

# OzoNews

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

**Volume XXII | 30 May 2022**

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## GLOBAL

### 1. Kigali Amendment latest ratifications

Congratulations to the latest countries which have ratified the Kigali Amendment:

[Italy, 25 May 2022](#)

[Solomon Islands, 23 May 2022](#)

[Morocco, 22 April 2022](#)

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](#).

### [United Nations Treaty Collection](#)

*Image: UN Treaty Collection website*

## 2. World Refrigeration Day 2022 - UNEP & partners raise profile on cold chain with support of world-renowned chefs



To celebrate World Refrigeration Day, June 26, [UNEP OzonAction](#), the [Secretariat of World Refrigeration Day](#) (WRD), [Chefs4thePlanet](#), and the [Global Food Cold Chain Council](#) (GFCCC) are partnering to raise the profile and awareness about the essential role of cooling in protecting human health and the planet. The Cooling Keeps Food Fresh campaign will describe why cooling is necessary for food safety and how it supports nutritious diets that sustain our health, help reduce food loss and waste, and protect the environment.

Leading chefs from around the world have signed on to the campaign thanks to Chefs4thePlanet organization, the new partner joining this year's campaign. They will explain how cooling is necessary for their locally inspired cuisine. The chefs' recipes will be accompanied by tips for consumers on the cooling choices they can make in their homes to save money, prolong the life of products, and understand how food waste and loss contribute to climate change.

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During the campaign, chefs from various regions of the world will deliver video messages, reinforcing their commitment to maintaining a planet sustainable for human life and describing how cooling contributes to day-to-day cooking and their kitchens' operations.

According to estimates compiled by the Food and Agriculture Organization (FAO), by 2050 we will need to produce 60 per cent more food to feed a world population of 9.3 billion. The truth is that the way we produce, process, distribute, and consume our food is profligate. Roughly one-third of all the food produced in the world for human consumption every year -- approximately 1.3 billion tonnes -- is lost or wasted. Avoiding food loss will lead to more efficient use of land and water, positively impacting biodiversity.

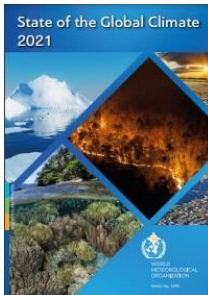
The contributions of cooling to our health and the environment extend much further. Freezing fruits and vegetables within hours of being harvested at their peak ripeness, locks in nutrients and flavours. Cooling also reduces one of the largest contributors to climate change - the emission of greenhouse gases from food that is lost due to spoilage and waste. Reducing food loss would feed greater numbers of undernourished people and advance climate protection. In addition, the wise selection and operation of cooling technology contributes significantly to the protection of the ozone layer and combating climate change.

*Further details and resources will be shared shortly.*

**Contact:** [Ayman Eltalouny](#), OzonAction, Coordinator International Partnerships

[UNEP OzonAction, 12 May 2022](#)

*Image: OzonAction website*



### **3. The Antarctic ozone hole reached a maximum area of 24.8 million km<sup>2</sup> in 2021**

This unusually deep and large ozone hole [2021] was driven by a strong and stable polar vortex and colder-than-average conditions in the lower stratosphere. [...]

#### **Stratospheric ozone**

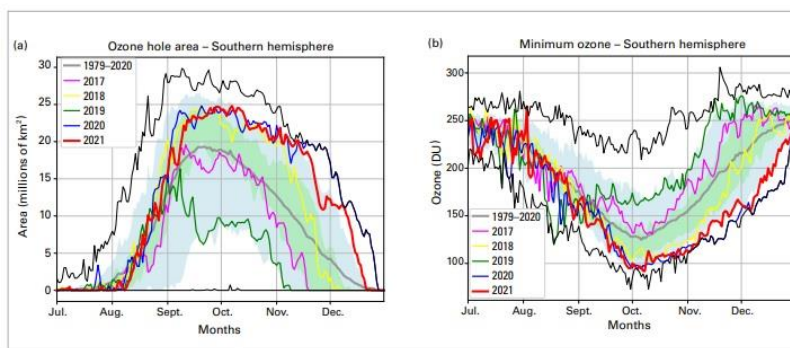
Following the success of the Montreal Protocol, the use of halons and chlorofluorocarbons (CFCs) has been reported as discontinued, although their levels in the atmosphere continue to be monitored. Because of their long lifetime, these compounds will remain in the atmosphere for many decades. Even if there were no new emissions, there is still more than enough chlorine and bromine present to cause the complete destruction of ozone over Antarctica from August to December.

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As a result, the formation of the Antarctic ozone hole – an area of low ozone concentration – continues to be an annual spring event, with the year-to-year variation in its size and depth governed to a large degree by meteorological conditions. The 2021 Antarctic ozone hole developed relatively early and continued growing, resulting in a large and deep ozone hole. It expanded to 24 million km<sup>2</sup> on 24 September and remained close to this value until mid-October 2021. The development of the hole, and its extent and severity, were close to that for the 2020 and 2018 seasons.



The ozone hole reached its maximum area of 24.8 million km<sup>2</sup> on 7 October 2021, similar to the areas in 2020 and 2018, and close to the highest values observed in earlier years, such as 28.2 million km<sup>2</sup> in 2015 and 29.6 million km<sup>2</sup> in 2006, according to an analysis from the National Aeronautics and Space Administration (NASA) (Figure 19, left).



In terms of the total ozone column, NASA reported a minimum ozone of 92 DU (Dobson Units) on 7 October 2021, which was the lowest value for the 2021 season and for the past 17 years (Figure 19, right). After September 2021, the concentration of stratospheric ozone was persistently reduced to near-zero values between 15 and 20 km altitude over Antarctica. Together with the 2020 season, these are some of the lowest ozone values ever measured via sondes at the Antarctic stations, as reported by the National Oceanic and Atmospheric Administration (NOAA).

The 2021 hole was larger and deeper than 70% of the ozone holes since 1979 and remained as such until the closing of the hole in the second half of December. It ranked as the thirteenth largest ozone hole by area and the sixth deepest ozone hole in terms of minimum ozone. The unusually deep and large ozone hole in 2021 was driven by a strong and stable polar vortex and colder-than-average conditions in 2021 in the stratosphere. [...]

Excerpt from the World Meteorological Organization (WMO) "[State of the Global Climate 2021](#)" report

[The World Meteorological Organization \(WMO\), 18 May 2022](#)

Image: WMO website

#### 4. The air conditioning paradox

##### How do we cool people without heating up the planet?

The world is now 1.1 degrees Celsius – 2 degrees Fahrenheit – warmer on average than it was at the dawn of the Industrial Revolution. But baked into that seemingly small change in the average is a big increase in dangerous extreme temperatures. That's made cooling, particularly air conditioning, vital for the survival of billions of people.

The devastation of extreme temperatures is playing out right now in several places around the world. [...]

These searing temperatures are just the latest in a pattern of increasingly hot weather. A heat wave that would have been a once-in-a-decade event in the 1800s is now hotter and happens nearly three times as often. [...]

Extreme heat events are also occurring over a wider region of the globe, from the depths of the ocean to the icy reaches of the Arctic. Heat waves are now such devastating events with long-lasting wounds that some countries say they should be named like hurricanes. [...]

Regardless of whether humanity gets its act together and drastically cuts emissions of the greenhouse gases that are warming up the planet, billions of people today and into the future desperately need to cool off. Their lives and livelihoods are at stake, making this one of the most urgent technology and policy challenges.

But staying cool amid the heat poses a paradox: The tactics for cooling can end up worsening the very problem they're trying to solve if they draw on fossil fuels, or leak refrigerants that are potent heat-trapping gases. And the people who stand to experience the most extreme heat are often those least able to cool off.

Solving this conundrum requires untangling issues of equity and justice, as well as developing better tools for cooling beyond just ACs. It also requires rethinking the role of cooling in society. It is not a luxury, but a necessity for living in the world that we've created for ourselves. [...]

Air conditioners pose another direct problem for the climate. Many of them use refrigerants that are also powerful heat-trapping gases. Chemicals like hydrofluorocarbons (HFCs) can be upward of 12,000 times more potent at trapping heat in the atmosphere than carbon dioxide. Small coolant leaks multiplied by billions of AC units could be devastating for the climate. [...]

There are many ways to curb the climate impacts of ACs. "The answer lies first and foremost in improving the efficiency of air conditioners, which can quickly slow down the growth in cooling-related electricity demand," wrote Fatih Birol, executive director of the

#### The air conditioning paradox

How do we cool people without heating up the planet?

By Umar Khan | May 18, 2022, 7:00am EDT



A woman fans her child with a sheet of paper as a fan rattles behind a power outage during a heat wave in Jaccobabad, Pakistan, on May 11. | Aamir Qureshi/AFP via Getty Images

IEA, in a 2018 report. With greater energy efficiency, air conditioners do more with less. Also, homes and businesses need better insulation and sealing to prevent waste.

Another method is to manufacture more air conditioners that don't use HFCs or other heat-trapping gases. [...]

while billions of people are facing more devastating and extreme heat, protecting them and avoiding as much warming as possible benefits everyone on Earth. Air conditioning is now an unfortunate necessity, but it's also an opportunity to address some of the underlying injustices of climate change.

[Vox, 18 May 2022, By Umair Irfan](#)

Image: Vox website

**See also >>>**

- [Cutting HFCs to cool the Earth](#), article in International Institute for Applied Systems Analysis (IIASA), 10 March 2022, By: Pallav Purohit, and Ansa Heyl

- [AC a 'Necessity for Human Survival' Says Leading Science Magazine](#), article in hydrocarbons21, 25 May 2022, By: Christina Hayes

**International contest of scholar articles on the topic of "The Ozone Layer and Life on Earth" (Republic of Uzbekistan)**-Regulation on the procedure for selecting scholar articles devoted to the protection of the ozone layer for the international contest under the Joint project of the State Committee of the Republic of Uzbekistan for Ecology and Environmental Protection and UNDP/GEF 'Complete HCFC Phase-out in Uzbekistan through Promotion of Zero ODS Low GWP Energy Efficient Technologies'.



Applications and electronic versions of scholar articles, including a link to the published paper on web-platforms or a scanned copy shall be sent to [ozone.o3.uz@gmail.com](mailto:ozone.o3.uz@gmail.com) by **August 1, 2022**

**Learn more >>>** <https://bit.ly/3L3xI3n> (English) <https://bit.ly/3GnBSzE> (Russian)

## AFRICA

**5. Nigeria to ban ozone depleting refrigerators, air conditioners by 2023**

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The Federal Government of Nigeria says it will ban all substances that are not ozone-friendly in accordance with the Montreal Protocol Agreement, which the country is a signatory to, by Jan. 1, 2023.

These substances include refrigerators, air conditioners, generators, water dispensers, photocopiers, among others.

The Montreal Protocol is an international treaty designed to protect the ozone layer through the phasing out of the production of numerous substances believed to be responsible for the layer ozone depletion.

Mr Oladipo Supo, who is of the Environment Unit of United Nations Development Programme (UNDP), said this at the stakeholders' workshop for the Validation of the Draft National Cooling Plan, in Abuja. Supo said that Nigeria had delayed in implementing the agreement because it had not been able to get alternatives for the substances that are ozone-friendly.

"We started with Hydrochlorofluorocarbons (HCFCs) and now we will replace them with hydrofluorocarbons (HFCs) which is where we are today.

"Under the Montreal Protocol Agreement, the idea is that some of these ozone-depleting substances are actually eliminated from use.

"Nigeria has committed itself because it is part of the signatory. We are looking at Jan. 1, 2023, when some of these substances will not be allowed into the country anymore.

"In the refrigerating sector, we only have technicians. The people that actually use them are technicians on the street.

"You remember sometime ago; some air conditioners blew up in Ogun.

"It was because of all these contaminated things and recycled ACs that are not supposed to be in circulation," he said.

Supo said that the Federal Ministry of Environment was trying to ensure that the alternatives were available before the year 2023 when the banning of the items would commence. According to him, we cannot ban something when the alternative is not yet available.

Minister of Environment, Mohammed Abdullahi, blamed some developing countries who use refrigerants with high ozone-depleting potential such as hydrochlorofluorocarbons.

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According to him, emissions are projected to amount to approximately 8.97 gigatons of carbon dioxide equivalent by 2050 and contribute to global warming and climate change.

The minister, who was represented by Mr Charles Ikedea, the Director, Pollution Control of the ministry, said that the emissions were both direct and indirect.

“Direct emissions are refrigerants-related emissions from refrigeration and air conditioning equipment during installation, maintenance, repair and servicing.

“Indirect emissions are energy consumption of appliances-related emissions due to huge electricity consumption of refrigeration and air conditioning equipment,” he said.

He, however, advised Nigerians to keep their environment clean and healthy, adding that such would promote the development of the country.

[EnviroNews Nigeria, 25 May 2022, By Vivian Emoni](#)

*Image: EnviroNews Nigeria website*

## ASIA AND THE PACIFIC

### 6. Australia further supports its Pacific neighbours in phasing out remaining HCFCs

**Bangkok, Thailand, 13 May 2022** – National Ozone Officers (NOOs) from the Pacific Island Countries (PICs) – Cook Islands, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Palau, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu – as well as representatives from the Government of

Australia, the Air-conditioning and Refrigeration Equipment Manufacturers Association (AREMA) of Australia, and UN Environment Programme (UNEP) OzonAction Compliance Assistance Programme (CAP), came together virtually on 4 May 2022 to address the implementation of the Regional HCFC Phase-out Management Plan (HPMP) Stage II, which is supported by Australia as a bilateral agency in the framework of the Montreal Protocol’s Multilateral Fund. The NOOs from Fiji and Papua New Guinea, which are implementing their respective HPMPs independently, also joined the meeting to share experiences.

Hydrochlorofluorocarbons (HCFCs) are substances controlled under the Montreal Protocol that are scheduled to be phased out worldwide by 2030. They are commonly used as refrigerant gases in air conditioning and refrigeration appliances, amongst other applications. Their emission to the atmosphere contributes to both the depletion of the





stratospheric ozone layer and climate change. All developing countries are actively engaged to phase them out in compliance with their international obligations under the Protocol.

The 23 participants (14 women and nine men) discussed a holistic workplan to enhance and sustain the capacity of the refrigeration and air-conditioning (RAC) servicing sector to follow good servicing practices with options of supporting RAC associations, strengthening RAC training centres/trainers and implementing national competency-certification schemes. The workplan is to be delivered by AREMA, which has extensive experience working with the RAC sector industry not only in Australia but also with the PIC countries, in close collaboration with UNEP and the Government of Australia. The PIC countries expressed their appreciation for Australia's support.

Ms. Roselyn Bue, Senior Chemical and Ozone Officer, Vanuatu, said, "Vanuatu needs assistance in the formation of the Refrigeration and Air-conditioning Association that would assist the government in making good decisions in the adoption of new technology. We are happy that AREMA will be helping us on how to address these challenges."

Ms. Annie Gabriel, the representative of the Government of Australia, added that "The Government of Australia is very pleased to be part of the Regional PIC HPMP Stage II after working alongside the Pacific countries since the implementation of Stage I. I encourage countries to engage with AREMA, who is looking to bring innovative ideas to the work, and to be active in identifying country-specific activities so that Australia can best assist PIC countries to phase down the remaining HCFCs."

In response to the positive statements on collaborating with AREMA, Mr. Mark Padwick, the President of AREMA said, "AREMA is very pleased to be part of the partnership and is looking forward to working with our Pacific neighbours to share experiences and technical support in the implementation of HPMP Stage II."

Mr. Shaofeng Hu, Senior Montreal Protocol Regional Coordinator, UNEP CAP, Asia and Pacific Office, warmly acknowledged the partnership of Australia and AREMA and said, "The Government of Australia has a long-standing history in assisting the Pacific Island Countries in the implementation of the Montreal Protocol. UNEP CAP is very encouraged by the renewed commitment of Australia to the Regional PIC HPMP implementation. We also look forward to the new partnership established with AREMA that will bring a wider array of technical assistance to the Pacific countries."

This virtual meeting is part of the regional OzonAction CAP workplan for 2022 to support countries in meeting and sustaining their Montreal Protocol commitments.

**Contact:** [Shaofeng Hu](#), Senior Montreal Protocol Regional Coordinator  
UNEP, OzonAction Compliance Assistance Programme (CAP), Asia and Pacific Office  
(ROAP)

*Image: OzonAction website*

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## 7. Philippine Bureau of Customs-Port of Cebu Seizes Refrigerants Containing Alternatives to Ozone-Depleting Substances

The Bureau of Customs (BOC)-Port of Cebu seized 300 cylinders of Refrigerant Gas containing Trifluoromethane, an identified alternative to ozone-depleting substances last 11 May 2022.



Upon the shipment's arrival from China, officers from the Environmental Protection and Compliance Division (EPCD)-Cebu requested a Pre-shipment Control Order based on a derogatory information that the importation is not covered with the necessary clearance from the Environmental Management Bureau (EMB).

A joint 100% physical examination was immediately conducted by Customs Examiner, Ronor N. Alinsug, and the representatives from the EPCD, Enforcement and Security Service, Customs Intelligence and Investigation Service, X-Ray Inspection Project Team, Philippine Coast Guard, Philippine Drug Enforcement Agency, and EMB.

Under DENR-EMB Memorandum Circular No. 2005-03, importation of alternatives to ozone-depleting substances such as Trifluoromethane must be covered with Pre-shipment Importation Clearance prior to its entry into the Philippine territory.

Due to the lack of prior importation clearance, District Collector Charlito Martin R. Mendoza immediately issued a Warrant of Seizure and Detention against the shipment based on Section 117 in relation to Section 1113 (F) and (L-5) of the Customs Modernization and Tariff Act.

The seized goods are now under the custody of the port and shall be disposed accordingly after the finality of the forfeiture proceedings.

Under the leadership of Commissioner Rey Leonardo B. Guerrero, the Bureau of Customs continues to intensify its border protection measures to prevent the entry of products hazardous to the environment.

[The Bureau of Customs \(BOC\), 18 May 2022](#)

Image: BOC website

WEST ASIA

## 8. Qatar: Environment Ministry reviews steps to tackle ozone layer depletion

The Ministry of Environment and Climate Change (MoECC) reviewed with the United Nations Environment Program's, West Asia Office (UNEP) Qatar's projects to implement the Montreal Protocol on Substances that Deplete the Ozone Layer, and to follow up on the action plan for the phase-out of hydrochlorofluorocarbons (HCFCs) and implementation steps.



The topics were addressed during a meeting of Assistant Undersecretary for Environmental Affairs at MoECC Abdulhadi Nasser Al Marri with Representative of the UNEP's [OzonAction] West Asia Office Khaled Klaly, which was also attended by the ministry's Ozone Team.

The UNEP [OzonAction] Representative commended the effective and tangible role and efforts made by the work team in Qatar in implementing the country's obligations to preserve the ozone layer and reduce the effects of global warming.

It is noteworthy that a delegation from the UNEP is currently visiting Qatar to hold seminars and workshops with stakeholders in the refrigeration and air conditioning sector, as well as to conduct field visits to some sports facilities to check the air conditioning systems with international standards.

[Gulf Times, 31 May 2022](#)

Image: Gulf Times website

## NORTH AMERICA

### 9. New Legislation on PFAS May Affect Your Fire Suppression System



Online Trade Magazine  
Alternative Energy from Solar, Wind, Biomass,  
Fuel Cells and more...

Over the past few decades, the fire protection industry has been affected by national/international restrictions and bans on production of the chemicals used in fire suppression systems. The first and most notable event was the Montreal Protocol in 1992 that essentially halted the production of Halon®, categorized as a class 1 ozone depleting substance and the most popular clean agent of its time.

One of the primary problems with PFAS is their "persistence." Persistence means they can persist in soil, water, and in the human body... for years. Exposure to water, air, and sunlight does little to degrade them, thus they are known as "forever" chemicals.

Halon was targeted because of its high ozone-depleting potential (ODP). The search for a Halon replacement led many manufacturers to hydrofluorocarbons (HFCs). In terms of fire suppression, HFCs provided a viable replacement to Halon without the ODP. However,

HFCs were soon to be regulated by the Kyoto Protocol of 1997 on greenhouse gas emissions.

With the ongoing concern over climate change substances and materials with high global warming potential (GWP) have increasingly come under scrutiny from the U.S. Congress and other international governing bodies. Consequently, on December 27, 2020, Congress passed the American Innovation and Manufacturing (AIM) Act.

The AIM Act quickly curtails the production and consumption of HFCs, provides strict oversight on any remaining use of HFCs, and encourages innovation for HFC-free technologies. In terms of fire suppression agents, HFC 125 (trade name: FE-25®), and HFC 227ea (trade name: FM-200®) are both directly and adversely affected in terms of production, usage, and handling. [...]

### **What are my alternatives?**

When Halon was banned, most large chemical companies that sought to manufacture a replacement looked to materials that were chemically similar to Halon. The idea was essentially to get as close to the banned substance as possible without crossing over into banned territory. Now, decades later, the push is for elimination of all risk associated with the PFAS chemical family. The safer and more environmentally sustainable alternatives to HFCs and PFAS chemicals for use in special hazard fire protection applications today are:

- Aerosols

Aerosols are a fine particulate matter discharged from modular canisters that are highly effective at chemical interruption of a fire's chain reaction. Aerosols are typically cost effective and safe for use in occupied spaces.

- Water Mist

Water mist is a fire suppression system using low quantities of water (compared to traditional sprinkler systems), discharged at high pressure, producing small droplets with large surface area. Water mist systems typically require a bank of high-pressure gas or large pumps to discharge the water through stainless steel tubing and nozzles.

- Inert Gas

Inert gas systems (typically nitrogen, argon, or a mixture of the two) require a large footprint of pressurized containers that, when discharged, reduce oxygen in the protected space sufficient to suppress or extinguish a fire.

Over the past twenty-five years, environmental and public health concerns have resulted in the banning or restriction of several fire suppression agents. Despite the commercial impact, this is a step in the right direction. Agents that are designed to protect life and property should never themselves be a threat to public health or the environment.

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Users of clean agent fire protection systems should review their options, understand the inherent risks of using either HFC's or PFAS chemicals, and know that there are cost effective alternatives to achieve near identical fire protection performance.

[Altenergymag, 25 May 2022](#)

*Image: Altenergymag website*



**GreenChill Webinar**  
**Refrigerant Banking: A Different Kind of Asset Management**

**Date: 15 June 2022**

**Time: from 1 – 2 PM Eastern. [check your time zone](#)**

Presenters from National Refrigerants will discuss refrigerant banking. With the increasing interest to preserve the supply of refrigerant, banking used refrigerants is a valuable tool to ensure stakeholders have the refrigerant they need when they need it.

**Microsoft Teams meeting**

Join on your computer or mobile app

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Phone Conference ID: 684 096 708#

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*Image: GreenChill website*

**10. The future of methyl bromide**

Methyl bromide has been an effective tool in controlling pests, but one with a significant downside due to its role in depletion of the southern hemisphere's ozone layer. For the global horticultural trade, such as imported Chilean fruit into the U.S., it remains the essential tool to combating pests.



That could soon change, however, thanks to trials being conducted under the supervision of the USDA's Agricultural Research Service in partnership with Draslovka Services, Western Fumigation and Holt Logistics.

### **The Montreal Protocol and the fall of methyl bromide**

With the globalization of the food supply chain, there is an increased demand for processes that guarantee food security and safety. Some of the most common tools use chemical-based approaches, which guarantee the needed security and safety, said Spencer Walse, a Research Chemist and postharvest treatment expert for USDA ARS.

At the same time there are very strict regulations, not only on what chemicals can be used, but how much and in what context.

The Montreal Protocol, finalized in 1987, is a global agreement to protect the stratospheric ozone layer by phasing out the production and consumption of ozone-depleting substances (ODS). While most of the methyl bromide in the stratosphere comes from natural sources, man-made use was identified for regulation.

As part of the protocol, its use would be phased out in stages through 2005, although the protocol has a provision for two cases of exceptions where the sector or region does not have a technically or economically viable alternative to methyl bromide, making its replacement more difficult. One is a "critical use" which are reviewed and approved on an annual basis.

The other is a permanent exception for "Quarantine and Pre-shipment" (QPS) uses of methyl bromide, whereby applications are requested by the importer as a condition of entry, such as before a country exports the traded goods or upon their arrival at destination.

"Every country has their own opinions, so I call it the agricultural conundrum, we've got to use these chemicals, including methyl bromide, to guarantee security, but consumers and regulators don't want us to", Walse said.

In a consumer driven market where policy and regulation is being shaped by the demands and needs of the end consumer, "the trend over the years is heading to softer and softer chemistries being applied on food, or no chemicals at all," he added.

In this context, methyl bromide is "an incredibly valuable tool" which he imagines will remain in place for years to come. But this is trending towards mission critical situations, and for routine type fumigations, like that of table grapes coming in from Chile, he believes that "there is tremendous pressure to eliminate all but the most critical methyl bromide uses" and I think an argument can be made that effective enough alternatives exist for this particular instance."

### **The search for an alternative**

Considering this trend, there is a clear need to evaluate alternatives, and this has been a long time coming, dating back to the creation of the Montreal Protocol.

Among the frontrunners being developed to replace methyl bromide for QPS applications is a chemical product named Efume™, which is manufactured by Czech fumigation experts Draslovka Services, and was developed over 20 years ago.

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According to the company, Efume stands apart from other alternatives as a safe, non-residual way to protect postharvest produce, packaged and stored foods and processing equipment. The active ingredient is ethyl formate – a naturally occurring substance, which decomposes into benign constituents, with zero ozone depleting potential.

### **Efume ethyl formate trials**

Part of the challenge in creating an alternative is that it needs to be legally registered in the destination market, in this case the U.S., which is a long, extended and costly process of trials and approvals from multiple U.S. government agencies.

In the case of Efume, trials in April 2022 are the most advanced stage thus far for ethyl formate fumigation of Chilean table grapes imported into the US, bringing its application to a real-world scenario through a trial in the Gloucester Marine Terminal in New Jersey. The trials come through an agreement between the product manufacturer and Western Fumigation to bring the treatment to the U.S. market, in partnership with the USDA and Holt Logistics.

For USDA-ARS's Walse, ethyl formate is a very attractive alternative possibility for this import scenario, as it "fits into the methyl bromide-derived logistical and operational frameworks already in place at U.S. port facilities. Also, from a human and environmental health perspective, it will be very, very difficult to find a softer fumigant with as much fast-acting control".

There are still some internal feeding fruit fly larvae that it does not control, but in the instance of fumigation, it is targeting external pests, and the compound has proven effective in doing so, while at the same time not leaving any toxic residue, nor creating any atmospheric releases that would affect the environment.

"Ingestion residue-food tolerance/maximum residue level- issues are minimal compared to most other postharvest fumigants, plus exposure to workers and bystanders will be essentially negligible so yes, I think it checks a lot of boxes. It's very consumer and regulatory friendly," Walse added.

From a business perspective, it can also be applied quickly to fruit in the quarantine process, thus reducing the processing time, getting imported fruit to market quicker and avoiding fees from the logistics process.

"Some other proposed alternatives just take way too long," he said, adding "you can't be taking days for treatments at port facilities. You've got to obtain insect control quickly and on fresh fruit, ethyl formate acts arguably quicker than methyl bromide," Walse concluded.

### **The next steps**

The process to get to this point has taken years, even decades. The registrant (Draslovka Services represented by Western Fumigation in the U.S.) has continued its initiative as it embraces USEPA, USDA-APHIS, and state counterparts throughout the regulatory process required to get the substance closer to FIFRA and phytosanitary approval, critical steps along the path to successful commercialization.

According to Shannon Sked, Western Fumigation's Director, this real-world trial is a critical step in seeing this advancement, since it is the first real world test for the product in the

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U.S. The close working relationship with USDA-ARS uses their knowledge to reach past a lab scenario to gauge its true effectiveness.

“Because what we do know already is that for surface feeding insects, this product is highly efficacious”, he said.

But for Sked, one of the biggest points is that it is not as hazardous for workers either and that “it has a twenty-fold improvement on OSHA safety, worker safety,” compared to methyl bromide.

Together, this paints a picture where “not creating a risk to our domestic farmers and for nutritious food imports is incredibly important. And so that's where it gets really exciting, it gives us an opportunity,” he added.

The process will continue to register the substance with the EPA. This will be followed by getting a process approved for the use case, which will fall under the USDA Animal Plant Health Inspection Service (APHIS). By doing a joint trial, the data can be used for the varying agencies needed to approve its final use.

A large trial could be necessary and will be determined in the near future, if APHIS requires it to approve the process based on the results from the April trial. Sked sees a chance that it could be ready by the upcoming Chilean grape season (2022-23), and if not, it could come into play the following season.

[Fresh Fruit Portal, 24 May 2022](#)

*Image: Fresh Fruit Portal website*

## EUROPE & CENTRAL ASIA

### 11. EU Commission Proposes Two New Regulations to Tighten Control on Highly Potent Greenhouse Gases

On April 5, 2022, the EU Commission proposed two new regulations to restrict the emission and use of highly potent greenhouse gases, which heavily contribute to global warming, in order to limit global temperature, rise and the objectives of the Paris Agreement and the Montreal Protocol to the Vienna Convention for the protection of the ozone layer.



The [first proposal](#) would replace Regulation (EC) No 1005/2009 of September 16, 2009, on substances that deplete the ozone layer ("ODS Regulation") currently in force, which prohibits production, trade, and use of ozone depleting substances ("ODS"), except for a few exempted specific uses, and limits the trade and use of products and equipment with ODS. Nonetheless, considering that most ODS have been phased out, the EU Commission



has proposed to end now-obsolete exemptions and to shift from the current quota and registration system to a more operational licensing system. The proposal also includes new recovery obligations to prevent emissions from old products and equipment that still contain ODS (e.g., insulating foams in buildings) and new monitoring, reporting, and enforcement measures to fight illegal activities.

The [second proposal](#) would replace Regulation (EU) No 517/2014 of April 16, 2014, on fluorinated greenhouse gases ("F-Gas Regulation") currently in force, which aims at controlling the placement of fluorinated greenhouse gases ("F-gases") on the EU market, mainly through the implementation of a quota system for hydrofluorocarbons ("HFCs") to ensure their progressive phasedown. Nonetheless, in order to ensure that the EU stays in line with its international commitments, in particular the Kigali Amendment to the Montreal Protocol regarding HFCs, the EU Commission has proposed to tighten the phasedown of HFCs by strengthening the quota system, including with stricter registration rules and a fixed quota price. It also proposes to restrict the use of F-gases to new equipment where suitable alternatives are not available, while abolishing some existing exemptions. In addition, the proposal extends monitoring and reporting obligations to new activities and reinforces enforcement measures to fight illegal trade.

The revision of these two regulations will likely be a lengthy process with expected back-and-forth between EU institutions, which may bring changes to the proposed provisions. In any case, if the current proposals tend toward a more stringent legal framework for highly potent greenhouse gases, this will represent significant opportunities for industries, as the proposed measures favor alternative substances replacing ODS and F-gases as well as the development of more climate-friendly equipment and technologies.

[Jones Day, 25 May 2022, By: Armelle Sandrin-Deforge | Nicolas Audifax](#)

*Image: Jones Day website*

**See also >>>** 24.5.2022 - [REPORT](#) on the proposal for a regulation of the European Parliament and of the Council Amending Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement. *Committee on the Environment, Public Health, and Food Safety. Rapporteur: Jessica Polfjärd*

## FEATURED



[OZONE SECRETARIAT](#)

## Overview for the meetings of the ozone treaties in 2022

**68<sup>th</sup> IMPCOM**, Bangkok, Thailand | 09 July 2022

**44<sup>th</sup> OEWG**, Bangkok, Thailand | 11 - 16 July 2022

**5<sup>th</sup> ExMOP**, Bangkok, Thailand | 16 July 2022

**69<sup>th</sup> IMPCOM**, Venue – to be determined | 29 October 2022

**33<sup>rd</sup> MOP Bureau**, Venue – to be determined | 30 October 2022

**34<sup>th</sup> MOP**, Venue – to be determined | 31 October - 04 November 2022

Click [here](#) for past and upcoming Montreal Protocol Meetings Dates and Venue.

Summary of the Combined Twelfth Meeting of the Conference of the Parties to the Vienna Convention for the Protection of the Ozone Layer (part II) and the Thirty-Third Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer: 23-29 October 2021.

[The Earth Negotiations Bulletin, 1 November 2021, Vol. 19 No. 157](#)

See also >>> [IISD Daily coverage and photos](#)

## Online introductory course 'International legal framework on ozone layer protection'

Designed for government representatives and national stakeholders new to the Vienna Convention and Montreal Protocol, students of environmental law, and anyone interested in learning about the ozone treaties, the [online course](#) launched by the Ozone Secretariat aims to provide an introduction to the international legal framework on ozone layer protection.



[United Nations Environment Programme \(UNEP\), Ozone Secretariat, 14 February 2022](#)

Image: UNEP, Ozone Secretariat website

## UNEP Ozone Secretariat launches free teaching kits on ozone layer and environmental protection

- New free online teacher toolkits and lesson plans based on the success of UNEP's Ozone Secretariat's [Reset Earth](#) animation and video game



- Targeting Tweens by adopting animation and gamification to create innovative online lessons to raise awareness on ozone layer and environmental protection
- Available online in digital and print format for universal access

**Read/download >>> [Ozone Secretariat's education platform](#)** *Image: UNEP, Ozone Secretariat website*

## The UN Environment Assessment Panels

The Assessment Panels have been vital components of ozone protection since the Montreal Protocol was first established. They support parties with scientific, technological, and financial information in order to reach decisions about ozone layer protection and they play a critical role in ensuring the Protocol achieves its mandate. The Assessment Panels were first agreed in 1988 to assess various direct and indirect impacts on the ozone layer. The original three panels are:

- [The Technology and Economic Assessment Panel](#)
- [The Scientific Assessment Panel](#)
- [The Environmental Effects Assessment Panel](#)

**Why are the three current panels important to ozone layer protection?** Each carries out assessment in its respective field. Every four years, the key findings of all panels are consolidated in a synthesis report. [Learn more >>>](#)



## [THE MULTILATERAL FUND FOR THE IMPLEMENTATION OF THE MONTREAL PROTOCOL](#)

In view of the global COVID-19 situation and the relevant directives released by the Governments of Canada and Quebec in response to the pandemic, on 18 January 2022 the Secretariat informed the Executive Committee that the in-person 89<sup>th</sup> meeting, planned for 7 to 11 March 2022, in line with decision 87/60(a) would not take place.

Following discussions with the Executive Committee, the following contingency plan was approved:

- (a) The 89<sup>th</sup> meeting will be held in two parts:
-

(i) Part I: Virtually, on 16, 18 and 20 May 2022, to consider items listed in the agenda of part I of the 89th meeting contained in document UNEP/OzL.Pro/ExCom/89/Add.1;

(ii) Part II: In-person, from 16 to 18 June 2022, in Montreal, Canada, at the International Civil Aviation Organization (ICAO);

(b) A "refresher" informal session for Executive Committee members will be organized on agenda item 7(a) of the 89th meeting, development of the cost guidelines for the phase-down of HFCs in Article 5 countries: draft criteria for funding (decision 83/65(d)), on 15 June 2022 from 4 p.m. to 6 p.m., in Montreal, Canada, at Le 1000, Conference Centre; and

(c) The 90th meeting will be held from 20 to 23 June 2022, in Montreal, Canada at ICAO. In light of the Canadian Grand Prix being held the weekend of 17 to 19 June, all attendees are advised to make lodging arrangements as soon as possible.

- [Evaluation of regional networks of national ozone officers \(desk study and terms of reference for the second phase\)](#)
- [Evaluation of regional networks of national ozone officers \(desk study and terms of reference for the second phase\): Corrigendum](#)
- [Guide for project preparation of Stage I of Kigali HFC implementation plans \(KIP\) \(February 2022\)](#)
- [Updated guide for the presentation of stage II of HCFC phase-out management plans \(February 2022\)](#)
- [Executive Committee Primer 2022](#)

>>> Click [here](#) for the Executive Committee upcoming and past Meetings and related documents.



**OzonAction**

[OzonAction Compliance Assistance Programme](#) produces and outreaches a wide variety of information and capacity building materials and tools that support the implementation of the Montreal Protocol programs and assist Article-5 countries in meeting the compliance

targets. These include publications, technology briefs and factsheets, mobile applications, videos, e-Learning, modelling, and database programs and special educational or certification programs.

**The section below features several of our most recent products.**

Visit [OzonAction website](#) for more information, discover the entire range of products.

*Images in this section are by OzonAction*

**OzonAction Knowledge Maps tool** - The UNEP OzonAction Knowledge Maps tool was developed to provide the National Ozone Units (NOUs) and different UNEP partners with a simple tool to help them access data and information about relevant stakeholders, who are mainly involved in the implementation of programmes and projects under the Montreal Protocol (MP) supported by Multilateral Fund (MLF).

**Refrigeration, Air-Conditioning, and Heat Pumps (RACHP) Associations & Organizations:** This Knowledge Map provides a global directory of RACHP associations, societies, and organisations around the world. These are key stakeholders for ensuring safe and efficient refrigerant transitions.

**Local Technical & Vocational Education and Training (TVET):** This Knowledge Map provides a global directory of TVET entities and centres around the world. These are the strategic partners for conducting and promoting training and certification programmes related to the refrigeration servicing sector.

Click [HERE](#) to access the OzonAction Knowledge Maps tool

Click [HERE](#) to download the OzonAction Knowledge Maps tool flyer



**Gas Card Tool: Web-based Visual Printable Cards of Refrigerant Gases** developed by the UN Environment Programme (UNEP) OzonAction, to provide engineers, workers, and technicians with easily accessible information on substances/ gases that they are working with or handling in the workplace on visual printable cards.

**Content of Gas Cards** - Each Gas Card is printable (in PDF or image format) and includes the following information about each substance/gas: a) General Characteristics (Chemical name, formula and type, ASHRAE designation, Trade names, Harmonized System (HS) codes, Chemical Abstract Service (CAS), United Nations (UN) numbers, Blend/ mixture components, Montreal Protocol Annex and Control measures, main usage, etc.) b) Gas Performance—Radar Chart (in terms of: Ozone depleting potential-ODP, Global warming potential- GWP, Toxicity Class & Flammability Class) c) Environmental and Safety Impact, and Safety Impact (with visualization of Toxicity & Flammability Class, Hazardous Symbols).



**More Information** - The Gas Card web-based tool is part of UNEP OzonAction's portfolio of activities and tools to assist various stakeholders in developing countries, including customs officers and technicians, to achieve and maintain compliance with the Montreal Protocol on Substances that Deplete the Ozone Layer. In the left navigation bar of the Gas Card tool web page, you will find a list of commonly used HFCs and HFC Blends in different sectors. \*

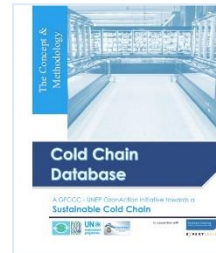
**Using the Gas Card web-based tool**

- The Gas Card tool is available online on the [OzonAction website](#)
- Read the full [2021 annual iPIC report](#)
- See the [flyer](#) introducing the new iPIC platform

*\* Based on the Overall Analysis of the Results of the Survey of ODS Alternatives Report (conducted in 119 countries from 2012 to 2015)*

**OzonAction and GFCCC launch the methodology questionnaires the Cold Chain Database Initiative**

- The Global Food Cold Chain Council (GFCCC) and the United Nations Environment Programme (UNEP) OzonAction announced the launch of their Cold Chain Database and Modeling initiative. The initiative marks the first formal step to assist developing countries in identifying their cold chain baseline along with consumption of relevant HCFCs or HFCs or other refrigerants. The initiative was conceived in 2019 and kicked off during the 31<sup>st</sup> Meeting of Parties to the Montreal Protocol (Rome, Italy), which concluded with the Rome Declaration on "The Contribution of the Montreal Protocol to Food Loss Reduction through Sustainable Cold Chain Development".



- > [GFCCC-UNEP OzonAction Cold Chain Modelling Press Release](#)
- > [GFCCC-UNEP Cold Chain Database Methodology Final](#)
- > For countries or partners interested to use the model data collection detailed questionnaires, please fill in the [Expression of Interest and NDA of Cold Chain Database](#) form and return to [Ayman Eltalouny](#)

**Contact:** [Ayman Eltalouny](#), Coordinator International Partnerships, UNEP, OzonAction



**HCFC Quota and Licence Tracker** - a new desktop application to assist with HCFC licences and quotas - National Ozone Officers have the great responsibility of managing the allocation and monitoring of quotas for substances controlled under the Montreal Protocol. This process can be

complex with many importers, especially if the country imports a range of different

hydrochlorofluorocarbons (HCFCs) and mixtures containing HCFCs. To address this challenge, OzonAction developed a new desktop application that helps Ozone Officers with the tasks of planning, calculating, monitoring and managing consumption quotas and licences. It can be used on a daily basis to track and manage the current year's quota allocations for different importers, or for future planning by trying different scenarios that adjust the type of substances imported, their quantity, or the number of importers. The HCFC Quota and Licence Tracker allows Ozone Officers to see the effect of such scenarios on the national HCFC consumption and helps ensure that the quotas stay within agreed HCFC Phase-out Management Plan (HPMP) targets. For countries that have ratified the Kigali Amendment, in the future OzonAction will extend the tracker to include hydrofluorocarbons (HFCs) once countries begin designing their quota systems for those controlled substances. **Access the:**

- [HCFC Quota tracker app](#)
- [Flyer for more information on the tracker](#)
- [Short video tutorial on the OzonAction YouTube Channel](#)

**[GWP-ODP Calculator Application](#) - Updated- “Quickly, efficiently and accurately convert between values in metric tonnes, ODP tonnes and CO<sub>2</sub>-equivalent tonnes”**. Data are extremely important for the Montreal Protocol community, and the data reporting formats for both A7 and CP have changed recently, to a large degree triggered by the Kigali Amendment. HFCs, blends, CO<sub>2</sub>-equivalent values, etc., now have to be addressed much more frequently by Ozone Officers during their daily work. Sometimes the terminology and values are complex and can be confusing, and it helps to have it all the official facts and figures in one place. Conversion formulas need to be applied to calculate CO<sub>2</sub>-eq values from both GWP and metric tonne values. This free app from OzonAction is a practical tool for Ozone Officers to help demystify some of this process and put frequently needed information at their fingertips.



**What's new in the app:**

- An updated more user-friendly interface
  - Multilingual interface: English, French and Spanish
  - A new **Kigali Amendment mode** - in this mode the GWP values used to calculate the refrigerant blends/mixtures only include GWP contributions from components that are controlled HFCs
  - Latest updated ODP and GWP values from the recent reports from the Montreal Protocol technology and scientific expert panels as well as the Intergovernmental Panel on Climate Change (IPCC) reports
  - References added for sources of all values
  - New refrigerant mixtures (with ASHRAE -approved refrigerant designations)
-

If you already have the application installed on your device, be sure to update to benefit from the new features. The app can be viewed in English, French or Spanish.



Smartphone Application: Just search for “GWP-ODP Calculator” or UNEP in the Google Play store or use the QR code – free to download! If you already have the application installed on your device, be sure to update to benefit from the new features.



Desktop Application: GWP-ODP Calculator is also available online on the OzonAction [website](#)



Watch the new short introductory tutorial **video** on the GWP-ODP Calculator - available now on [YouTube](#)

>>> Read/download the [flyer](#)

## OzonAction [WhatGas?](#) Updated

### New features:

- An updated more user-friendly interface
- Multilingual interface: English, French and Spanish
- HFCs and HFC containing mixtures
- Latest updated ozone depleting potential and global warming potential values from the recent reports from the Montreal Protocol technology and scientific expert panels as well as the Intergovernmental Panel on Climate Change; as well as the standard ODP and GWP values as specified in the text of the Montreal Protocol
- References to sources of all values used
- New refrigerant mixtures (with ASHRAE approved refrigerant designations)
- Values for ‘actual GWP’ and ‘Kigali Amendment context’ GWP for pure substances and mixtures (i.e. only including GWP values/components assigned to controlled hydrofluorocarbons - HFCs).



**The WhatGas?** application is an information and identification tool for refrigerant gases: ozone depleting substances (ODS), HFCs and other alternatives. It is intended to provide a number of stakeholders, including Montreal Protocol National Ozone Officers, customs officers, and refrigeration and air-conditioning technicians with a modern, easy-to-use tool that can be accessed via mobile devices or the OzonAction website to facilitate work in the field, when dealing with or inspecting ODS and alternatives, and as a useful reference tool. If the user requires additional information or assistance in identifying a refrigerant gas they are inspecting or that is described in the relevant paperwork, this can be easily obtained by consulting the application.

### Using the application:

If you already have the application installed on your device, be sure to update to benefit from the new features.

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**Smartphone Application:** Just search for “WhatGas?” or UNEP in the Google Play store or use the QR code – free to download!



**Desktop Application:** WhatGas? is also available online on the OzonAction [website](#)

**For more information:** Watch the new short introductory tutorial [video](#) on WhatGas? available on [YouTube](#)

See/download the [WhatGas? flyer](#)

**Over 10,000 installations on Android and iOS devices to date!**

**RAC Technician Videos - Full length films!** Two ‘full length’ videos for refrigeration and air-conditioning (RAC) sector servicing technicians: on 1) Techniques, Safety and Best Practice and 2) Flammable Refrigerant Safety.




The OzonAction Refrigeration and Air-Conditioning Technician Video Series consists of instructional videos on techniques, security and best practice and flammable refrigerant safety. They are intended to serve as a complementary training tool RAC sector servicing technicians to help them revise and retain the skills they have acquired during hands-on training. The videos are not intended to replace structured formal technician training, but to supplement and provide some revision of tips and skills and to build on training already undertaken.


These videos are based on the successful UNEP OzonAction smartphone application, the RAC Technician Video Series app. This application has been downloaded on more than **86,000** devices since its launch.

Following many requests to make the videos more versatile and better suited to classroom and training settings, OzonAction has responded to this demand and produced two ‘full-length’ instructional videos. You may wish to share this message and the flyer with:

- Your national/regional RAC associations
- Training or vocational institutes
- Master RAC trainers in your country
- Any other interested national stakeholders

 You can watch these videos on the OzonAction YouTube Channel:

- [Techniques, Safety and Best Practice](#)
- [Flammable Refrigerant Safety](#)

 The videos are also available for download by request from UNEP OzonAction: [unep-ozonaction@un.org](mailto:unep-ozonaction@un.org)



If you prefer to access the video clips via the OzonAction smartphone application, just search for “RAC Technician Video Series” or UNEP in the Google Play Store and iTunes/App Store or scan the QR code – **Free to download!**  
The flyer is available from the [OzonAction website](#).

**[Refrigerant Cylinder Colours: What has Changed](#)** - A new UNEP OzonAction factsheet on the new AHRI revised guideline on a major change to refrigerant cylinder colours

One of the ways in which refrigeration cylinders are quickly identified is by cylinder colour. Although there was never a truly globally adopted international standard, the guideline from the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) although not required by law was used by the vast majority of industry and chemical producers around the world. An AHRI revised guideline, first published in 2015, now removes paint colour assignments for refrigerant containers and specifies that all refrigerant containers should have the same paint colour from 2020 onwards. NOOs and technicians should be aware of this change and inform national stakeholders, as well as familiarising themselves with relevant container labels and markings for refrigerants.



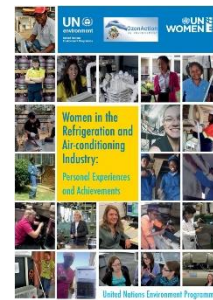
**Update on [new refrigerants designations and safety classifications](#)** - The latest version of the factsheet providing up to date information on refrigerant designations and safety classifications is now available (September 2020 update). The factsheet, produced by **ASHRAE** in cooperation with **UN Environment Programme OzonAction** is updated every 6 months. Read/download the **factsheet**  
**Contact:** [Ayman Eltalouny](#), OzonAction, UN Environment Programme



[OzonAction's iPIC platform - Updated](#) Collaboration between China and Thailand using OzonAction's informal Prior Informed Consent (iPIC) system has resulted in the prevention of a huge consignment of ozone-depleting and climate damaging hydrochlorofluoro-carbons (HCFCs). Those chemicals, which are primarily used as refrigerants for air conditioners and fridges, are controlled under the Montreal Protocol on Substances that Deplete the Ozone Layer and are being phased out by all countries according to a specific timeline.



[Women in the refrigeration and air-conditioning industry: Personal experiences and achievements](#) The United Nations Environment Programme's (UNEP), OzonAction, in cooperation with UN Women, has compiled this booklet to raise awareness of the opportunities available to women and to highlight the particular experiences and examples of women working in the sector and to recognise their successes. All of the professionals presented in the booklet are pioneers. They are role models whose stories should inspire a new generation of young women to enter the field and follow in their footsteps.

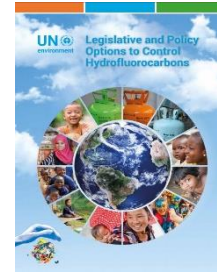


As part of IIR and UNEP OzonAction's partnership, a set of Cold Chain Technology Briefs was released over the past few years, which includes in-depth summaries about the cold chain in different key sectors. They include descriptions of technology, refrigerant options and trends and conclude with prospects and challenges. They cover the main cold chain sub-sectors, i.e., [Production & Processing](#), [Cold Storage](#), [Transport Refrigeration](#), [Commercial & Domestic](#), and Vessels. **Download the Cold Chain Technology brief in:** [English](#) | [French](#) | [Russian](#) | [Spanish](#)



## PUBLICATIONS

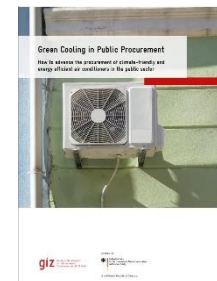
**Legislative and Policy Options to Control Hydrofluorocarbons** In order to follow and facilitate the HFC phase-down schedules contained in the Kigali Amendment, the Parties, including both developed and developing countries, will have to implement certain measures. This booklet contains a recommended set of legislative and policy options which the developing (Article 5) countries may wish to consider for implementation. It is intended to be a guide/tool for countries. [Read/download](#)



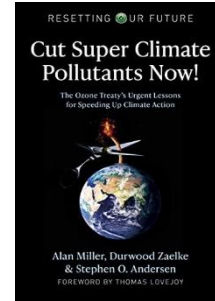
Latest issue of Centro Studi Galileo magazine, **Industria & Formazione, n. 4-2022** (in Italian).



**Green Cooling in public procurement** How to advance the procurement of climate-friendly and energy-efficient cooling equipment in the public sector? Air conditioning in public buildings is often responsible for around 50% of total electricity consumption. Switching to climate-friendly cooling technologies ("Green Cooling") can reduce costs and energy consumption and improve the carbon footprint of public buildings. This study takes a closer look at the benefits of Green Cooling in the public sector and discusses current barriers and possible solutions. The information presented provides a solid basis to revise current procurement criteria for sustainable cooling systems in public buildings. [Read/Download](#)



**Cut Super Climate Pollutants Now!**: The Ozone Treaty's Urgent Lessons for Speeding Up Climate Action (Resetting Our Future). We have a decade or less to radically slow global warming before we risk hitting irreversible tipping points that will lock in catastrophic climate change. The good news is that we know how to slow global warming enough to avert disaster. Cut Super Climate Pollutants Now! explains how a 10-year sprint to cut short-lived "super climate pollutants" -- primarily HFC refrigerants, black carbon (soot), and methane -- can cut the rate of global warming in half, so we can stay in the race to net zero climate emissions by 2050.

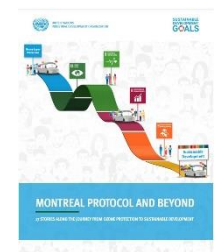


*Authors: Alan Miller, Durwood Zaelke, Stephen O. Andersen.*

E-Book on Process Safety Management (PSM) Training for Ammonia Refrigeration - a new e-book about the critical elements of a process safety management (PSM) training program for facilities operating an ammonia refrigeration system. The e-book, titled "[7 Keys to a Compliant PSM Training Program for Ammonia Refrigeration](#)," outlines important questions a facility's program should address and questions that trained plant personnel should be able to answer. **Request free Download [here](#)**

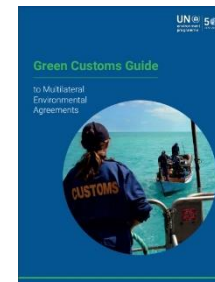


[Montreal Protocol and beyond: 17 stories along the journey from ozone layer protection to sustainable development](#) - The 2030 Agenda for Sustainable Development and the 17 Sustainable Development Goals (SDGs) embody the global commitment to build a more sustainable future for all. These universally agreed objectives address the most urgent environmental, social and economic challenges of our time...



**Read/Download [here](#)**

**The Green Customs Guide to Multilateral Environmental Agreements** was designed to promote sustainable trade and encourage customs and border control officers to take on a proactive role in protecting the environment. The guide provides useful information and guidance about relevant trade-related multilateral environmental agreements (MEAs), thus facilitating legitimate trade in environmentally sensitive items while preventing illicit trade in such items and contributing to the achievement of the [Sustainable Development Goals](#).



Read/Download the [full report](#).

See pages 91-98 on "How the Montreal Protocol regulates trade", and "Montreal Protocol-specific training materials for customs officers."

## MISCELLANEOUS

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# SIFA

LE SALON  
DU FROID  
ET SES APPLICATIONS

8, 9 ET 10 NOVEMBRE 2022, EUREXPO LYON



## Candidatez aux Grands Prix du Froid

>> Téléchargez le dossier de candidature



### 6 catégories

Présentez une ou plusieurs innovation(s) :

- Prix de la meilleure innovation en Froid Commercial
- Prix de la meilleure innovation en Froid Industriel
- Prix de l'installation innovante
- Prix de la meilleure innovation en Climatisation
- Prix de la meilleure innovation en Cuisine professionnelle
- Prix de la meilleure initiative en développement durable

Date limite de dépôt de candidature: **29 juillet 2022**



## Restriction of PFAS & Impacts on the supply chain Getting ready to transition?

W E B I N A R

Wednesday 8 June 2022  
15.00 – 16.30 CEST

The far-reaching PFAS restriction is coming soon.  
Are you ready to transition?

On **Wednesday 8 June 2022**, from 15.00 to 16.30 CEST, **Royal HaskoningDHV** and **EPPA** will offer you a webinar with practical guidance and help you to prepare:

- Where and why PFAS are used in your products?
- How to manage risks from PFAS emissions?
- How to identify and transition to suitable alternatives?
- How to assess socio-economic impacts?
- What are the different restriction options?

[Register here](#)

*Attendance to the webinar is free but available spaces are limited.* If the registration link is blocked by your firewall or if you have any questions, please send an email to Anna Baltazard [anna.baltazard@eppa.com](mailto:anna.baltazard@eppa.com)

**I am in the Montreal Protocol Who's Who... Why Aren't You?**

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The United Nations Environment Programme, OzonAction, in collaboration with Marco Gonzalez and Stephen O. Andersen are updating and expanding the "[Montreal Protocol Who's Who](#)".

We invite you to submit your nomination\*, and/or nominate Ozone Layer Champion(s). ***The short profile should reflect the nominee's valuable work related to the Montreal Protocol and ozone layer protection.***

Please notify and nominate worthy candidates through the [on-line form](#).

We look forward to receiving your nomination(s), and please feel free to contact our team for any further assistance concerning your nomination.

**Take this opportunity to raise the profile of women and men who made an important contribution to the Montreal Protocol success and ozone layer protection.**

- View the «Montreal Protocol Who's Who» [Introductory video](#)
- Contact : [Samira Korban-de Gobert](#), UN Environment Programme, OzonAction

*\* If you are already nominated, no need to resubmit your profile*



Click [here](#) for recent OzoNews Issues

[Request a PDF](#) of the current issue

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**Disclaimer:**

The United Nations Environment (UNEP), Environmental rights and governance division, OzonAction, provides OzoNews as a free service for internal, non-commercial use by members of the Montreal Protocol community. Since its inception in January 2000, the goal of OzoNews is to provide

current news relating to ozone depletion and the implementation of the Montreal Protocol, to stimulate discussion and promote cooperation in support of compliance with the Montreal Protocol. With the exception of items written by UNEP and occasional contributions solicited from other organizations, the news is sourced from on-line newspapers, journals, and websites.

The views expressed in articles written by external authors are solely the viewpoints of those authors and do not represent the policy or viewpoint of UNEP. While UNEP strives to avoid inclusion of misleading or inaccurate information, it is ultimately the responsibility of the reader to evaluate the accuracy of any news article in OzoNews. The citing of commercial technologies, products or services does not constitute endorsement of those items by UNEP.

If you have questions or comments regarding any news item, please contact directly the source indicated at the bottom of each article.

Prepared by: Samira Korban-de Gobert  
Reviewed by: James S. Curlin

If you wish to submit articles, invite new subscribers, please contact:  
Samira Korban-de Gobert, [samira.degobert@un.org](mailto:samira.degobert@un.org)



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