

[View this email in your browser](#)

**UN**  
environment  
programme

**OzonAction**  
UN ENVIRONNEMENT

# OzoNews

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

**Volume XX | 15 March 2020**

1. **Kigali Amendment latest ratifications**
2. **Servicing tail for HCFCs: What is it & why does it matter?**
3. **Customs fostering Sustainability for People, Prosperity and the Planet: A few words about the theme of the year 2020**
4. **Effects of ozone layer depletion on plants**
5. **Pesticide classification scale scopes out risk**
6. **Montreal Protocol: insights on women's role and contribution at national and international level, on the International Women's Day, 8 March 2020**
7. **Lao People's Democratic Republic clamps down on refrigerant smugglers**
8. **Ministry holds meeting to train workers in refrigeration sector**
9. **ASHRAE Resources available to address COVID-19 concerns**
10. **GreenChill Webinar: Small and Independent Grocers Partnering with GreenChill**
11. **REAL Alternatives 4 LIFE offers FREE e-learning certificate**

## GLOBAL

### 1. Kigali Amendment latest ratifications

Congratulations to the latest country which has ratified the Kigali Amendment this month:

**Lebanon, 5 February 2020**

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](#)



### 2. Servicing tail for HCFCs: What is it & why does it matter?

At the 20<sup>th</sup> anniversary meeting of the Montreal Protocol on Substances that Deplete the Ozone Layer in 2007, agreement was reached in Decision XIX/6 to adjust the Montreal Protocol's hydrochlorofluorocarbons (HCFC) phase-out schedule and accelerate the phase-out of production and consumption of these chemicals, based on the procedure in paragraph 9 Article 2 of the Montreal Protocol, and on the basis of assessments made consistent with Article 6 of the Protocol, Although having considerably lower ozone depletion potentials (ODP) than CFCs, many HCFCs have high global warming potentials, of up to 2000 times that of carbon dioxide.

This adjustment resulted in an earlier phase-out date for the production and consumption of HCFCs in developed (non-Article 5) countries by 1 January 2020, and for Article 5 countries by 1 January 2030. Some developed countries achieved total phase-out comfortably in advance of their schedule, and the phase-out for



the ozone gap. There are additionally springtime polar troposphere ozone exhaustion occasions notwithstanding these stratospheric occasions.

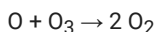
The fundamental driver of ozone consumption and the ozone opening is made synthetic concoctions, particularly produced halocarbon refrigerants, solvents, charges antifoam-blowing operators (chlorofluorocarbons (CFCs), HCFCs, halons), alluded to as ozone-exhausting substances (ODS). These mixes are shipped into the stratosphere by fierce blending in the wake of being radiated from the surface, blending a lot quicker than the particles can settle. Once in the stratosphere, they discharge halogen particles through photograph separation, which catalyze the breakdown of ozone (O<sub>3</sub>) into oxygen (O<sub>2</sub>). The two sorts of ozone consumption were seen to increment as emanations of halocarbons expanded.



Ozone consumption and the ozone opening have created overall worry over expanded cancer growth dangers and other negative impacts. The ozone layer averts most destructive UV wavelengths of bright light (UV light) from going through the Earth's air. These wavelengths cause skin cancer growth, burn from the sun and waterfalls, which were anticipated to increment significantly because of diminishing ozone, just as hurting plants and creatures. These worries prompted the reception of the Montreal Protocol in 1987, which bans the creation of CFCs, halons and other ozone-exhausting synthetic compounds.

Three structures (or allotropes) of oxygen are associated with the ozone-oxygen cycle: oxygen particles (O or nuclear oxygen), oxygen gas (O<sub>2</sub> or diatomic oxygen), and ozone gas (O<sub>3</sub> or triatomic oxygen). Ozone is formed in the stratosphere when oxygen atoms photograph separates in the wake of retaining bright photons. This converts a solitary O<sub>2</sub> into two nuclear oxygen radicals. The nuclear oxygen radicals at that point consolidate with discrete O<sub>2</sub> particles to make two O<sub>3</sub> atoms.

These ozone particles assimilate bright (UV) light, after which ozone parts into an atom of O<sub>2</sub> and an oxygen iota. The oxygen particle at that point gets together with an oxygen atom to recover ozone. This is a proceeding with process that ends when an oxygen particle recombines with an ozone atom to make two O<sub>2</sub> particles.



The aggregate sum of ozone in the stratosphere is controlled by a harmony between photochemical creation and recombination.

Since the ozone layer retains UVB bright light from the sun, ozone layer consumption builds surface UVB levels (all else equivalent), which could prompt harm, incorporating increment in skin cancer. This was the explanation behind the Montreal Protocol. Despite the fact that diminishes in stratospheric ozone are well-attached to CFCs and to increments in surface UVB, there is no immediate observational proof connecting ozone exhaustion to higher rate of skin malignant growth and eye harm in people. This is halfway in light of the fact that UVA, which has likewise been embroiled in certain types of skin disease, isn't consumed by ozone, and on the grounds that it is about difficult to control insights for way of life changes after some time.

Ozone makes impressive harm plants far and wide, including farming yields and plants in characteristic environments. Ozone harms plants by entering leaf openings called stomata and oxidizing (consuming) plant tissue during breath. These harms the plant leaves and causes diminished endurance.

**Authors:** Sabeena Yaseen, Dr. Zubair Aslam, Ali Ahmad, Sami-Ur-Rehman, Muhammad Waqas

**Technology times, 10 March 2020**

## 5. Pesticide classification scale scopes out risk

Research scientists have developed a user-friendly pesticide classification scale to support integrated pest management (IPM) and help farmers and groundskeepers make more informed comparisons of risks posed to human and environmental health. A resulting list of 659 pesticides – categorized as highly hazardous, high-risk or lower-risk – was published in the research journal, *Lancet Planetary Health*, earlier this winter.

“Our guideline provides a mechanism to shift towards lower risk pesticides and limit environmental risks during a period when regulatory systems catch up with current scientific knowledge about pesticide effects,” the lead researchers state in an accompanying article outlining the steps and rationale of their multi-year project. “Decision support for pesticide hazard and risk reduction can be incorporated within IPM programs to reduce use of pesticides and effects of these compounds while also managing pests.”



Researchers applied a range of filtering criteria to delineate the 243 lower-risk pesticides, addressing substances that are: toxic to humans and/or wildlife, aquatic species and pollinators; pose risks of cancer, birth defects or DNA mutation; magnify as they advance through the food chain; or deplete atmospheric ozone. They also considered the degree of training and personal protective equipment (PPE) required for safe handling.

Near the final stages of review and refinement, the list was tested in a practical application during a 2018 fall armyworm infestation in Africa.

“Of the 11 lower-risk compounds that only require single-layer PPE, at least seven had good to excellent efficacy against fall armyworm,” the researchers report. “The diversity of modes of action for these lower-risk pesticides is such that selection pressure for resistance could be limited by rotating between them.”

The list is envisioned as a guide for similar kinds of decision-making worldwide. A combination of government agencies and non-governmental organizations, including the US Department of Agriculture, the Sustainable Agriculture Network and the Rainforest Alliance, provided funding for the work. Lead

researchers are affiliated with the Integrated Plant Protection Center at Oregon State University, the Sustainable Agriculture Network and the Rainforest Alliance.

"As far as we are aware, our analysis is the first to propose a method for implementing the idea of a minimum pesticide list and is the first to outline lower-risk candidate compounds," they observe.

#### Facility Cleaning & Maintenance, 5 March 2020

### 6. Montreal Protocol: insights on women's role and contribution at national and international level, on the International Women's Day, 8 March 2020

Twenty-five years ago, the [Beijing Platform for Action](#) committed to address and remove systemic barriers that hold women back from equal participation both in public and private life.

To mark the International Women's Day on 8 March 2020, we asked female delegates working for the Montreal Protocol to share their insights on women's role and contribution at national and international level to discussions and policy making.

What follows are the inspiring messages of trailblazer women underscoring the vital role women play in protecting the ozone layer.

#### **Annie Gabriel, Assistant Director, Department of the Environment and Energy, Australia**

Women are critical to the effective implementation of the Montreal Protocol, as equal partners and voices for their countries and for the environment.

I found it hard to identify attributes that only women bring to discussions and policy making, as I have seen amazing attributes and skills from both men and women during the time I have been involved with the Montreal Protocol.

On balance, however, I think that women do tend to bring more inclusivity, a more accommodating approach, more sensitivity and more understanding to negotiations, but that is not always the case. Women can also be tough, focused, and persistent, and negotiate down to the last dollar or the last comma in a late-night Friday negotiation!

Women need to bring their particular strengths to negotiations and policy making – not try to be someone else. But at the end of the day, both at home and internationally, the most important message is to turn up, represent your country and work with others to protect and restore the ozone layer.

There is nothing more important than protecting our environment for future generations. The restoration of the ozone layer is necessary to protect our fragile planet and the humans, animals and plants that inhabit it.

Working on ozone protection and the Montreal Protocol provides a great opportunity to both protect and restore the ozone layer, building on expertise and honing skills - from negotiation and policy making at the international level - to the nitty gritty of on-ground implementation, such as regulating importers and working with technicians.

It also provides a bridge between science and policy making – the Montreal Protocol is informed by the most amazing scientists and technical experts. Not only is the Montreal Protocol restoring the ozone layer, but it is also making a huge contribution to mitigating climate change!

It provides the opportunity to meet amazing people committed to the Montreal Protocol and ozone protection who are happy to share their expertise and help you find your feet. In fact, we call it the Montreal Protocol family! Fundamentally, working on implementation of the Montreal Protocol is critical to protecting our environment – for this generation, the next, and many more to come.

#### **Azra Rogović-Grubić, Ozone Focal Point, Bosnia and Herzegovina**

Being a mother of three boys and wife to my beloved husband, all of whom have very strong personalities - I believe women have distinct advantages working in fields that involve discussions and policy making.

From my experience, and with all due respect to our male colleagues, women's strengths are many! They include the ability for inclusion, a strong sense of commitment, persistence, the patience and passion in their work in order to achieve goals, ensuring action is taken at the national, regional and international level.

Women are natural consensus builders and therefore have a natural advantage when it comes to conflict and crisis management; able to resolve contentious issues during negotiations and discussions in the policy making process. A case in point is the Kigali Amendment negotiations and the vital role women played in drafting the amendment and the work behind the scenes which led to its adoption.

In Bosnia and Herzegovina, we are in the advanced stages of Kigali Amendment adoption and this is mainly due to the determination of female colleagues that have been involved in this important and complex process. I would go as far as to say that mother nature decided to give women the necessary stamina to make things happen and to create new values.

In my regional Europe and Central Asia ozone network I have had the privilege and opportunity to work with some remarkable women, and learn from their experience, but also with some remarkable men. That collaboration provided us with a strong platform for an exchange of experiences in support of our everyday work.

Our network is the embodiment of knowledge sharing, positive energy, respect for gender issues and for cultural diversity, and we are living proof that the ozone family is strongest when we work together, using the



best of both worlds and creating equal chances for women, as well as men.

I graduated civil engineering in class of predominantly male colleagues and that was the start of my achievements. I say this without any gender prejudice from my side and firmly believe that knowledge, hard work and professionalism will win in any situation.

As the serving Ozone Officer for, Bosnia and Herzegovina, for the past 15 years I would highly recommend all young women should seize any possible opportunity to participate in the work of ozone layer protection, and to fight for their chance to be involved in the implementation of one of the most successful multilateral environmental treaties to date. Currently we are working with vocational schools to introduce a curriculum to train students to become refrigeration and cooling service technicians and are specifically encouraging young women to consider this very rewarding and lucrative career.

Looking back at my career, working in the capacity of Ozone Officer has been a great challenge and privilege: it has also enabled me to evolve both professionally and personally beyond my imagination, as well as gain the experience and skills that have made it possible for me to participate in other multilateral environmental agreement negotiations and policy discussions.

**Lara Haidar, Project Coordinator, National Ozone Unit, Lebanon**

The role of women is pivotal in development and stability, since they bring different attributes, perspective and skills to national and international policy discussions. Women, considered agents of change, bring a different set of values and concerns to the negotiating table, they help foster dialogue among different sectors of society and bring a grassroots perspective to policymaking. In their book "Critical Mass Theory", Marwell and Oliver stated that "women would achieve solidarity of purposes in the interest of society when represented in any decision making."



Ozone protection is one of the greatest careers you can have. If you enjoy science and the challenge of applying new solutions nationally and internationally, then this will be definitely a satisfying career! You are at work a long time of your life so try and make it rich and rewarding; and when that work is protecting the ozone layer, so crucial for life on earth, it doesn't get much better.

The new century will place a greater demand and burden on the planet. Ozone protection is one way of ensuring that humanity can continue to live in a healthy environment. It gives me great satisfaction to know that the work I am doing will not only benefit my immediate family, but also the people of my country and further afield. The impact you can have working for the Montreal Protocol to protect the ozone layer should not be underestimated: the benefits are literally global.

**Shontelle Wellington, National Ozone Officer, Barbados**

Based on my professional and personal experiences, women who participate in discussions and contribute to policy making do so with a distinct level of preparation, thoughtfulness and depth.

When approaching an issue, we generally tend to put a great deal of thought into our input because we want to ensure that our contributions have impact, are heard, and are respected.



When we speak on, or write about an issue, we typically do so with passion and often utilise a holistic viewpoint from inception. Our inclination to be more instinctively caring is often demonstrated in the way we approach discussions and policy making. We typically tend to take the time to identify and communicate the possible implications of proposed actions on others, especially the most vulnerable in our societies; and then to passionately propose, support and/or pursue solutions to problems for the benefit of our children, our families, our nations, our regions and the world as a whole.

If you aspire to be a part of a community that challenges you to elevate your thinking past your own self-interests, to consider what is best for future generations of your country, your region and the globe; if you seek to serve in an environment that requires you to be conscientious, innovative, solutions oriented, adaptable, cooperative and persistent, then the ozone protection community is right for you.

Any contribution in the area of ozone protection will support and develop you both personally and professionally, as well as foster an environment that continuously nurtures and reenergizes your passion and commitment to the work you do. Most importantly, ozone protection will provide you with opportunities and platforms to inspire other women. So whatever role you may consider, aspire to make your contribution meaningful and unique.

**Maryam Al-Dabbagh, Legal Consultant, General Authority of Meteorology & Environmental Protection, Saudi Arabia**

Good negotiators and policymakers, regardless of their gender, share similar attributes: top-notch communication, critical thinking and great research skills; creativity in reaching solutions; and the ability to 'zoom out', keeping in mind the bigger picture while maintaining a focus on the immediate issues at hand.

To succeed at the highest level, both men and women need to possess this diverse skills-set, and as a group, both genders tend to display complementary strengths.



Numerous studies show that women generally tend to excel in interpersonal communication and facilitating dialogue. The arena of international affairs is often portrayed as a zero-sum game, a hotbed of conflict and competition. To counter this grim outlook, women can leverage their unique strengths for collaboration and cooperation to achieve outcomes that yield the best possible results for everyone involved. In short, I think enabling women to play a greater part in such discussions brings about a win-win situation for both people and planet.

I would highly encourage any young women considering such a role to "go for it!" One highlight of a career in this area is the unequivocally positive role one gets to play, however small, in contributing towards the implementation of an environmental agreement that is both highly effective and remarkably successful – a unique attribute, these days.

Being surrounded by colleagues who share similar ideals relating to the environment is another plus. There's no reason why you won't be welcomed, your efforts appreciated, and your sense of purpose reinvigorated by your day-to-day work in this field. Overall, my advice would be to embrace opportunities that come your way, don't second-guess your own abilities, and have confidence in your own potential.

[The United Nations Environment Programme \(UNEP\), Ozone Secretariat, 6 March 2020](#)

## ASIA PACIFIC

### 7. Lao People's Democratic Republic clamps down on refrigerant smugglers

The raid is not like other police raids.

No flashing lights and no breaking down doors. There is no cache of weapons to seize. But on a planetary scale, what the police came to confiscate is no less dangerous.

On the outskirts of Vientiane, Lao Environment Police enter a nondescript shop selling refrigerators, rice cookers and other appliances, flanked by officials from the Pollution Control Department and the Department of Domestic Trade.

They have been tipped off that the shop is likely selling smuggled refrigerants.

Many refrigerants are subject to strict regulations in Lao People's Democratic Republic, as they are in other countries. Some are banned entirely. In the 1970s, scientists discovered certain refrigerants called chlorofluorocarbons (CFCs) were destroying the ozone layer.

A global agreement, the [Montreal Protocol on Substances that Deplete the Ozone Layer](#), was forged to phase out these ozone-depleting substances. Replacements for CFCs, called hydrofluorocarbons (HFCs) and hydrochlorofluorocarbons (HCFCs), are also now being phased out under the Protocol due to their extremely high global warming potential.



In the shop, the staff lead the officials to a back cupboard that is crammed full of hundreds of cylinders of R22, R32, R134a and R410a refrigerant gas, all of which require permits in Lao People's Democratic Republic.

The staff plead that the customs documents and permits are all with a co-owner of the shop, who is out of the country.

Thevarack Phonekeo, National Ozone Officer for Lao People's Democratic Republic, seems skeptical anyone has the appropriate documents. Later, he explains why. "The license is issued by the Lao National Ozone Unit and the Pollution Control Department. That's usually my responsibility and I have not seen theirs."

Without appropriate documentation, that means confiscation.

"We have to follow the regulations of the domestic trade department," says Phonekeo. "Today we got around 150 cylinders. That's almost 2,000 kilos."

For a first offence, traders are usually let off with a warning. After that, fines range between 1 million to 10 million Lao kip (US\$110-1,100), and potentially a business license revocation.

While regulation of these refrigerants is widespread globally, enforcement is not. To address this challenge, Lao People's Democratic Republic has an established mechanism to empower an inspection and confiscation team.

"Preventing the illegal entry of controlled refrigerants can be a challenging task at the best of times," says Shaofeng Hu, Senior Montreal Protocol Regional Coordinator for Asia and the Pacific. "Part of the issue is that

officials simply can't physically check most of the imported commodities and technicians aren't always clear on the damage these refrigerants can do."

Refrigerants can be full of counterfeit gases, mixtures that will destroy appliances, start fires, cause injury and, of course, severely damage the environment.

Refrigerants can also be easily hidden. Some canisters are barely larger than a beer can.

"Customs officers say smugglers will mix the refrigerant containers with other products, making it impossible to check," says Phonekeo. "Even bringing in a little bit at a time, if you do it a few times a week, that's a lot."

UNEP, through the [OzonAction](#) Compliance Assistance Programme, has been supporting efforts to address these challenges in Lao People's Democratic Republic and other countries.

In particular, UNEP has provided a number of trainings for customs officers on what to look out for. Technicians have also received training on what they should and should not use.

These trainings have also been backed with financial support from the [Montreal Protocol's Multilateral Fund](#).

"We've been encouraged by how enthusiastic countries have taken to the task of developing, implementing and enforcing measures to control HCFCs and other ozone depleting substances," says Hu. "In doing so, governments are helping protect the ozone layer and prevent climate change. Lao People's Democratic Republic is an excellent example of the efforts we are seeing in countries across the region. We need to see continued enforcement in every country if the regulations are to be effective."

Indeed, Lao People's Democratic Republic's Joint Inspection Team, which leads the enforcement for ozone-depleting substances, won accolades from the United Nations last year, taking home the [2019 Asia Environmental Enforcement Award](#) in the category of impact.

Several pick-up trucks are required to haul away the nearly two tonnes of confiscated refrigerants to a secure warehouse. Currently, there is no way to destroy the gases in a cost-effective way and they can only be stored indefinitely.

At the warehouse, the confiscated items are laboriously piled next to a 700-kilogram haul from 2019.

Fortunately, the warehouse is large and there is plenty of room for the next seizure.

[The United Nations Environment Programme \(UNEP\), 5 March 2020](#)



## WEST ASIA

### 8. Qatar Ministry holds meeting to train workers in refrigeration sector

The Ministry of Municipality and Environment (MME) held a joint meeting yesterday aimed at training workers in the refrigeration and air-conditioning sector in Qatar, and to identify the most important developments in the Montreal Protocol to protect the ozone layer.

The meeting took place between the Ozone group of the Department of Radiation and Chemicals Protection of the Ministry, the representatives of the West Asia UNEP based in Bahrain, and the Italian company ATF which is training technicians working in the sector.

During the meeting, representatives of a number of the authorities in Qatar and companies working in the field of refrigeration and air conditioning reviewed the most important developments related to the protocol, and consulted on training technicians working in the refrigeration and air conditioning sector in the country, in addition to co-ordinating joint efforts between the authorities and companies concerned with the aim of preserving the environmental balance.

The meeting was held via Skype on the Internet, in view of the current global travel restrictions due to Coronavirus (Covid-19), in order to preserve public health and safety.

[Gulf Times, 10 March 2020](#)



## NORTH AMERICA

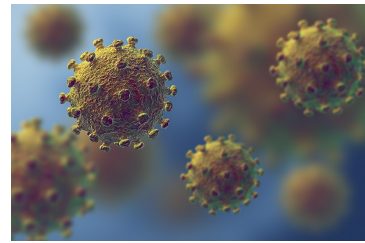
### 9. ASHRAE Resources available to address COVID-19 concerns

ASHRAE has developed proactive guidance to help address coronavirus disease 2019 (COVID-19) concerns with respect to the operation and maintenance of heating, ventilating and air-conditioning systems.

This [webpage](#) provides easily accessible resources from ASHRAE to building industry professionals.

The ASHRAE COVID-19 Preparedness Resources [webpage](#), provides easily accessible resources from ASHRAE to building industry professionals.

“The recent escalation in the spread of coronavirus disease 2019 is alarming on a global scale,” said 2019-20 ASHRAE President Darryl K. Boyce, P.Eng. “While ASHRAE supports expanded research to fully understand how coronavirus is transmitted, we know that healthy buildings are a part of the solution. ASHRAE’s COVID-19 Preparedness Resources are available as guidance to building owners, operators and engineers on how to best protect occupants from exposure to the virus, in particular in relation to airborne particles that might be circulated by HVAC systems.”



Available on the webpage is ASHRAE’s recently approved position document on [Airborne Infectious Diseases](#). The Society’s position is that facilities of all types should follow, as a minimum, the latest practical standards and guidelines.

[ASHRAE, March 2020](#)

## 10. GreenChill Webinar: Small and Independent Grocers Partnering with GreenChill

**Topic:** [Small and Independent Grocers Partnering with GreenChill](#)

**Date:** Tuesday, 24 March 2020

**Time:** 2:00 pm to 3:00pm (Eastern time)



### Description:

Representatives from Cook County Whole Foods Co-Op and City Market Onion River Co-Op will present on Small and Independent Grocers Partnering with GreenChill. Cook County Whole Foods Co-Op is a small format grocery store located in Grand Marais, Minnesota. Their remote location and small population can make refrigeration repairs and maintenance challenging. Jennifer Stoltz will discuss steps taken that helped reduce repairs and refrigerant leaks. City Market Onion River Co-Op is based in Burlington, VT. Brett Frazer and Kevin Danahy will discuss their experience in GreenChill as an independent grocer.

### To join the webinar:

1. Visit the webinar access page: [Small and Independent Grocers Partnering with GreenChill](#)
2. Select "Enter as a Guest". It is important that you select the option to enter as a guest.
3. Enter your name. | 4. Click "Enter Room". | 5. Click "OK".

### For audio:

1. Call the toll free call-in number: 1-866-299-3188
2. Use Conference Code: 202 351 9573#

## EUROPE & CENTRAL ASIA

### 11. REAL Alternatives 4 LIFE offers FREE e-learning certificate

The REAL Alternatives 4 LIFE project has recently launched a FREE e-learning course completion certificate available to anyone who has completed all pages of all nine of the e-learning modules. The e-learning modules cover fundamentals and safety related to low GWP refrigerants (flammables, carbon dioxide and ammonia). The e-learning is available in 15 different languages.

Low GWP refrigerants are now firmly established in the market and completing REAL Alternatives e-learning is a convenient and accessible way of improving your knowledge of the principles of working with these refrigerants. E-learning cannot however replace practical training and hands on experience, and REAL Alternatives also offers standardised teaching materials for practical training programmes which are being delivered in 15 countries across Europe.



Since the launch of the REAL Alternatives 4 LIFE e-learning last year, over 1,800 individuals have enrolled in the online course. Nearly 600 teachers and technicians have completed practical training courses and passed an assessment which allows them to gain a full REAL Alternatives 4 LIFE CPD (Continued Professional Development) Certificate. The REAL Alternatives training was developed by a consortium of training providers and institutes across Europe and is co-funded by the EU LIFE Programme for environmental initiatives.

Click [here](#) to sign up for the free e-learning or to find a practical training course in your country.

**5<sup>th</sup> Edition of Europe and Central Asia (ECA) Montreal Protocol Award for Customs and Enforcement Officers for 2019-2020**



The United Nations Environment Programme, OzonAction, in cooperation with the World Customs Organization and the Ozone Secretariat, has launched the fifth edition of the ECA Montreal Protocol Award for Customs and Enforcement Officers for the period 2019-2020. Nominations forms are available in English and Russian and the award ceremony is scheduled for 2021. The award is part of the work programme of OzonAction's Regional Montreal Protocol Network for Europe and Central Asia (ECA network).

The award recognizes the crucial role of customs & enforcement officers in implementing trade restrictions and bans for hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs). Both groups of chemicals, which are controlled under the Montreal Protocol on Substances that Deplete the Ozone Layer, are widely used as refrigerants and foam blowing agents in the refrigeration, air conditioning and foam blowing sectors.

The informal Prior Informed Consent (iPIC) system allows trade partners to confirm the legitimacy of an intended trade in controlled substances prior to issuing import / export licenses. More information on iPIC is available [here](#)

The award aims to recognize and offer encouragement to customs and enforcement officers and their respective organizations for successful prevention of illegal or unwanted trade in HCFCs / HFCs. This also includes equipment or products containing or relying on the use of HCFCs / HFCs.

Eligible nominees include customs and enforcement officers and / or their respective organizations who have been directly involved or instrumental in preventing illegal or unwanted trade in HCFCs / HFCs as well as equipment or products containing or relying on the use of HCFCs / HFCs.

Eligible enforcement actions include the detection of an illegal shipment and the subsequent seizure, detention or sending back of the disallowed goods, as well as successful iPIC consultation preventing the issuance of export / import licenses for illegal or unwanted shipments.

Enforcement actions are eligible if they have not been submitted to any other award schemes.

#### **Geographical scope and time period**

Eligible countries include those in the Europe and Central Asia (ECA) region including countries with economies in transition (CEIT countries) and Western European countries as well as their trading partners.

**Eligible enforcement actions must have taken place during the period:  
1 January 2019 – 31 December 2020.**

Completed nomination forms with detailed and comprehensive case descriptions and supporting photos and documents should be received by the United Nations Environment Programme as soon as possible but **at the latest by: 31 January 2021.**

[Learn more >>>](#)

## FEATURED



## OZONE SECRETARIAT

- [31<sup>st</sup> Meeting of the Parties to the Montreal Protocol](#), 4 - 8 November 2019, Rome, Italy
- [Bureau Meeting of the 30th Meeting of the Parties to the Montreal Protocol](#), 3 November 2019, Rome, Italy
- [63<sup>rd</sup> Meeting of the Implementation Committee under the Non-Compliance Procedure of the Montreal Protocol](#), 2 November 2019, Rome, Italy
- [41<sup>st</sup> Meeting of the Open-Ended Working Group of the Parties to the Montreal Protocol](#), 1 - 5 July 2019, 1 - 5 July 2019, Bangkok, Thailand
- [62<sup>nd</sup> Meeting of the Implementation Committee under the Non-Compliance Procedure of the Montreal Protocol](#), 29 June 2019, Bangkok, Thailand

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

Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, Status of Ratification 15 October 2016 to [date](#)



## 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](#)

In the past there were 4 main panels. The Panels for Technology and Economic Assessments were merged in 1990 into one Panel, now called the Technology and Economic 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.



## THE MULTILATERAL FUND FOR THE IMPLEMENTATION OF THE MONTREAL PROTOCOL

- [Documents and information note for the 84<sup>th</sup> meeting of the Executive Committee](#), Montreal, Canada, 16-20 December 2019
- [Executive Committee Primer – 2019](#) - An introduction to the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol
- [Report of the 83<sup>rd</sup> meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol](#), Montreal, Canada, 27-31 May 2019
- [83<sup>rd</sup> meeting of the Executive Committee](#)
- [82<sup>nd</sup> meeting of the Executive Committee](#)

[Learn more >>>](#)



## OZONACTION



### Special Announcement // Job Opening

Posting Title: STAFF ASSISTANT, G6  
 Department/Office: United Nations Environment Programme, OzonAction  
 Duty Station: PARIS  
 Posting Period: 26 February 2020 - 26 March 2020  
 Job Opening Number: 20-Administration-UNEP-131081-R-Paris (X)  
[Learn more/Apply >>>](#)

The OzonAction new iPIC platform - The Informal Prior



informed consent system (iPIC) has been completely overhauled and updated - OzonAction latest updated and streamlined version of the online Informal Prior-Informed Consent (iPIC) platform. Responding to comments and feedback we have changed how the system looks and operates. See the iPIC flyer for more details - Visit iPIC website to familiarise yourselves with the new features and functionalities. Automatically re-set your password if required.

Contact: [iPIC Online Administrators](#) for any further questions.



**OzonAction Factsheet: Proposed additional HS code sub-headings for HFCs in advance of the 2022 HS code update - Cheat Sheet**

This document is intended to accompany the OzonAction policy brief: "HS CODES FOR HFCs - Advice for countries in advance of the 2022 HS code update", available [here](#).

[Download the Factsheet](#)

Contact: [Ezra Clark](#), UNEP, OzonAction



**OzonAction Factsheet: Dealing with seized ODS - Options for Article 5 countries**

This concise factsheet summarises the five main options available to countries when dealing with seized ODS or HFCs as well as outlining the various considerations and the pros and cons of these options.

[Download the Factsheet](#)

Contact: [Ezra Clark](#), UNEP, OzonAction

**UNEP OzonAction Training Programme for National Ozone Officer**

A key factor contributing to the significant success of the Montreal Protocol on Substances that Deplete the Ozone Layer is the 'country-driven approach'. This approach places National Ozone Units at the centre of the action to protect the ozone layer.

The National Ozone Unit led by the National Ozone Officer (NOO), is the single most important element in national strategies to comply with the Montreal Protocol.

The knowledge and capacity of the NOO in effectively developing projects, managing strategies, reporting data, and working with national and international institutions -directly or indirectly affects each developing (Article 5) country's ability to meet its obligations under the Montreal Protocol treaty.

For this reason OzonAction has completely transformed and updated its NOO training programme to assist NOUs in successfully understanding all the roles and requirements and in carrying out their daily tasks in Montreal Protocol implementation.

The main objective of this training programme is to provide new National Ozone Unit (NOU) staff with essential information about the Montreal Protocol, a country's obligations under the Montreal Protocol, and the main activities carried out by NOUs. It aims to provide new NOU staff with fundamental knowledge and information tools that will enable them to support their national government in meeting the commitments agreed by all countries under the Montreal Protocol.



[Download the flyer >>>](#)

**Contact:** [Mikheil Tushishvili](#), Montreal Protocol Programme Officer, UNEP-OzonAction.



### OzonAction Factsheet: Article 7 Data Reporting on HFCs - When Countries Need to Start Reporting

One of the important commitments of the Protocol is that of reporting the consumption and production of substances controlled under the Montreal Protocol.

Following ratification of the Kigali Amendment, this commitment is now extended to HFCs.

This short factsheet provides some useful information on relevant Article 7 reporting dates and deadlines for HFCs.

[Download the Factsheet](#)

**Contact:** [Ezra Clark](#), UNEP, OzonAction



### HS Codes for HFCs - Advice for countries in advance of the 2022 HS code update

The Kigali Amendment requires Parties to put into place an import and export licensing system for hydrofluorocarbons (HFCs) by 1st January 2019 (or two years later if required).

To enable a licensing system to function effectively, it is important that the government is able to monitor and record imports and exports of each specific HFC individually.

Import and export statistics are normally collected by customs officers using the international product nomenclature system – the Harmonized Commodity Description and Coding System, or Harmonized System (HS).

However, until the HS is revised in 2022, all HFCs are contained in a single HS code which does not allow differentiation of the individual chemicals or of mixtures.

This document outlines a proactive interim approach, recommended by the World Customs Organization (WCO), to establish additional digits in the existing national HS codes to identify specific HFCs.

This practical document is suitable for outreach to the customs agencies, customs officers in the field, and others involved in controlling trade in HFCs.

Document prepared by the UN Environment Programme in cooperation with the World Customs Organization (WCO).

[Download the publication](#)

**Contact:** [Ezra Clark](#), UNEP, OzonAction



### Update on new refrigerants designations and safety classifications - factsheet

The purpose of this fact sheet is to provide an update on ASHRAE standards for refrigerants and to introduce the new refrigerants that have been awarded an «R» number over the last few years and introduced into the international market.

The United Nations Environment Programme (UNEP), represented by the OzonAction-Law Division, and ASHRAE have a Memorandum of Understanding to establish technical cooperation and mutual coordination toward providing professional technical services to the refrigeration and air-conditioning stakeholders (governmental, private, and public). The organizations work to ensure that up-to-date technical information and standards are properly introduced and promoted.

[Download the Factsheet](#)

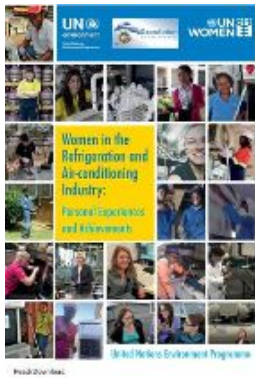
**Contact:**

[W. Stephen Comstock](#), Manager of Business Development EMEA, ASHRAE

[Ayman Eitalouny](#), Coordinator International Partnerships, UN Environment OzonAction

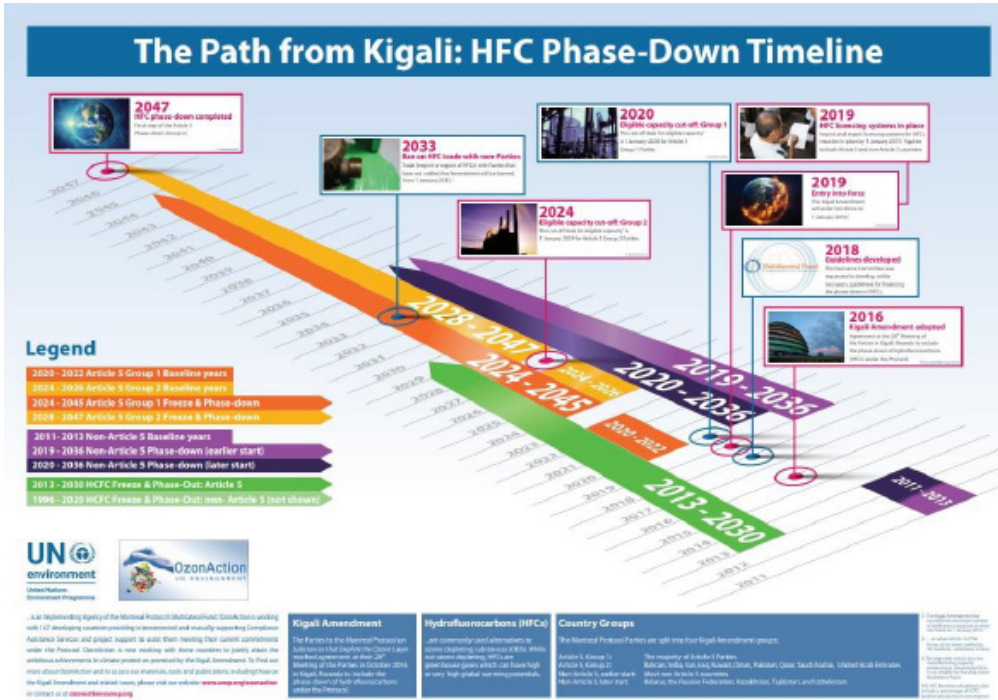
### Women in the refrigeration and air-conditioning industry: Personal experiences and achievements

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.

[Download the publication](#)



### The Path from Kigali: HFC Phase-Down Timeline

This timeline, produced by OzonAction, highlights key hydrofluorocarbons (HFCs) phase-down dates. Click [here](#) to download the timeline



### Good Servicing: Flammable Refrigerants Quick Guide

This is the electronic and interactive version of the UN Environment OzonAction Quick Guide on Good Servicing Practices for Flammable Refrigerants. It offers easy reference to the key safety classification and technical properties of flammable refrigerants that are available in the market. It also provides important safety guidance for the installation and servicing of room air-conditioners designed to use flammable refrigerants. This interactive guide allows you to scroll and browse the text, jump to specific chapters or use the comprehensive dynamic index to locate specific keywords, figures and tables. The application also includes a refrigerant charge size calculator and a room size calculator for flammable refrigerants.

Available for **free** on the **Google play store** (Apple version coming soon). Search for **"UNEP Quick guide"** or use the **QR code**



### Refrigerant Identifier Video Series

Guidance on how to identify refrigerants using a refrigerant identifier. This new OzonAction video series consists of short instructional videos showing how to use and maintain a refrigerant identifier. The videos provide useful guidance on safety and best practice, understanding the difference between different identifier units, testing procedures and identification of results.

It is intended for use by Montreal Protocol National Ozone Officers, Customs and Enforcement Officers as well as technicians involved in the servicing and maintenance of refrigeration and air conditioning systems.

The application features 10 short instructional videos on the following topics:

- Refrigerant cylinder types
- Types of identifiers
- Getting to know your identifier
- Safety and precautions
- Testing a sample – vapour (gas)
- Testing a sample – liquid
- Results
- Faults & error messages
- Maintaining the unit
- Software updates

Available for [free](#) on the [Google play store](#) (Apple version coming soon). Search for “[UNEP Refrigerant ID](#)” or use the [QR code](#)



## GWP-ODP Calculator Smartphone Application

- Helps in understanding and reporting under the Montreal Protocol (and future commitments under the Kigali Amendment)
- The calculator will automatically perform the conversion between metric tonnes, ODP tonnes and/or CO<sub>2</sub>-equivalent tonnes (or kg) and display the corresponding converted values
- The app includes both single component substances and refrigerant blends
- The components of a mixture and their relative proportions (metric, ODP, CO<sub>2</sub>-eq) are also displayed.

Available for [free](#) from the [Apple IOS store](#) and [Google PlayStore](#). Search for “[GWP ODP CALC](#)” in the [Playstore](#) to [install! Download it Now!](#)

The application allow you to easily convert ODP, CO<sub>2</sub>-eq and metric quantities of refrigerants and other chemicals.

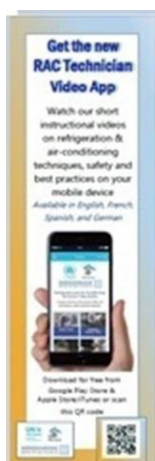


## OzonAction Smartphone Application WhatGas? Quickly search for the information you need

- Chemical name
- Chemical formula
- Chemical type
- ASHRAE designation
- Trade names
- HS code
- CAS number
- UN number
- Montreal Protocol Annex and Control measures
- Ozone depleting potential (ODP)
- Global warming potential (GWP)
- Blend components
- Toxicity and flammability class
- Main uses

OzonAction Smartphone Application WhatGas? Available for [free](#) in the [Google Play](#) and [Apple](#)

[IOS Store](#) Scan the [QR code](#) or search for “[UNEP](#)”, “[OzonAction](#)” or “[WhatGas?](#)”



## OzonAction Multimedia Video Application: Refrigeration and Air-conditioning Technician Video Series - [Over 50,000 downloads to date](#) -

OzonAction has launched an exciting new application which hosts series of short instructional videos on techniques, safety and best practice for refrigeration and air-conditioning technicians.

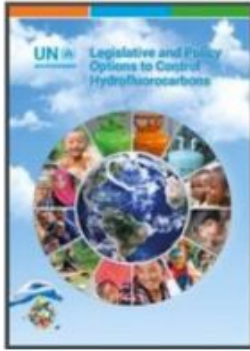
This application, consisting of short instructional videos on techniques, safety and best practice, serves as a complementary training tool for refrigeration and air-conditioning (RAC) sector servicing technicians to help them revise and retain the skills they have acquired during hands-on training.

### [New videos on flammable refrigerants just added!](#)

Please share with your RAC associations, technicians and other interested stakeholders...

OzonAction Multimedia Video Application: Refrigeration and Air-conditioning Technician Video Series [Available in the Android Play Store](#) and [Apple Store/iTunes](#). (Just search for “[OzonAction](#)”, or scan this [QR code](#))

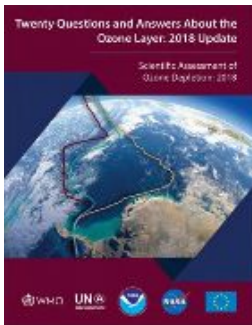
## PUBLICATIONS



### 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.



**Twenty questions and answers about the ozone layer: 2018 update**, is a component of the Scientific Assessment of Ozone Depletion: 2018 report. The report is prepared quadrennially by the Scientific Assessment Panel (SAP) of the Montreal Protocol on Substances that Deplete the Ozone Layer.

**Lead Author:** Ross J. Salawitch

**Coauthors:** David W. Fahey, Michaela I. Hegglin, Laura A. McBride, Walter R. Tribett, Sarah J. Doherty

Read / Download:

[20 Questions and Answers about the ozone layer-2018 | Figures](#)



**Primer on Hydrofluorocarbons (HFCs)** - IGSD -11 January 2018

Fast action under the Montreal Protocol can limit growth of hydrofluorocarbons (HFCs), prevent 100 to 200 billion tonnes of CO<sub>2</sub>-eq by 2050, and avoid up to 0.5°C of warming by 2100.

**Lead authors:**

Durwood Zaelke, Nathan Borgford-Parnell, and Stephen O. Andersen.

**Contributing authors:**

Kristin Campbell, Xiaopu Sun, Dennis Clare, Claire Phillips, Stela Herschmann, Yuzhe Peng  
Ling, Alex Milgroom, and Nancy J. Sherman.



The **IIR International Dictionary of Refrigeration** Available in 11 languages, the complete version of the International Institute of Refrigeration (IIR) International Dictionary of Refrigeration is now freely accessible online. The IIR International Dictionary of Refrigeration offers researchers, industrialist or administrations the practical resources required to produce content related to refrigeration technologies in multiple languages.

This online tool allows you to find definitions, in English and French, of scientific and technical terms, as well as identify terms in the language of your choice and find corresponding translations in the 10 other languages.

The dictionary provides term searches in Arabic, Chinese, Dutch, English, French, German, Italian, Japanese, Norwegian, Russian and Spanish.

Access the International Dictionary of Refrigeration on the [IIR website](#)

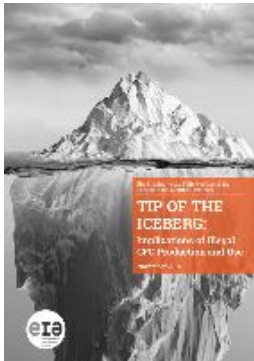


**Impact of Standards on Hydrocarbon Refrigerants in Europe – Market research report.**

The market research report was realised for the EU-funded **LIFE FRONT** project. Amongst the main result of the market research:

- Current charge limits set in standards both restrict and obstruct the development of hydrocarbon technology
- Over 50% survey respondents already work with hydrocarbons to some extent
- Most of those planning to start working with hydrocarbons in the future will do that in 2019-2020 timeframe - revision of standards could have a major impact on the scale of this shift

- Large proportion of respondents indicated they manufacture equipment using multiple refrigeration circuits - allowing higher hydrocarbon charge limits per single refrigeration circuit would have a profound impact on cost and availability of larger units.



### Tip of the Iceberg: Implications of Illegal CFC Production and Use.

The Environmental Investigation Agency (EIA) recently released report urges Parties to the Montreal Protocol to address a number of remaining unanswered questions, in particular the absence of comprehensive data regarding the size of current banks of CFC-11 in PU foam and other products or equipment.



### Cold Hard Facts 3 - Review of the Refrigeration and Air Conditioning Industry in Australia

[...] This study provides a broad view of the composition, size and value of the industry, and projections for its future. This will assist industry and policy makers with management of ozone depleting substances as they are phased out, and synthetic greenhouse gases, including hydrofluorocarbons (HFCs) which are being phased down from January 2018.



**Ozone-depleting substances 2019 Aggregated data reported by companies on the import, export, production, destruction, feedstock and process agent use of ozone-depleting substances in the European Union, 2006-2018/1994-2019** - The 2019 edition of the European Environment Agency (EEA) report on ODS confirms that the EU has already achieved its goals on the phase-out of such substances under the Montreal Protocol. [...]



### Benefits of Energy Efficient and Low-Global Warming Potential Refrigerant Cooling Equipment

Authors: Nihar Shah, Max Wei, Virginie Letschert, Amol Phadke.

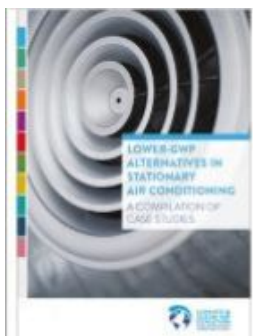
Energy Analysis and Environmental Impacts Division  
Lawrence Berkeley National Laboratory  
August/2019



The Economist Intelligence Unit (EIU) newly launched report **The Cooling Imperative: Forecasting the size and source of future cooling demand** forecasts the size and source of future cooling demand out to 2030. Commissioned by the Kigali Cooling Efficiency Program (K-CEP), this report quantifies the cooling market in unit sales and financially and maps out what the transition to more efficient, climate-friendly cooling could look like.

### Lower-GWP Alternatives in Stationary Air Conditioning: A





**Compilation of Case Studies** -The case studies in this booklet discuss several applications in the stationary air conditioning sector. The applications include chillers of natural refrigerants and hydrofluoroolefins (HFOs) as well as split-units which use hydrocarbons (HCs) as the refrigerant. The technologies presented in these case studies are only some examples of the many available options for zero and lower GWP substances. The examples take into account design criteria such as system performance, environmental impact and cost. All these refrigerants still have many challenges that should be considered in the design, for example their flammability, toxicity, lower efficiency in some cases, and cost. Balancing these challenges using a consistent and comprehensive methodology across all refrigerants and system types is essential in assessing alternatives...

[Climate and Clean Air Coalition \(CCAC\), 2019](#)



Latest issue of Centro Studi Galileo magazine, **Industria & Formazione, n. 1 - 2020** (in Italian language).



**The nationally determined contributions (NDC) support Facility for efficient, climate-friendly cooling.** Launched in January 2020, the NDC Support Facility for Efficient, Climate-Friendly Cooling (NDC Support Facility) provides funding and guidance to organizations to support governments that want to integrate cooling solutions into the next round of their country's Nationally Determined Contributions (NDCs), which are expected to culminate at the 2020 UNFCCC climate negotiations (COP26) in Glasgow.

K-CEP hosted an information webinar on January 28<sup>th</sup> providing an overview of the program. Check out the [webinar recording](#) and [presentation slides](#).

## MISCELLANEOUS

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



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 are pleased to 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, OzonAction

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

## New International Journal of Refrigeration service for IIR members



Access the complete archives of the International Journal of Refrigeration (IJR) online. Designed with members in mind, this new and practical electronic subscription gives members substantial advantages:

- Immediate and permanent access to the latest research and to IJR archive
- Access the latest articles as soon as they become available online.
- Browse, search and read each one of the nearly 4,500 papers since Volume 1, Issue 1.
- Unlimited access to seminal contributions to the field of refrigeration dating back to 1978.
- Keep up-to-date with subscriptions to customized e-alerts on New Volumes, Topics and saved Searches. Enhanced content and functions
- Easily export references, citations and abstracts.
- Print, download or share articles with colleagues or peers.
- See which papers, published in Elsevier or elsewhere, have cited any selected article.
- Consult the research highlights overview of articles in volumes from 2012 onwards.

To access this new service, click "[activate my e-IJR subscription now](#)" and follow the instructions.

## International Observers - New AREA membership category



Due to the significant worldwide interest in European legislative developments and the increase in competence of personnel who handle new refrigerants, AREA is pleased to introduce its brand new "International Observer" membership category. This provides a fantastic opportunity for non-European RACHP installer bodies the world, to benefit from the expertise and discussions within Europe through access to AREA.

Contact: [info@area-eur.be](mailto:info@area-eur.be)

## green cooling initiative

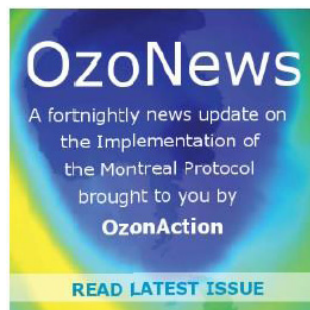
**GIZ Proklima Cool Training is a series of international trainings on the safe use of natural refrigerants in the refrigeration and air-conditioning (RAC) sector.**

Launched in 2014, these trainings have since supported the worldwide promotion of sustainable cooling technologies by providing training on the safe handling of natural refrigerants. Main target group are international RAC technicians and trainers as well as political decision makers from developing countries and emerging economies. Depending on the training program, the courses are offered as one-week or two-week packages aiming at NOU representatives and technicians, respectively.

### Schedule 2020

- Technician Training: May 4th to May 15th 2020
- Policy Training: June 2nd to June 5th 2020 (in English/French)
- Policy Training: June 15th to June 19th 2020 (in Spanish)

[Learn more >>>](#)



**Click [here](#) to access recent OzoNews Issues**  
**Request a PDF of the current issue**

### Disclaimer:

The United Nations Environment (UNEP), Economy 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, OzonAction  
Reviewed by: Ezra Clark, OzonAction

If you wish to submit articles, invite new subscribers, please contact:  
Samira Korban-de Gobert,  
Tel. (+33) 1 44.37.14.52,  
[samira.degobert@un.org](mailto:samira.degobert@un.org)

