

OzoNews

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

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GLOBAL

[UNEP's Statement on the COVID-19 global pandemic](#)

We are pleased to share the statement of the United Nations Environment Programme on the COVID-19 global pandemic available at the following [link](#)

Furthermore, the presentation of the Executive Director on UNEP's engagement with the United Nations System and its response to the COVID-19 situation, provided during a briefing at the subcommittee meeting of the CPR, 2 April 2020, has also been made available at the following [link](#)

[COVID-19 Pandemic updates from UNEP](#)



1. OzonAction's iPIC system helps prevent an illegal shipment of 72 tonnes of HCFC-22

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 hydrochlorofluorocarbons (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.

In March 2020, China's Ozone Depleting Substance (ODS) Import/Export Management Office received an application to export 72 tonnes of HCFC-22^[1] from a chemical company. The intended destination of the export was an importer in Thailand. A third-party intermediary had been employed to broker the trade.

Given the size of the requested export, the involvement of a third party, and a history of recent requests from Thailand, China's ODS Import/Export Management Office used iPIC to investigate the legitimacy of the trade with the National Ozone Unit of Thailand.



iPIC is a voluntary and informal mechanism of information exchange on intended trade between countries in ODS and hydrofluorocarbons (HFCs) and mixtures containing these substances. iPIC was created and is hosted by UN Environment Programme (UNEP) OzonAction. The system enables countries to share details of eligible importers and exporters with other member countries through a secure online platform. iPIC focal points can carry out easy consultations with their trading partner countries to verify intended shipments of ODS. iPIC has become a global voluntary initiative used by more than 100 countries.

On receiving the iPIC query from China, Thailand confirmed immediately that the importing company was officially registered. However, the approved import licence was for a different manufacturer in China. Further investigation revealed that the importer in Thailand had not requested any imports from China in 2020.

Accordingly, China immediately rejected the export application, preventing a potential illegal trade of 72 metric tonnes of ODS. This was about 130,320 tonnes of CO₂ equivalent, or 3.96 ODP^[2] tonnes.

The investigations didn't stop there. China's ODS team followed up with the Chinese exporter, while temporarily suspending the company's ODS export applications. Investigators found that the exporting company was not involved in the fraud. With facilitation from OzonAction's Compliance Assistance Programme (CAP) team in Bangkok, it was concluded that the suspected counterfeit license was created by the third-party broker. China's ODS team attempted to contact the broker, but as is common in smuggling cases, the contact details provided on the shipping documents were not genuine or current. As a result, China is planning to strengthen its review and management of the third-party brokers and intermediaries.

China is a long-time and proactive user of the iPIC mechanism. It has been using the system since 2013 and conducts around 300 iPIC queries every year. As of March 2020, China had already initiated 301 iPIC queries.

Year	Number of applications prevented	Quantity of unwanted or potential illegal trade prevented (Metric Tonnes)
2017	13	608.6
2018	29	1571.7
2019	20	263.9
2020 (to March)	15	897.4

Recent information on the successful implementation of iPIC in China. Of the approximately 300 queries per year, the majority of prevented trade or rejected requests were related to HCFC-22; trade in some other ODS was also prevented.

While the excellent cooperation between China and Thailand and the use of iPIC prevented this illegal transaction, this incident should serve as a warning to all countries that such trade continues to take place. It shows that National Ozone Officers and customs authorities must remain vigilant against potential illegal trade in HCFCs and other controlled substances. It has also shown that regular screening of intended imports and exports through iPIC can be a means to prevent illegal and unwanted trade.

A brief flyer on the updated iPIC platform can be found [here](#)

National Ozone Officers and ODS licencing focal points can visit the iPIC Online platform at www.ozonaction.org/ipic

[1] HCFC-22= chlorodifluoromethane, a hydrochlorofluorocarbon (HCFC)

[2] ODP = Ozone depleting potential tonnes. For HCFC-22, 1 metric tonne is equivalent to 0.055 ODP tonne and 1810 CO₂-eq tonnes.¹

The United Nation Environment Programme, OzonAction, April 2020

2. UNEP OzonAction Encourages Everyone to Celebrate World Refrigeration Day 2020

World Refrigeration Day (WRD) is an international commemorative day that raises awareness about the refrigeration and air-conditioning industry and its contribution to modern life, as well as its connection to key societal objectives including mitigating climate change, protecting the ozone layer, and achieving the sustainable development goals (SDGs). Inaugurated in 2019, the initiative is well recognized and supported by leading industry associations and organizations around the globe, as well as governments and non-governmental organisations.

WRD is organized each year on 26 June, the birth date of Lord Kelvin after whom the Absolute temperature scale (the “Kelvin Scale”) is named. UNEP OzonAction was one of the early supporters of this commemorative day and joined the WRD Secretariat and ASHRAE to celebrate the first edition of this awareness-raising event.

This year, UNEP OzonAction, the [WRD Secretariat](#), [ASHRAE](#), the [European Partnership for Energy and Environment](#) (EPEE), and the [International Institute of Refrigeration](#) (IIR) are partnering to promote a global campaign centered around the theme of the Cold Chain. This topic has generated great interest in recent years given its multi-dimensional contribution to key issues including Food Safety/Food Security, Health, Climate Change/Ozone Protection, Sustainable Production/Consumption, and others.



The Food Cold Chain can best be defined as the series of actions and equipment applied to maintain a product within a specified low temperature range from harvest/production to consumption, including farming/fishing, food processing, cold storage, transportation, food services, and domestic uses.

The 2020 campaign, which is being organized under the slogan “Cold Chain 4 Life”, aims at building knowledge and raising awareness amongst three different groups:

- General Public: consumers and direct beneficiaries of services/products offered through the cold chain.
- Policymakers: governments and authorities responsible for drafting and implementing

relevant strategies and regulations.

- Owners/Operators: decision makers in terms of technology selection and operational procedures of different technologies required for cold chain processes.

“World Refrigeration Day is a great opportunity for all of us to celebrate the tremendous contribution that refrigeration and air conditioning makes to our societies. This includes enabling our agricultural and food systems to harvest, store, transport and sell the foods that nourish us all. The food cold chain is what makes this possible,” said James Curlin, Acting Head of UNEP OzonAction, *“We encourage everyone to organize your own national or local WRD celebrations on 26 June to shine light on great work of the refrigeration and air conditioning sector, which is so vital for the success of the [Montreal Protocol](#).”*

National Ozone Units, national associations and industry groups, companies and professionals working in the refrigeration and air conditioning sector, schools and individuals can all join in the activities.

You are all invited to join the “Cold Chain 4 Life” campaign by organizing relevant events/functions or using the resources which the campaign will offer soon. Please follow us on the OzonAction web site and through the WRD web site and associated social media tools.

Cold Chain 4 Life is an international campaign organized by the WRD Secretariat, UNEP OzonAction, ASHRAE, IIR and EPEE to help governments, organizations, companies and media promote World Refrigeration Day 2020. The Web-Ads (banners) available through below links may be used free of charge in websites and other media providing they are not altered; logos and other branding are not added; that they are not used in ways which state or imply endorsement of a brand, product or service by the WRD Secretariat or the campaign's organizers.

[The United Nations Environment Programme, OzonAction, April 2020](#)

3. Message from the UN Environment, Ozone Secretariat on COVID-19

The global corona virus pandemic is a concern for us all and is a reality to all of us, no matter where we live and work. We all find ourselves facing very trying times.



To overcome the spread and threat of the COVID-19 virus, we have had to adapt our daily work and family lives to ensure that we comply to the guidelines and adhere to social distancing. We would like to reassure you that the Secretariat is committed to delivering on our work to protect the ozone layer and all life under the sun.

We will implement different and various methods in our long standing practice of meeting the needs of the parties and stakeholders. Meetings that involve discussions and negotiations will happen only after a careful assessment of the COVID-19 situation, and in coordination with the United Nations, the host governments and by taking into

consideration all different measures put in place by governments around the world. A decision on whether to proceed with the Open-ended Working Group, and the related meetings, will be taken at the end of May after a thorough evaluation of the situation at that point in time. Planning and working towards the meeting will proceed as normal, and all related meeting documents will be posted in advance of the meeting.

The meetings of the Assessment Panels will take place virtually, which is a tremendous achievement and a testament to the flexibility and commitment of the members of the Assessment Panels. We extend our great appreciation and admiration to the Panels and salute their determination to maintain a 'business as usual' approach under these difficult circumstances.

As we all commit to adapting to this new working modality, the Secretariat team will do its utmost to continue functioning as normal, while serving the parties virtually.

We sincerely hope that you and your loved ones stay well and safe, and we hope to see you all again soon.

[The United Nations Environment Programme, Ozone Secretariat, 30 March 2020](#)

4. Upgrades to the Ozone Secretariat website

As the UN Environment, Ozone Secretariat tries to maintain a 'business as usual' approach to its work as much as possible under the current COVID-19, the Secretariat would like to inform and update you of the most recent enhancements and upgrades to the Ozone Secretariat website.



Data Centre & Charts:

Since going live with the Data Centre at the end of 2019, initially in the form of tables only, this has now been supplemented with graphs and charts. The visuals of the data can be accessed by clicking on the 'Data in Charts' tab top right of the page, linking you to the [charts option](#). To return to the data in table format, click on the 'Data in Tables' tab.

Mixtures and Blends Tool:

A new feature in the Secretariat's website, this tool will enable input of various mixtures/blends to allow derivation of the controlled substances contained therein. It includes a search/filter function on the mixture names and the chemical formulae (for controlled substance), as well as visual graphics illustrating the data flows for the components of the various substances and groups of substances. The Mixtures and Blends Tool can be accessed [here](#).

Interactive Tables:

Previously the information was presented on the website as static tables but is now available in an interactive format and can be found under Resources [here](#), allowing for

search/filter functions on key fields including:

- a) Recommendations adopted by the [Implementation Committee](#) under the Non-Compliance Procedure for the Montreal Protocol since its inception;
- b) Information received from individual parties concerning the establishment and operation of their [licensing systems](#) for HFCs, which is provided to the Meeting of the Parties in the form of a summary table including the date of ratification of the Kigali Amendment, if applicable, the status of establishment of their licensing systems, and a summary table displaying statistics; and
- c) Requests to the [TEAP for reports](#), including the year in which the report is required, the type of report, the topic and the source decision.

Mobile app: Ozone Treaties

Many of you will already be familiar with this handbook app which was launched at the last Meeting of the Parties. It allows the user instant access to the handbooks to the Montreal Protocol and Vienna Convention at the swipe of a screen, in all six official UN languages. In addition to being updated with the decisions adopted at the 31st MOP, the app has benefited from a number of enhancements, including a dark mode function. The app is available free of charge, for both Android and iOS, in the respective app stores, [Apple](#) and [Google Play](#).

[The United Nations Environment Programme, Ozone Secretariat, April 2020](#)

5. Unusual ozone hole opens over the Arctic

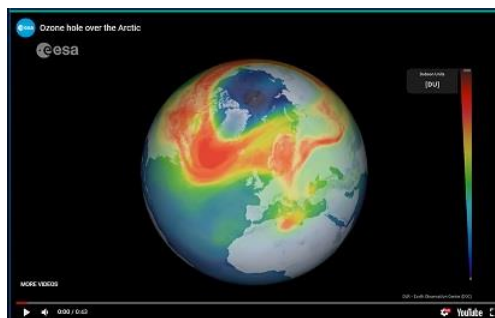
Scientists using data from the Copernicus Sentinel-5P satellite have noticed a strong reduction of ozone concentrations over the Arctic. Unusual atmospheric conditions, including freezing temperatures in the stratosphere, have led ozone levels to plummet – causing a ‘mini-hole’ in the ozone layer.

The ozone layer is a natural, protective layer of gas in the stratosphere that shields life from the Sun’s harmful ultraviolet radiation – which is associated with skin cancer and cataracts, as well as other environmental issues.

The ‘ozone hole’ most commonly referenced is the hole over Antarctica, forming each year during autumn.

In the past weeks, scientists from the German Aerospace Center (DLR) have noticed the unusually strong depletion of ozone over the northern polar regions. Using data from the Tropomi instrument on the Copernicus Sentinel-5P satellite, they were able to monitor this Arctic ozone hole form in the atmosphere.

In the past, mini ozone holes have occasionally been spotted over the North



Pole, but the depletion over the Arctic this year is much larger compared to previous years.

Diego Loyola, from the German Aerospace Center, comments, “The ozone hole we observe over the Arctic this year has a maximum extension of less than 1 million sq km. This is small compared to the Antarctic hole, which can reach a size of around 20 to 25 million sq km with a normal duration of around 3 to 4 months.”

Even though both poles endure ozone losses during winter, the Arctic’s ozone depletion tends to be significantly less than Antarctica. The ozone hole is driven by extremely cold temperatures (below -80°C), sunlight, wind fields and substances such as chlorofluorocarbons (CFCs).

Arctic temperatures do not usually plummet as low as in Antarctica. However, this year, powerful winds flowing around the North Pole trapped cold air within what is known as the ‘polar vortex’ – a circling whirlpool of stratospheric winds.

By the end of the polar winter, the first sunlight over the North Pole initiated this unusually strong ozone depletion – causing the hole to form. However, its size is still small compared to what can usually be observed in the southern hemisphere.

Diego says, “Since 14 March, the ozone columns over the Arctic have decreased to what is normally considered ‘ozone hole levels,’ which are less than 220 Dobson Units. We expect the hole to close again during mid-April 2020.”

Claus Zehner, ESA’s Copernicus Sentinel-5P mission manager, adds, “The Tropomi total ozone measurements are extending Europe’s capability of the continuous global ozone monitoring from space since 1995. In this time, we have not witnessed an ozone hole formation of this size over the Arctic.”

In the 2018 Scientific Assessment of Ozone Depletion, data shows that the ozone layer in parts of the stratosphere has recovered at a rate of 1-3% per decade since 2000. At these projected rates, the Northern Hemisphere and mid-latitude ozone is predicted to recover by around 2030, followed by the Southern Hemisphere around 2050, and polar regions by 2060.

The Tropomi instrument on the Copernicus Sentinel-5P satellite measures a number of trace gases, including aerosol and cloud properties with a global coverage on a daily basis. Given the importance of monitoring air quality and global ozone distribution, the upcoming Copernicus Sentinel-4 and Sentinel-5 missions will monitor key air quality trace gases, stratospheric ozone, and aerosols. As part of the EU’s Copernicus programme, the missions will provide information on air quality, solar radiation and climate monitoring.

[European Space Agency, 6 April 2020](#)

See also >>> [Rare ozone hole opens over Arctic — and it’s big](#), article in Nature, 27 March 2020, By: Alexandra Witze

6. Long phased-out refrigeration and insulation chemicals still widely in use and warming the climate

New study concludes that “banked” CFCs have greenhouse gas impacts equal to all registered U.S. cars and slow the shrinking of the ozone hole.

Starting decades ago, international governments phased out a class of chemical refrigerants that harmed the ozone layer and fueled global warming. Now, a new study indicates that the remaining volume of these chemicals, and the emissions they continue to release into the atmosphere, is far larger than previously thought.

The findings point to a lost opportunity to cut greenhouse gas emissions on a par with the annual emissions from all passenger vehicles in the United States, but also highlight a low-cost pathway to curb future warming, researchers say.

[The study](#), published Tuesday in Nature Communications, looks at “banked” volumes of three leading chlorofluorocarbon (CFC) chemicals whose production is banned but remain in use today in older refrigeration and cooling systems and in foam insulation. CFCs were phased out of production in developed countries [by 1996](#), and in developing countries by 2010, under the Montreal Protocol because of the leading role they played in creating the so-called “ozone hole” in the atmosphere.

Emissions from these remaining CFC sources were equivalent to 25 billion metric tons of carbon dioxide from 2000 to 2020, the study concludes. Averaged over 20 years, that equals the emissions of 270 million automobiles per year according to the [EPA's greenhouse gas equivalency calculator](#), more than [all registered U.S. passenger vehicles](#).

“If we don't deal with these banks, they are going to be emitted and contribute to delaying ozone hole recovery and contribute to future warming,” Megan Jeramaz Lickley, a researcher at Massachusetts Institute of Technology's Department of Earth, Atmospheric, and Planetary Sciences and lead author of the study said.

Potent Emissions, Easy to Cut

The Montreal Protocol is widely viewed as the world's [most successful](#) international environmental agreement for the significant reductions it has achieved in chemicals that deplete atmospheric ozone and warm the planet. The size of the ozone hole [peaked in 2006](#) and is slowly shrinking, though scientists warn that the recent resumption in production of banned CFC-11 could [prolong the recovery](#).

Lickley and colleagues calculate that continued emissions from stored CFC banks will equal 9 billion metric tons of carbon dioxide from 2020 to 2100. That exceeds the greenhouse gas reduction the European Union pledged to make from 2019 to 2030 under the Paris Climate agreement, the study notes.

The chemicals analyzed in the current study—CFC-11, CFC-12 and CFC-113—are [short-lived climate pollutants, highly potent greenhouse gases that don't remain in the atmosphere for very long. The three CFCs are approximately 5,000 to](#)



A weather balloon rises into the atmosphere, transmitting data about ozone as well as basic weather information like temperature, pressure and humidity. NOAA launches these regularly from a variety of sites around the world, including the South Pole and Greenland. Credit: Robert Schwarz

10,000 times more effective at trapping heat in the atmosphere than carbon dioxide and remain in the atmosphere for **roughly 55 to 110 years. In contrast**, carbon dioxide can remain in the atmosphere for centuries. Reining in even a small amount of CFC emissions can therefore have a big impact in addressing climate change over the scale of a human lifetime.

Reducing banked CFC emissions would also be relatively easy and inexpensive compared to efforts to reduce emissions from other sectors, Lickley said.

"For example, when you are taking down an old building, instead of knocking it down you could carefully remove the insulation and bury it," she said, which would prevent the release of CFCs into the atmosphere as the foam breaks down. Other emissions come from leaks in ageing cooling and refrigeration systems. Servicing or disposal of these older cooling systems can release a significant amount of CFCs when efforts aren't made to capture the chemical refrigerants.

"The size of these banks is large enough that it could be worth trying to carefully dispose of them instead of just allowing them to be emitted," Lickley said.

The current study combines both "top down" assessments, that judged the size of the CFC bank by measuring concentrations of those gases in the atmosphere, and "bottom up" calculations, based on industry reports of the continued use of CFCs as refrigerants and existing stockpiles of the chemicals.

Urgent Accounting Corrections

The new assessment pushes back by four years—from 2076 to 2080—scientists' estimate of when the ozone hole over Antarctica will fully recover.

"We've known that there was something wrong for 10 years with the assessments, and we haven't known where in the system it was wrong," said Neil Harris, professor of atmospheric informatics at Cranfield University in the U.K., who was not part of the study.

In recent years, researchers have been trying to determine the sources of error in their accounting. One answer came in 2018, when atmospheric chemists noticed a cessation in the steady decline of CFC-11 concentrations in the atmosphere, suggesting new, illicit production. A **subsequent study** published last year, determined the emissions were coming from eastern China, where **unlicensed factories** had resumed production of the banned chemical.

Researchers estimated that emissions from the illicit production were equivalent to about 60 million tonnes of carbon dioxide per year, roughly 5 percent of the annual emissions from existing, banked CFCs.

The current study also suggests that previously unknown, illegal production of another one of the chemicals, CFC-113, may have started in recent years, similar to the recent, illicit production of CFC-11. "The banks of CFC-113 are not large enough to explain the emissions of that gas—I think our study also points out a potentially new source of illegal CFC-113," Lickley said. "My hope is this raises some attention towards potentially illegal [production] of this gas as well."

Harris praised the study for its combination of scientific and industry knowledge. "It's a mix of complicated atmospheric science and industry accounting and industry practice, some of which has been confidential in the past," he said. "We are going to need more truly

integrated studies of this type where the science community and industry and other bodies are actually working together."

Avipsa Mahapatra, a climate campaign director with [the Environmental Investigation Agency](#) said more needs to be done to reduce the banked CFC emissions.

"For far too long, both the Montreal Protocol, as well as governments in different countries and policymakers at different levels, have pretty much turned a blind eye to this problem," Mahapatra said. "It's just simply unconscionable to repeat this mistake at a time the climate can ill afford. The climate crisis we are in today demands urgent global action ensuring that we search, reuse and destroy any of these important gases before they further leak into our atmosphere."

Widening existing mitigation efforts to include reducing banked CFC emissions is critical in the fight against climate change, Mahapatra said.

"We know for a fact that current climate pledges and actions are insufficient by a very wide margin to address the worsening climate crisis," she said. "To us, addressing refrigerant banks is one of the single greatest mitigation opportunities available and this paper further solidifies that."

The study also suggests that previously unknown, illegal production of another of the chemicals, CFC-113, may have started in recent years, similar to the recent, illicit production of CFC-11 in China. "The banks of CFC-113 are not large enough to explain the emissions of that gas—I think our study also points out a potentially new source of illegal CFC-113," Lickley said. "My hope is this raises some attention towards potentially illegal [production] of this gas as well."

[Inside Climate News, 17 March 2020, By: Phil Mckenna](#)

See also >>> [Quantifying contributions of chlorofluorocarbon banks to emissions and impacts on the ozone layer and climate](#), article in Nature, [17 March 2020](#), **Authors:** Megan Lickley, Susan Solomon, Sarah Fletcher, Guus J. M. Velders, John Daniel, Matthew Rigby, Stephen A. Montzka, Lambert J. M. Kuijpers & Kane Stone

ASIA PACIFIC

7. 2020 Asia Environmental Enforcement Awards

The Asia Environmental Enforcement Awards publicly recognize and celebrate excellence in enforcement by government officials and institutions or teams combating transboundary environmental crime. The Awards are given to individuals and/or government organizations/teams that demonstrate excellence and outstanding leadership in



enforcement of national laws to combat transboundary environmental crime. The thematic scope of the Awards covers any transboundary environmental crimes, such as illegal trade in wildlife, illegal trade in chemicals [including ozone depleting substances and HFCs] or waste, including plastic.

2020 is the fifth time the Awards will be given, and this year's Awards will be given to recipients who demonstrate excellence and leadership in one or more of the following categories:

- collaboration
- impact
- innovation
- integrity
- gender leadership

There will be also a separate category for Africa-Asia cooperation in the area of illegal trade in wildlife. The 2020 Awards will be given by the United Nations Environment Programme (UNEP) in partnership with the United Nations Development Programme (UNDP), the United Nations Office on Drugs and Crime (UNODC), the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the World Customs Organization (WCO) and the International Criminal Police Organization (INTERPOL).

The category for Africa-Asia cooperation in the area of illegal trade in wildlife is sponsored by UNDP and the Global Environment Facility (GEF)-financed, World Bank-led Global Wildlife Program.

Any government official and/or government institution or team working on fighting transboundary environmental crime in Asia or on fostering Africa-Asia cooperation in the area of illegal trade in wildlife for that category, is eligible to be nominated. Relevant agencies and individuals may include, for example: customs, police, wildlife and forestry authorities, environmental agencies, multi-agency taskforces, specialized agencies, judges and/or public prosecutors. Teams within government institutions (e.g. units, branches, divisions etc.) are also eligible. Recipients may be awarded in their individual capacity or as representatives of institutions/teams. Self-nomination is permitted.

For queries, please contact uneproap@un.org Please note that applications are only accepted through the online nomination form, not via email.

The 2020 [online nomination form](#)

Download the 2020 [Asia Environmental Enforcement Awards Information note](#)

WEST ASIA

8. Coronavirus doesn't stop RAC training: first of its kind experience of online F-Gas training and certification connect Qatar and Italy



A new milestone has been set in distance learning for the RAC field. A full training and assessment session on “F-Gases: Advanced Refrigeration and Air-Conditioning Best Practices” was carried out successfully and thoroughly online thanks to international cooperation between the Italian [Association of Refrigeration Technicians](#) (ATF) and the Government of Qatar under a UN Environment OzonAction Programme project.

Due to global lockdown and social distancing measures imposed to contrast the Coronavirus outbreak, the event took place from March 30th until April 1st 2020 partly online and partly inside the Qatar University's premises: thanks for the outstanding support and collaboration provided by the Qatari University and National Ozone Unit - with continuous support by UNEP - the Italian ATF and Centro Studi Galileo were able to deliver such a training session (video) without boarding on any airplanes.

For the first time ever CSG Expert Trainer Mr Gianfranco Cattabriga, armed with headphones and laptop, taught five Qatari expert trainers online at over 5,000 km apart. Thanks to more than 45 years of experience and successful activity in the HVAC&R field, the Italian Centro Studi Galileo and Association of Refrigeration Technicians have once again shown how to flexibly adapt to new challenges, while always providing top-quality services: this is proven by 10 distance learning classes already delivered in March 2020, including full F-Gas assessment sessions that can be held remotely online, according to recently issued Italian rules - provided both parties are supplied with laptop, webcam and all the necessary equipment.

The five Qatari trainees have played a key role in this event, as they will be the first F-Gas trainers and assessors for the Gulf country: showing a sharp expertise and unique engagement, they now learned how to deliver first-hand such a course for future RAC Technicians, according to the national certification scheme. Said scheme is currently under development in tight collaboration between the Ministry of Municipality and Environment (MME) of Qatar and the Italian Association of Refrigeration Technicians: after one successful workshop (held on March 8-9, 2020) that involved also national stakeholders, few orientation sessions followed and led up to the first ever remote training and certification session for F-gases technologies.

Whereas this session took place thanks to the unique commitment shown by all parties involved, a special mention goes to Professor Dr Saud Abdul Ghani (also known as Dr. Cool), the mechanical engineer responsible for the air-conditioning technology installed for the 2022 World Cup (source: The Guardian). Professor Ghani is now the lead Trainer and Assessor for the State of Qatar, after being officially certified under EU 517/2014 by the Italian ATF, in collaboration with Centro Studi Galileo. CSG had after already successfully trained and certified the first F-Gas Trainers for Bahrain and Kuwait back in 2018, while also providing the establishment and implementation of their national certification schemes.

Due to the current circumstances set by the Coronavirus pandemic, the world seems to

have suddenly come to a standstill; while quietly waiting for safer and better times, workers around the globe have not stopped their activity. This is true for all sectors, including the HVAC&R one, where this situation was transformed into an opportunity to hold the first ever remote Train-the-Trainers session. In this moment, when about half of the world's population is safe at home in lockdown, everyone has become aware of the crucial role that the HVAC&R industry plays; in this unique context, the certification newly obtained by the first Trainers for the State of Qatar has even gained a double pioneering value.

We may be distant, but always deeply connected – now more than ever. We will meet again.

[Centro Studi Galileo | Industria & Formazione, April 2020](#)

NORTH AMERICA

9. U.S. Appeals Court in D.C. restores limitations on super-polluting HFCs

The EPA failed to give public notice when it told businesses they could replace ozone-depleting refrigerants with HFCs instead of less polluting alternatives.

In a ruling that counters recent rollbacks of climate and health-related environmental protections, a federal appeals court has ruled that President Trump's Environmental Protection Agency violated regulatory procedure when it removed restrictions on hydrofluorocarbons (HFCs), a widely used chemical refrigerant and climate super-pollutant.

On Tuesday, the U.S. Court of Appeals for the D.C. Circuit [restored a regulation](#) that had prohibited businesses from upgrading to HFCs in large refrigeration systems as they discontinued use of ozone-depleting refrigerants. The regulation requires that they upgrade to more environmentally friendly refrigerants, such as hydrofluoroolefins (HFOs).

"It's an important win for the climate," said Peter DeMarco, an attorney at the Natural Resources Defense Council, an environmental advocacy organization that sued the EPA in 2018 after the agency suspended limits on the uses of HFCs. "Ozone depleting substances are still used in hundreds of thousands of grocery stores and supermarkets across the country in their commercial refrigeration systems. As those systems are being



The U.S. Court of Appeals for the D.C. Circuit restored a regulation that businesses must upgrade large refrigeration systems to more environmentally friendly refrigerants, such as hydrofluoroolefins (HFOs).
Credit: U.S. Court of Appeals District of Columbia Circuit.

replaced, they should be replaced with systems that use alternatives to HFCs rather than HFCs, and that will have significant climate benefits from avoided HFC emissions."

HFC-134a, the most abundant HFC in the atmosphere, is [3,710 times](#) more potent as a greenhouse gas than carbon dioxide over the near term. HFCs were developed as a replacement to older chemical refrigerants including chlorofluorocarbons (CFCs), chemicals that deplete atmospheric ozone and are even worse for the climate, approximately [10,000 times](#) more potent than carbon dioxide as a greenhouse gas. Switching from CFCs to HFCs has helped plug the so-called "ozone hole," but still contributes significantly to global warming.

In recent years, the chemical industry has developed other alternatives including hydrofluoroolefins, which pose far less of a threat to the climate than HFCs. HFOs, now [widely used in the air conditioning systems of automobiles](#), have a greenhouse gas potency roughly equivalent to that of carbon dioxide but they escape into the atmosphere in much smaller volume, making their greenhouse effect largely insignificant.

Switching from HFCs to HFOs or other alternative refrigerants would limit global warming by 0.1 degrees Celsius by 2050 according to a [study published in 2013](#).

This week's ruling ensures that as supermarkets and other users of older, highly potent CFC refrigerants update their cooling and air conditioning systems, they switch to newer, climate friendly alternatives rather than highly potent HFCs. The ruling comes on the heels of a recent study that found continued CFC use is [far larger than previously thought](#), suggesting there are still large numbers of supermarkets and other commercial buildings that could leapfrog from older CFC chemicals to the latest generation of more benign refrigerants.

NRDC calculates that allowing older refrigeration and cooling systems to transition to HFCs since the organization first filed its lawsuit in 2018 has allowed for the additional build-up of HFC-based systems that will emit some 166 million metric tons of carbon dioxide equivalent cumulatively over the next 25 years. That is equivalent to the cumulative greenhouse gas emissions from 1.4 million automobiles over the same time period.

Earlier this year, EPA relaxed leak detection rules for HFC refrigeration systems, a rollback that will result in additional greenhouse gas emissions equivalent to the annual emissions of [at least 625,000 automobiles](#).

In this week's ruling, the court determined that EPA failed to follow proper procedures, including providing public notice and allowing for public comment prior to changing regulations for chemical refrigerants.

DeMarco said the EPA could try to change the regulations on chemical refrigerants a second time, this time following proper procedures. The agency would, however, still have to show why they are making the change and they have already argued that there are better alternatives than HFCs, he said.

Durwood Zaelke, president of the Institute for Governance & Sustainable Development, said the lawsuit was an example of advocacy by environmental non-governmental organizations at its best.

"It's great to see the broader community on the front lines bringing these cases," said Zaelke, whose group was not involved in the suit. "This case was a battle. We won this battle but now we go back to the war."

The ruling was a singular victory amid the rapid weakening of environmental regulations by the Trump administration during the ongoing coronavirus pandemic. In recent weeks, the EPA has rolled back [vehicle emissions standards](#), issued a wide-ranging freeze on the [enforcement of environmental regulations](#) and continued to press forward with efforts to [limit the use of health science](#) in environmental decision-making.

The current ruling does not require owners of cooling systems that have already transitioned to HFCs to go further, transitioning to HFOs or other more benign refrigerants. Legislation recently introduced in the [Senate](#) and [House](#), however, calls for the gradual phase out of HFCs. The bills are supported by the chemical manufacturing industry and the air conditioning and refrigeration equipment industries and are in line with an international agreement to phase out HFCs.

That agreement, [the Kigali Amendment to the Montreal Protocol](#)—a 1987 treaty that phased-out ozone-depleting chemicals—has been ratified by more than 90 countries. The Trump administration has not sent it to the Senate for ratification.

This week's ruling also recognized the legal standing of advocacy groups like NRDC to sue the federal government over climate change, something that was granted to states in 2007 but remained unresolved for citizens groups. NRDC has typically partnered with states or businesses on such lawsuits in the past, but will now have the legal authority to pursue such cases on their own, said David Doniger, NRDC's senior strategic director for climate and clean energy.

[Inside Climate News, 9 April 2020, By: Phil Mckenna](#)

10. The California Air Resources Board announced recipients of the 2019 Haagen-Smit Clean Air Awards



April 9, 2020
Release #20-06

CARB awards seven science luminaries with California's premier air quality award
2019 Haagen-Smit awards recognize outstanding achievements in air quality and climate research; technology advancements; environmental justice, policy and education

The California Air Resources Board announced recipients of the 2019 Haagen-Smit Clean Air Awards, also known as the 'Nobel Prize' of air pollution and climate science achievements. The award recognizes individuals who have made outstanding contributions toward protecting public health through extraordinary careers improving air quality and climate change science, and clean air and climate technology and policy. The career contributions of this year's award winners will have lasting impacts for air quality and climate goals not only in California, but throughout the world.

Among the awardees:

Stephen O. Andersen, Ph.D., Institute for Governance & Sustainable Development Dr. Andersen has devoted more than 40 years to protecting the ozone

layer and climate. Beyond his central role in establishing the Montreal Protocol's initial protections for Earth's stratospheric layer, he demonstrated courage, foresight and tenacity in realizing that treaty's potential to also control climate-changing emissions. He is known for his optimism, fairness and productivity, inspiring countless others to solve important environmental problems. He is being honored in the Clean Air Award category of Environmental Policy.

John Birks, Ph.D., University of Colorado, Boulder

Dr. Birks has advanced our understanding of Earth's atmosphere through more than 40 years of research, teaching and technological innovation. His early work on the chemistry of chlorine helped unravel the complex processes of stratospheric ozone depletion. He is co-developer of the theory of "nuclear winter," and developed a range of portable instruments that dramatically improved scientists' capacity to measure and analyze atmospheric air quality. Dr. Birks is being honored in the Science and Technology category.

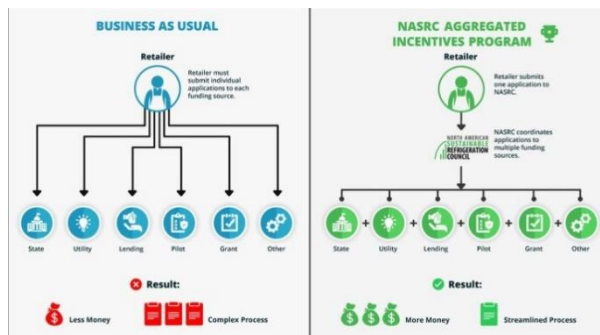
[...]

[California Air Resources Board \(CARB\), April 2020](#)

11. NASRC Announces New Incentives Program For Natural Refrigerants

The North American Sustainable Refrigeration Council (NASRC) has announced plans to launch an [Aggregated Incentives Program](#) (AIP) designed to accelerate funding for natural refrigerant technologies. The program will provide a platform to coordinate various sources of funding and streamline the incentive application process for retailers. AIP will be piloted in California, with a goal to expand the program nationally in the future.

NASRC plans to align the AIP with the launch of the California Air Resources Board (CARB) [F-gas Reduction Incentive Program](#) (FRIP), expected to open for solicitations this summer. Given the unprecedented pressures retailers are facing to provide essential resources to their communities throughout the COVID-19 situation, the launch date may be adjusted accordingly.



The AIP was designed to amplify the impact of CARB's FRIP, which was established under SB 1013 and was allocated \$1 million through the California State budget process.

FRIP will support the transition to low-GWP refrigerants resulting from CARB's proposed [HFC reduction measures](#), which are proposed to go into effect on Jan 1, 2022.

"High upfront cost is the primary hurdle preventing the adoption of low-GWP technologies" said Wright, "Funding support to offset upfront costs is key to bridging the gap and stimulating the economies of scale necessary to bring costs down."

[The AIP](#) will reduce initial costs by pulling together various sources of funding for projects that incorporate ultra-low-GWP technologies, which CARB defines as less than 10 GWP. Both new construction and existing facilities will be eligible. Funds will be awarded based on reduction in direct greenhouse gas emissions from the refrigerant and other benefits, such as energy efficiency or water savings. Retailers and their partners can submit a single application to NASRC, who will then coordinate funding eligibility across multiple funding partners.

"Our goal is to maximize funding per project while simplifying the experience for the retailer," said Ms. Wright. "We also expect the pilot to generate a tremendous amount of data that will benefit the industry."

The initial pilot program will be offered at no-cost to applicants thanks to the generous sponsorship of [NASRC Titanium members](#), including [BITZER US](#), [Climate Pros](#), [CoolSys](#), and [Hillphoenix](#).

Another goal of the pilot is to increase the number of funders and the amount of funding allocated to support low-GWP technology installations.

"The best way to ensure continued and expanded state funding is to demonstrate demand," said Wright. "We are encouraging retailers and their partners to submit applications not only for projects planned in the next year, but for the next 5-10 years."

NASRC is currently coordinating with state agencies, utilities, private financiers, national labs, and other sources of funding. The organization is actively recruiting funding and project partners for the program prior to the launch.

[The North American Sustainable Refrigeration Council \(NASRC\), 10 April 2020](#)

12. ASHRAE Offers Course on the Role of HVAC Systems on Infection Control

ASHRAE offers a course on the role of HVAC systems in infection control in hospitals.



The course, "[Designing and Operating High-Performing Healthcare HVAC Systems](#)," is one of 11 offerings in ASHRAE's Spring online instructor-led course series, taking place

on April 7. “Infection control is a primary purpose of HVAC systems in hospitals,” said course instructor, Dan Koenigshofer PE, MS Public Health, HFDP, SASHE. “Although COVID-19 is not considered an airborne contagion, the design and operation strategies described in this course may be helpful during the current pandemic. It appears that COVID-19 can be transmitted through aerosols. The movement and concentration of aerosols can be influenced by the HVAC system. Thus, it’s important for hospital engineers to understand the methods to remove and reduce airborne aerosols, using the HVAC system.”

This three-hour course focuses on the design and operation of HVAC systems in healthcare facilities. The course details the relationship of infection control and HVAC design, including application of [ASHRAE's HVAC Design Manual for Hospitals and Clinics, Second Edition](#), and [ANSI/ASHRAE/ASHE Standard 170-2017 Ventilation of Health Care Facilities](#). Key elements covered in the course include: infection control, comfort, reliability, safety, maintenance, energy, and flexibility.

Course topics are as follows:

- Discussion of costs of Hospital-Associated Infections (HAI) in the U.S.
- Controversial issues regarding HVAC and infection control such as air change rates and levels of filtration
- Engineering methods to maintain proper temperature and humidity
- How/why to pressurize to move air from clean to less clean areas
- The equation for the probability of getting an infection
- Reasons why the air velocity is limited – deposition and thermal plume
- The design of airborne infectious isolation rooms, protective isolation rooms, operating rooms, emergency depts, sterile processing department and infection control risk assessments

[The course will highlight the design, operation, and methods of filtration, UV lighting, and monitoring of pressure, temperature and humidity in HVAC systems for healthcare facilities.](#)

[Participants can access this instructor-led course from anywhere with an Internet connection and earn continuing education units/professional development hours for each course completed.](#)

[To register, visit the \[ashrae.org/onlinecourses\]\(http://ashrae.org/onlinecourses\)](#)

13. Prepare for the trend of flammable refrigerants in commercial refrigeration - Webinar

New refrigerant legislation has led to a transition to hydrocarbons as a long term solution for plugin refrigeration systems. For many years, Embraco has been investing in the development of hermetic compressors and cooling solutions for use with natural refrigerants and partnered with OEMs from all continents. Contractors and technicians should expect to see isobutane (R600a) and propane (R290) compressors in the aftermarket with increasing frequency.



Learning Objectives:

1. Comprehend the newest updates on legislation for commercial refrigeration and recognize industry trends.
2. Assess flammable refrigerant characteristics and the benefits of the use of natural refrigerants in commercial refrigeration.
3. Identify and recognize the main changes on compressor and system design for refrigeration systems operating with flammable refrigerants.
4. Learn best practices and updated safety tips for working on equipment with flammable refrigerants.

Date: 7 May 2020, **Time:** 2 PM EDT

[Register Now](#)

EUROPE & CENTRAL ASIA

14. How to work safely in times of Covid-19: Useful tips for RAC technicians

Refrigeration, Air Conditioning and Heat Pump (RACHP) craftsmen and women do essential work. They ensure, for example, that medicines and vaccines are produced, transported and stored refrigerated. They also provide refrigeration and air conditioning for medical purposes, hospitals, pharmaceutical processes and the cooling of data centres, just to name a few.



Although their work is often not visible, they are active in many areas that not only make our lives pleasant, but also safe and healthy. But what can RACHP workers do to keep themselves and others healthy in times of Covid-19? While many other employees are

currently working from home, RACHP craftsmen and women cannot simply switch to the home office. Close contact between them and their customers is often inevitable during their work. More than ever, craftsmen and women must take care to protect themselves at work.

In addition to basic protective measures (e.g. minimum distance from other people, no shaking hands, coughing/sneezing in the crook of your arm, regular hand washing, not touching your face) we compiled a list of further recommendations.

Full list available [here](#)

[Green Cooling Initiative, April 2020](#)

5th 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

- [31st 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
- [63rd Meeting of the Implementation Committee under the Non-Compliance Procedure of the Montreal Protocol,](#)
2 November 2019, Rome, Italy

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](#)

- [Executive Committee Primer – 2019](#) - An introduction to the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol
- [84th meeting of the Executive Committee](#)
- [83rd meeting of the Executive Committee](#)
- [82nd meeting of the Executive Committee](#)

[Learn more >>>](#)



OZONACTION

Dear National Ozone Officers,

On behalf of the United Nations Environment Programme (UNEP) OzoneAction, I would like to express our deep appreciation to your country for its continued high-level commitment to implement the Montreal Protocol on Substances that Deplete the Ozone Layer, including during very challenging times such as what the world is now facing with the COVID-19 pandemic.

I would like to reassure you that during this very difficult period, OzoneAction's Compliance Assistance Programme (CAP) – like the rest of UNEP – remains open for business. Our CAP teams in Bangkok, Manama, Nairobi, Panama City, and Paris continue to work with great dedication and diligence to support Article 5 countries with meeting their compliance, reporting and project-related needs. Our internal processes are all functioning well, including those related to finance and administration. Our CAP teams continue to provide technical and policy support. Our information clearinghouse, capacity building services, and refrigeration and air conditioning partnerships are still developing and distributing tools and information to support your work.

The United Nations and OzoneAction are still delivering requirements, a number of our Regional Offices and Technical Working Groups have been operational. Most assuredly, the CAP teams are working on a contingency plan to ensure the Montreal Protocol is implemented as intended, even in the absence of the Montreal Protocol. Our Regional Offices continue to work with the National Ozone Officers in a proactive and collaborative manner.

Just like in previous years, our CAP teams have had to adjust both their personal and professional lives to meet new conditions. All of our CAP team members are working through a challenging period, but we are committed to continue our efforts to support your country. This year will be a challenging one for all of us, but we are committed to continue our efforts to support your country. Our CAP teams are still providing technical and policy support. Our information clearinghouse, capacity building services, and refrigeration and air conditioning partnerships are still developing and distributing tools and information to support your work.

Since 1987, UNEP OzoneAction has been your close partner in the implementation of the Montreal Protocol and we will continue to work with you on your country's compliance needs. We will continue to work with you on your country's compliance needs. We will continue to work with you on your country's compliance needs.

OzoneAction is here to support you. If you have any needs, challenges, or feedback with us, please do not hesitate to reach out and contact any member of OzoneAction, including the Regional CAP teams or myself.

We will continue to work with you on your country's compliance needs. We will continue to work with you on your country's compliance needs. We will continue to work with you on your country's compliance needs.

Thank you very much for your continued support and commitment to the Montreal Protocol. We will continue to work with you on your country's compliance needs. We will continue to work with you on your country's compliance needs. We will continue to work with you on your country's compliance needs.

Yours sincerely,
James S. Curlin
Acting Head, OzoneAction

COVID-19 pandemic: Letter from James S. Curlin, Acting Head, OzonAction, to the National Ozone Officers - On behalf of the United Nations Environment Programme (UNEP) OzonAction, I would like to express our deep appreciation to your country for its continued high-level commitment to implement the Montreal Protocol on Substances that Deplete the Ozone Layer, including during very challenging times such as what the world is now facing with the COVID-19 pandemic. I would like to reassure you that during this very difficult period, OzonAction's Compliance Assistance Programme (CAP) – like the rest of UNEP – remains open for business. Our CAP teams in Bangkok, Manama, Nairobi, Panama City, and Paris continue to work with great dedication and diligence to support Article 5 countries with meeting their compliance, reporting and project-related needs. Our internal processes are all functioning well, including those related to finance and administration. Our CAP teams continue to provide technical and policy support. Our information clearinghouse, capacity building services, and refrigeration and air conditioning partnerships are still developing and distributing tools and information to support your work. [...] [Read/download](#)



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

This concept of a servicing tail, while allowed under the Montreal Protocol might not always be consistent with the phase-out targets specified under the HCFC Phase out Management Plan (HPMP) funding agreements agreed by Article 5 countries with the Executive Committee when receiving funds for HCFC phase out, where countries are obliged to meet these targets as specified in the agreement.

Details and explanations are provided in this [Policy Brief](#).

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



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 related technical information and standards are properly introduced and promoted.

Download the [Factsheet](#)

Contact:

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

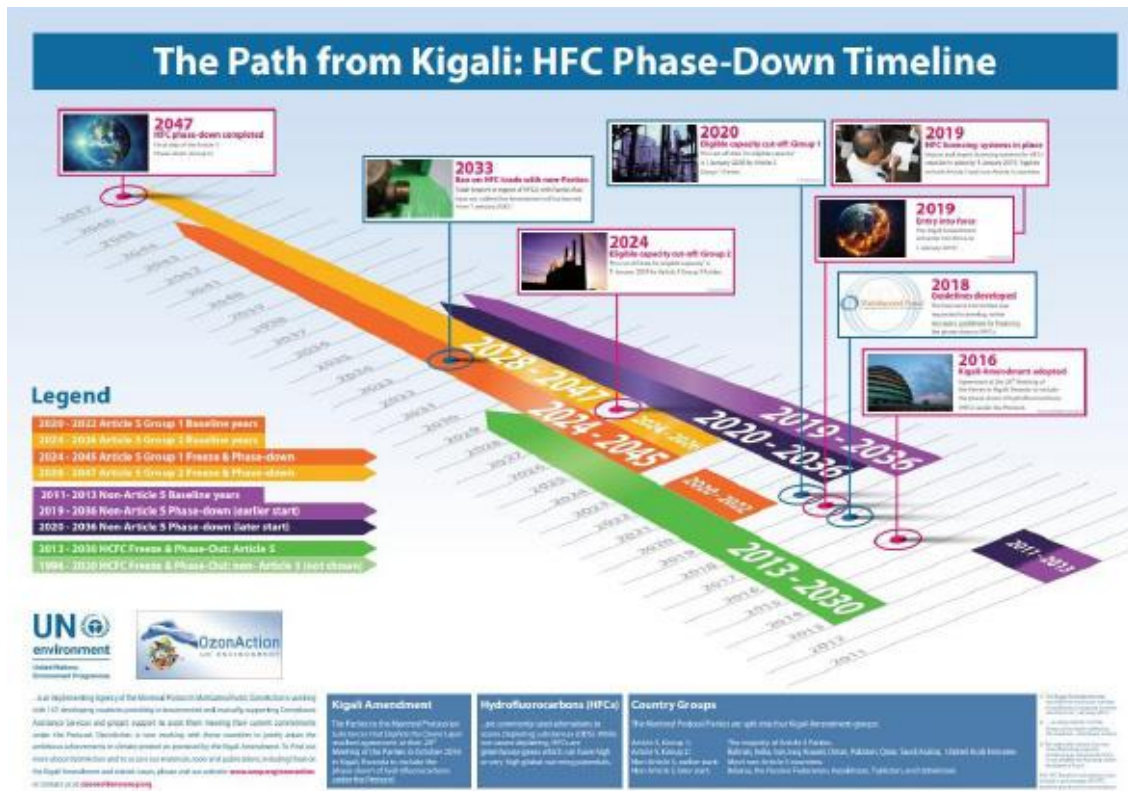
[Ayman Eltalouny](#), Coordinator International Partnerships , UN Environment Programme OzonAction



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 OzoneAction, 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 Programme OzoneAction 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 CO₂-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, CO₂-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, CO₂-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 -**

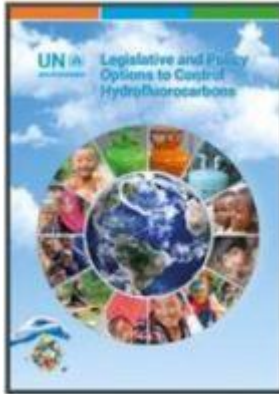
OzonAction has launched an exciting new application which hosts series of short instructional videos on techniques, safety and best practice for refrigeration and air-conditioning technicians. This application, consisting of short instructional videos on techniques, safety and best practice, serves as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

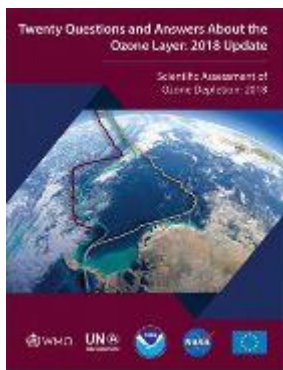
PUBLICATIONS



[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 CO₂-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.

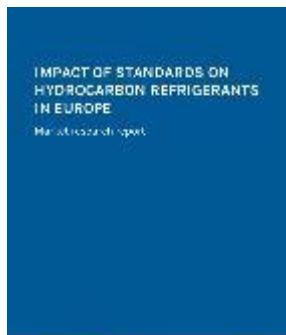
Contributing authors:

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](#)

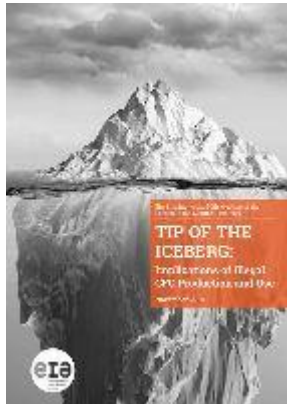
Available in 11 languages, the complete version of the International Institute of Refrigeration (IIR) International Dictionary of Refrigeration is now freely accessible online. The IIR International Dictionary of Refrigeration offers researchers, industrialist or administrations the practical resources 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



[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. 2 - 2020](#)

(in Italian language).



OECD launch a brochure on: [Benefits of Implementing a Chemical Management System.](#)

"A healthy economy needs a healthy environment. In line with its mission to promote sustainable economic growth and raise living standards, the OECD promotes better integration of environmental concerns into economic and sectorial policies." *Angel Gurría, OECD Secretary-General*

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 Programme, OzonAction

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



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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



[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: 4-15 May 2020
- Policy Training: 2-5 June 2020 (in English/French)
- Policy Training: 15-19 June 2020 (in Spanish)

[Learn more >>>](#)



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Prepared by: Samira Korban-de Gobert, OzonAction
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