, the MIT team took a quantitative approach to identify the cause of Antarctic ozone recovery. The researchers borrowed a method from the climate change community, known as "fingerprinting," which was pioneered by Klaus Hasselmann, who was awarded the Nobel Prize in Physics in 2021 for the technique. In the context of climate, fingerprinting refers to a method that isolates the influence of specific climate factors, apart from natural, meteorological noise. Hasselmann applied fingerprinting to identify, confirm, and quantify the anthropogenic fingerprint of climate change.

Solomon and Wang looked to apply the fingerprinting method to identify another anthropogenic signal: the effect of human reductions in ozone-depleting substances on the recovery of the ozone hole.

"The atmosphere has really chaotic variability within it," Solomon says. "What we're trying to detect is the emerging signal of ozone recovery against that kind of variability, which also occurs in the stratosphere."

The researchers started with simulations of the Earth's atmosphere and generated multiple "parallel worlds," or simulations of the same global atmosphere, under different starting conditions. For instance, they ran simulations under conditions that assumed no increase in greenhouse gases or ozone-depleting substances. Under these conditions, any changes in ozone

should be the result of natural weather variability. They also ran simulations with only increasing greenhouse gases, as well as only decreasing ozone-depleting substances.

They compared these simulations to observe how ozone in the Antarctic stratosphere changed, both with season, and across different altitudes, in response to different starting conditions. From these simulations, they mapped out the times and altitudes where ozone recovered from month to month, over several decades, and identified a key "fingerprint," or pattern, of ozone recovery that was specifically due to conditions of declining ozone-depleting substances.

The team then looked for this fingerprint in actual satellite observations of the Antarctic ozone hole from 2005 to the present day. They found that, over time, the fingerprint that they identified in simulations became clearer and clearer in observations. In 2018, the fingerprint was at its strongest, and the team could say with 95 percent confidence that ozone recovery was due mainly to reductions in ozone-depleting substances.

"After 15 years of observational records, we see this signal to noise with 95 percent confidence, suggesting there's only a very small chance that the observed pattern similarity can be explained by variability noise," Wang says. "This gives us confidence in the fingerprint. It also gives us confidence that we can solve environmental problems. What we can learn from ozone studies is how different countries can swiftly follow these treaties to decrease emissions."

If the trend continues, and the fingerprint of ozone recovery grows stronger, Solomon anticipates that soon there will be a year, here and there, when the ozone layer stays entirely intact. And eventually, the ozone hole should stay shut for good.

"By something like 2035, we might see a year when there's no ozone hole depletion at all in the Antarctic. And that will be very exciting for me," she says. "And some of you will see the ozone hole go away completely in your lifetimes. And people did that."

This research was supported, in part, by the National Science Foundation and NASA.

Source/image: Jennifer Chu, MIT News, 5 March 2025

AFRICA

8. Training on Refrigeration and Air-Conditioning

Massawa, 18 February 2025 – The Ministry of Land, Water, and Environment has provided training on refrigeration and air-conditioning to 37 technicians from various Government and private institutions.

The training, delivered by Eritrean professionals, combined theoretical and practical components. Its primary aim was to enhance the technicians' skills and promote the adoption of environmentally friendly and energy-efficient technologies.

Mr. Kibrom Asmerom, Acting Head of the Ministry's Environmental Branch, stated that the objective of the training was to familiarize technicians with the evolving refrigeration and air-conditioning technologies, as well as their maintenance.

Mr. Semere Yohannes, Head of Environment in the Northern Red Sea Region, emphasized that the program was part of ongoing efforts to develop the capacity of technicians engaged in the maintenance and operation of refrigeration and air-conditioning systems. He also stressed the importance of sustaining the training program to enable technicians to keep pace with ever-changing technological advancements.

Highlighting the significance of the training in their daily work, the trainees noted that the knowledge they gained would help them address challenges that may arise in their workplaces.

As part of the training, participants visited a fish storage facility and a gas cleaning hub to observe practical applications of the concepts they had learned.

Source/Image: Ministry of Information, Eritrea, 18 February 2025

9. South Sudan: Female Staff Providing Quality Services to Patients

Specialised AC Technician, Marline Loki

Marline Loki, specialised AC technician at Médecins Sans Frontières (MSF) in Juba, South Sudan. I joined MSF in July 2022, and my main responsibilities include the installation, servicing, and maintenance of air conditioning systems, as well as handling electrical work.

My name is Marlindo Kifranco Ani, and I am a specialised technician at MSF in Juba, South Sudan. I joined MSF in July 2022, and my main responsibilities include the installation, servicing, and maintenance of air conditioning (AC) systems, as well as handling electrical work.

What inspired me to become an AC technician at MSF was hearing about its incredible history. When I learned about the organisation's mission, I told myself, "Wow, I want to be part of that history!" That passion drove me to join MSF, even though, at the time, I didn't know much about the field.

Since joining, I have learned so much. MSF has provided me with the training and experience to become capable of handling all aspects of my work. I even had the opportunity to travel to South Africa for specialised training in air conditioning and refrigeration. The experience I gained, especially from working in projects, has given me confidence. Now, I no longer fear any challenges—I know I can handle tasks on my own! MSF has truly helped me build my capacity and shaped me into a skilled professional.

What I love most about my work is installation and servicing. This is a career path I chose for myself, and that freedom makes me happy every day. However, not everyone has been supportive. Some people try to discourage me, saying that this kind of work is meant for men. But when I

reflect on my journey and see what I have accomplished, I remind myself that this is my choice. I am determined to complete my mission.

Looking ahead, I aspire to become a logistics coordinator in the coming years. I also hope to share my knowledge with fellow women in the community, encouraging and empowering them to pursue technical careers. If I can do it, they can too. My goal is to help break barriers and show that women can excel in any field they choose.

Source/image: Medecins Sans Frontieres Doctors without Borders, 5 March 2025

10. Vienna Convention@40: SRADeV initiates scheme to reduce fluorinated GHGs, ozone-depleting substances emissions

Dr. Leslie Adogame, Executive Director of SRADeV Nigeria

The world marks the 40th anniversary of the Vienna Convention for the Protection of the Ozone Layer (1985) on Friday, March 21, 2025, a landmark international agreement that set the foundation for global efforts to protect the ozone layer. This milestone highlights decades of scientific collaboration, policy action, and environmental progress that have shaped international responses to ozone depletion and climate change.

In alignment with this global legacy, Sustainable Research and Action for Environmental Development (SRADeV Nigeria) has announced the launch of its pioneering initiative tagged: "Promoting Fast Action to Reduce Emissions of Fluorinated Greenhouse Gases and Ozone-Depleting Substances (ODS) in Nigeria."

This one-year project, running from October 1, 2024, to September 30, 2025, is supported by theEnvironmental Investigation Agency, UK (EIA UK) and aims to tackle the pressing issue of F-gases and ODS emissions in Nigeria. These substances significantly contribute to global warming and ozone depletion, posing severe environmental and public health risks.

The Vienna Convention led to the establishment of the Montreal Protocol on Substances that deplete the Ozone layer (1987), a legally binding treaty that has been instrumental in phasing out ozone-depleting substances (ODS) and mitigating climate change. The Montreal Protocol, widely regarded as one of the most successful environmental agreements, has not only helped in restoring the ozone layer but also in reducing harmful greenhouse gas emissions, demonstrating the power of multilateral cooperation in tackling environmental crises.

Linking Global Commitments to Local Action: SRADeV Nigeria's Initiative

As Nigeria continues to honour its commitments under the Montreal Protocol and its Kigali Amendment, which focuses on phasing down hydrofluorocarbons (HFCs), SRADeV Nigeria's project seeks to bridge gaps in policy, technology, and enforcement mechanisms.

Dr. Leslie Adogame, Executive Director of SRADeV Nigeria, emphasised the importance of continued commitment.

“Nigeria has made significant progress in implementing the Montreal Protocol, but there is still a lot of work to be done, and this is why we have designed our upcoming initiative to assess the country’s progress, identify gaps, and propose necessary actions to enhance environmental sustainability,” he said.

As part of the implementation strategy, SRADeV Nigeria will be engaging extensively with national key stakeholders, including: Ministries, Department and Agencies (MDAs) like the National Ozone Office (NOO), NESREA among others: industry practitioners like NARAP and developmental bodies like UNIDO. A comprehensive gap analysis has been conducted to evaluate Nigeria’s current stance on reducing ODS and F-gases emissions, and the findings will be further reviewed by stakeholders to inform targeted interventions.

To formally launch the project, an inception workshop is scheduled for April 10, 2025, bringing together policymakers, regulatory agencies, industry stakeholders, and the public. SRADeV Nigeria will roll out capacity-building programmes, stakeholder engagements, and public awareness campaigns to ensure widespread knowledge and compliance.

Mr. Jeremiah Ato, Policy and Technical Officer at SRADeV Nigeria, highlighted the challenge of public awareness.

“Refrigerants are used in nearly every household and commercial sectors, yet most Nigerians are unaware of their environmental impact. This highlights the urgent need for capacity building and widespread public awareness,” Ato stated.

As the world celebrates four decades of the Vienna Convention’s impact, SRADeV Nigeria says it remains committed to driving national action in alignment with global environmental goals.

“We invite government agencies, industry leaders, the media, and the public to support this initiative in building a cleaner, healthier, and more sustainable Nigeria,” submitted the organisation.

Mr. Victor Fabumi, Programme Manager at SRADeV Nigeria, emphasised the environmental impact of F-gases and ODS to the climate, stating: “F-gases, in particular, have an exceptionally high Global Warming Potential (GWP) and significantly contribute to rising global temperatures, exacerbating climate change. Likewise, ODS not only accelerate global warming but also deplete the ozone layer. By tackling the issues of the emissions of both F-gases and ODS, SRADeV aims to play a key role in combating climate change.”

Source/image: EnviroNews Nigeria, 21 March 2025

ASIA AND THE PACIFIC

11. Govt imposes ban on use of 12 toxic pesticides

ISLAMABAD: In a significant step towards environmental sustainability and compliance with international agreements, the Ministry of National Food Security and Research on Friday announ-ced a complete ban on 12 toxic pesticides, which are excessively used despite their known harm to health and environment.

The decision was taken at a high-level meeting, chaired by National Food Security Secre-tary Waseem Ajmal Chaud-h-ary, during which key stakeholders and experts engaged in an in-depth discussion on the growing reliance on Methyl Bromide (MB) and its implications.

These pesticides — previously used for pest control in major crops such as wheat, cotton, rice and vegetables — have been linked to severe environmental degradation, contamination of water sour-ces, and adverse health effects among farmers and consumers.

Food ministry decides to curtail excessive use of Methyl Bromide on imported shipments as well

Their continued use has been a source of concern for both local experts and international regulatory bodies.

Shipments

Another landmark decision taken by the ministry is to curtail MB's excessive use on imported shipments.

The meeting aimed to ensure Pakistan's adherence to the Montreal Protocol, which restricts the use of MB except for quarantine and pre-shipment purposes only where no viable alternatives exist.

Methyl Bromide usage in Pakistan has surged in recent years, particularly in imported commodities such as lentils, canola, soybeans, betel nuts, and cotton.

Experts at the meeting exp-ressed deep concerns regarding its environmental and health impacts, emphasising the urgent need for regulatory intervention.

Double fumigation

It was decided that phytosanitary treatment should be conducted at the country of export to minimise the use of MB upon arrival. The practice of double fumigation would also be discouraged, reducing costs for importers and preventing unnecessary exposure to harmful chemicals, the participants agreed.

In addition to addressing the excessive use of Methyl Bromide, the ministry also took a decisive action against hazardous pesticides that pose serious risks to human health, biodiversity and agricultural sustainability.

The government's decision to phase out these pesticides aligns with global best practices and international commitments to sustainable agriculture.

Scientists' panel

According to the ministry's announcement, a Technical Committee of Scientists will play a crucial role in reviewing and updating regulations to ensure that safer, more environmentally friendly alternatives are adopted.

The Ministry of National Food Security and Research stated that Pakistan by implementing these reforms aimed to not only protect public health and the environment but also enhance its

agricultural sector's competitiveness in international markets, where compliance with stringent safety and quality standards was increasingly becoming a prerequisite for trade.

These measures are expected to reduce the cost of doing business, eliminate rent-seeking practices, and modernise Pakistan's agricultural import policies while reinforcing the country's commitment to global environmental agreements.

The food security ministry claimed that it remained dedicated to facilitating trade in a manner that prioritises sustainability, public health, and compliance with international obligations.

Source: Dawn,15 March 2025

12. New Zealand Authorities Seize $1 Million Worth of Illegal HFCs

A joint operation involving the New Zealand Police, New Zealand Customs Service, and the Environmental Protection Authority (EPA) has led to the seizure of over $1 million worth of hydrofluorocarbon (HFC) gases. These synthetic greenhouse gases, despite being released in small quantities, can have a global warming potential up to 14,800 times that of carbon dioxide.

"The EPA is cracking down on operators who import and sell cheap bottles of HFCs without applying for a permit or paying a levy to cover the greenhouse gas emissions of the HFCs," said Gayle Holmes, the EPA's Compliance, Monitoring and Enforcement General Manager.

She also noted that illegal imports undermine legitimate businesses and, in some cases, involve contaminated HFCs that could damage vehicles and equipment.

In New Zealand, HFCs are regulated under the Ozone Layer Protection Act and the Climate Change Response Act. Since 2020, the country has been phasing down the use of HFCs as part of an international initiative aimed at preventing 0.5°C of global warming by 2100.

"There are rules around HFC imports so New Zealanders can have confidence that we're reducing the use of these potent greenhouse gases that contribute to climate change," Holmes added.

The EPA's investigation has so far resulted in multiple search warrants being executed across New Zealand, leading to the seizure of three tonnes of HFCs as of December. The investigation is ongoing.

Violations of HFC import regulations can result in fines or, in some cases, imprisonment for up to five years. The EPA encourages anyone offered HFC bottles at significantly below-market prices to report the matter in confidence at investigations@epa.govt.nz.

Under current regulations, importing bulk HFCs requires a permit under the Ozone Layer Protection Act and registration in the Emissions Trading Scheme. However, permits are not required for HFCs contained in goods, such as vehicle air conditioning systems or fire extinguishers. Products containing HFCs are still subject to a levy under the Climate Change Response Act.

Source/image: Refindustry Refrigeration Tech Hub, 10 March 2025

EUROPE AND CENTRAL ASIA

13. EIA calls for European policymakers to maximise potential of heat pumps in climate change fight

Today, EIA and a group of European NGOs have written to the European Commission to urge it to support the roll-out of best-in-class natural refrigerant heat pumps.

The initiative would be paid for from funding allocated to support those most at risk from the costs associated with the upcoming inclusion of fossil fuels for heating and transport in the EU's Emissions Trading Scheme.

Heat pumps are key to the decarbonisation of heating and are estimated to reduce greenhouse gas emissions by between 66-80 per cent compared to a fossil gas boiler.

Installing a heat pump

However, most heat pumps currently use hydrofluorocarbons (HFCs), a group of super-polluting greenhouse gases with climate impacts hundreds or thousands of times that of carbon dioxide (CO2).

HFCs are used as the refrigerant gas in heat pump systems and can leak out during production, use, maintenance and at end-of-life.

Luckily, natural refrigerants, which include propane, carbon dioxide (CO2) and ammonia, offer lower climate impact alternatives. Heat pumps using these refrigerants in place of HFCs are already available on European and British markets.

Natural refrigerant heat pumps have a range of additional consumer benefits. Market data reveals they are, on average, 6-7 per cent more energy efficient than HFC systems. They are also quieter and offer higher flow temperatures, meaning they can be installed into existing radiator systems and are well suited to a broader range of homes.

EU Member States are currently putting together plans to spend funds provided to them under the €86 billion Social Climate Fund.

For many households, one of the key ways to decarbonise homes is through the replacement of heating systems with heat pumps.

EIA Climate Campaigner Adam Aucock said: "The transition to heat pumps is a once-in-a-generation opportunity to clean up our heating systems. Ensuing additional funding to support uptake of best-in-class natural refrigerant heat pumps not only brings climate benefits but supports consumers through lower energy bills."

Today, EIA also releases its new report, Pumping Up the Potential: Maximising the climate benefits of Europe's heat pump roll-out with natural refrigerants, highlighting the benefits, barriers and future challenges associated with the uptake of natural refrigerant heat pumps.

"Key actions for both EU and UK governments include updating standards, mandatory training for technicians handling natural refrigerants and subsidies targeted at natural refrigerants," added Aucock.

"Given that heat pumps are built to last for 20-25 years, systems installed now could still be in use in 2050. By that time, both the UK and EU have pledged to reach net zero. The roll out of heat pumps reliant on highly climate damaging HFCs could seriously threaten the ability to meet these targets."

Source/image: EIA, 19 March 2025

14. Italian authorities seize 14 tonnes of illegal HFC

ITALY: Italian customs and law enforcement agencies have seized over a thousand cylinders of refrigerant, containing around 14 tonnes of illegal HFC gas.

Following a tip-off, three individuals were observed unloading cylinders from a truck and loading them onto a van in a parking lot in Scafati, Salerno.

The suspects were followed to a warehouse of a company in Pompeii where other empty cylinders were found, classified as special waste.

The goods were allegedly illegally released for consumption through a paper mechanism of "closing the shipment", which fictitiously configured the arrival of the load at the customs office of initial destination, although the product was physically located in another place in the national territory.

Source/image: Cooling Post, 17 March 2025

15. Technical Regulation on "Energy Efficiency Requirements for Energy-Consuming Equipment" and Subsequent Actions

On March 14, 2025, within the framework of the "Additional activities for maintaining energy-efficiency in the refrigeration servicing sector" project, a stakeholder meeting was held, dedicated to entry into force and further enforcement of the technical regulation on "Energy Efficiency Requirements for Energy-Consuming Equipment" (EAEU regulations).

The meeting was attended by the representatives of the Ministry of Economy of Armenia, as well as members of the working group formed within the "Additional activities for maintaining energy-efficiency in the refrigeration servicing sector" project. The meeting took place among representatives of the Ministry of Territorial Administration and Infrastructure of the Republic of Armenia, the working

group responsible for developing draft amendments to the Eurasian Economic Union's Technical Regulation "On Energy Efficiency Requirements for Energy-Consuming Equipment" (TP EAEU 048/2019), as well as members of the working group established within the "Additional activities for maintaining energy-efficiency in the refrigeration servicing sector" project.

During the discussion, the professional community addressed the technical regulation in the context of compliance with international requirements, the standards that can or should be applied under this regulation, as well as the possibilities and timeline for its implementation in Armenia (including the availability of certified laboratories, etc.).

The discussion also covered the existing professional potential in the sector and the prospects for enhancing its technical and logistical capabilities.

Another key topic was the development of two awareness infographics on the energy efficiency of refrigeration and air conditioning systems. These infographics are expected to also incorporate findings from the first-stage survey on customers behavior.

As a result, participants defined the formats and content of the infographics, incorporating key observations and insights from the discussion.




Source/images: National Ozone Unit, Armenia, 14 March 2025

16. Greece imposes €2.9m fine on illegal HFC shipment

GREECE: Greek customs authorities claim to have imposed a fine of €2.9m following the seizure of 8.2 tonnes of illegal HFC refrigerant at the port of Thessaloniki.

Checking the import documents for the shipment of R407C from Turkey, customs inspectors of the Independent Authority for Public Revenue found that the right to import fluorinated gases was not authentic, and the shipment did not have the required import quota.

The inspectors proceeded to seize the illegal goods, imposed a fine of €2.9m, assessed customs duties of approximately €9,000 and opened a case for smuggling.

With major ports with frequent connections to China and a land border with the EU, Turkey has previously been pinpointed as a popular stop-off point for illegal refrigerant making its way from China to the EU.

Source/image: Cooling Post, 15 March 2025

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