



OzoNews

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

Volume XIX

| 30 August 2019

In this issue:

1. Kigali Amendment ratifications this month
2. Environmental authorities and customs join forces against environmental crime
3. Challenges for the recovery of the ozone layer
4. Nigeria Federal Government, UNIDO to phase out 71,000 ozone chemicals
5. Pacific Island Countries Identify Options for Enhancing Monitoring and Enforcement of Montreal Protocol Trade Controls
6. Pacific Island Countries geared for complete HCFC Phase-out and Future Kigali Amendment Challenges
7. Lessons from Montreal Protocol Help Southeast Asia Prepare for Future Kigali Amendment Compliance
8. Training the trainers on R290 AC in Thailand
9. Temporary restrictions on bringing ozone-depleting substances into Russia in 2019
10. Tomsk State University scientists with France and USA physicists study ozone evolution
11. Six Latin American Government officials receive Customs and Enforcement Officers Global Awards
12. United States Settles with Southeastern Grocers to reduce ozone-depleting emissions at grocery stores in the Southeastern States
13. What's Happening with the Stratospheric Ozone Layer? Upcoming US EPA GreenChill Webinar
14. Province of Quebec proposes new halocarbon regulations

1. Kigali Amendment ratifications this month:

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

Cook Islands, 22 August 2019

Ghana, 2 August 2019

Peru, 7 August 2019

Seychelles, 20 August 2019

South Africa, 1 August 2019



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. Environmental authorities and customs join forces against environmental crime

International illegal trade in environmentally sensitive commodities such as ozone depleting substances, toxic chemicals, hazardous wastes, endangered species and living modified organisms poses a serious threat to the environment and human health.

The illegal trade in these substances results in revenue loss for governments to the tune of millions of United States dollars. But even more concerning is their impact on human health. Ozone depleting substances increase exposure to UV radiation causing skin cancer and eye cataracts. The illegal trade in these substances is undermining the success and reputation of the Montreal Protocol which is expected to avoid up to 0.5°C of global warming by the end of the century and up to 2 million cases of skin cancer by 2030.

In recognition of the efforts of customs and enforcement officers to combat the illegal trade in environmentally sensitive commodities, the Montreal Protocol Award was created by the UN Environment Programme's OzonAction, the Ozone Secretariat and the World Customs Organization.

In Asunción, Paraguay, government officers and authorities of Argentina, Costa Rica, Dominican Republic, Honduras and Paraguay received the medals and certificates of the global Montreal Protocol award.



Customs plays a crucial role in fighting illegal trade in ozone-depleting substances and ensuring effective customs training on environmentally sensitive commodities as well as of sharing information between importing and exporting countries.

Globally, 24 countries reported seizures: Argentina, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Cambodia, Costa Rica, Croatia, Dominican Republic, Georgia, Greece, Honduras, Iran, Jordan, Mongolia, Namibia, Nigeria, Pakistan, Paraguay, Poland, Rwanda, Spain, Sri Lanka and Turkey.

A total of 255,726 kg of chemicals was seized, stocked in 19,992 cans, cylinders or containers, and 27,944 pieces of equipment and compressors were confiscated. Despite these impressive figures, only 24 countries, or 12 per cent of 196 countries, reported seizures. And assuming that only few per cent of traded goods are inspected, often less than 3 per cent, the magnitude of illegal trade might be significantly higher.

In Latin America, a total of 9,412 cylinders and 27,024 pieces of equipment were seized. In some cases, the issue of disposal of the seized goods (re-export, destruction or auctioning) is still being decided.

Michelle Corrales from Costa Rica's National Ozone Unit and Shilveth Fernández Cantón from Green Customs of Costa Rica said: "The recognition received by Costa Rica demonstrates a precedent of how important it is to invest in training and awareness in customs officials, as well as how useful it is to coordinate between customs and environmental institutions to detect illegal trade and sanction those responsible." The Costa Rica National Customs Service seized 412 cylinders of hydrochlorofluorocarbon (HCFC-22 or R-22) in 2014. Due to effective post-control measures, it managed to identify past illegal traffic and confiscate these goods.

Edgar Zuñiga from the Secretariat of Natural Resources and Environment of Honduras said, "This global recognition has very positive impact as it shows the importance of inter-institutional coordination between environmental, private and legal institutions as well as customs. We have conducted capacity-building activities for 16 years and it has now been globally recognized. When we will go home, we will organize a press conference and formally inform and congratulate all involved sectors."

The Secretariat of Natural Resources and Environment of Honduras and the Executive Directorate of Revenue Customs Office of Puerto Cortes were awarded for nine different seizures of illegal trade between 2015-2018 of used milk tanks and air-conditioners containing HCFC-22, which is prohibited by national law. The confiscated equipment was retrofitted to alternative refrigerants and donated to public institutions.

Juan Carlos Amarilla Rojas and the General Directorate of Customs of Paraguay were awarded for three seizures that included 1,150 cylinders of mainly HCFC-22 in 2010, and 27,000 split air-conditioning units that use HCFC-22 gas, in 2015. Amarilla Rojas said that prevention of illegal trade has both environmental and health benefits. "If illegal products are released into the atmosphere, they could also have other dangerous effects. Moreover, illegal substances can also affect the health of people directly or indirectly when handling these products. The importance of the international award received is personal satisfaction in my 40-years customs career and leaves a legacy to the institution I belong to."

Moreover, the Ozone Programme Office of the Ministry of Environment and Sustainable Development and the Customs Service of the Ministry of Finance of Argentina received an award for the seizure in 2009 of 1,150 cylinders of HCFC-22 mis-labeled as HFC-134a. The case was prosecuted and heavily fined, and the next step is the final disposal of the seized refrigerants.

The Ozone National Programme of the Ministry of Environment and Natural Resources and the General Directorate of Customs of the Dominican Republic were awarded for the seizure of 6,700 cylinders of CFC-12 mislabeled as HFC-134a in 2017. The company was charged a fine and the cylinders are to be returned to the country of origin.

In the presentation of the medals and certificates to the Latin American awardees, the Regional Director and Regional Representative of UNEP, Leo Heileman said, "The United Nations Environment Programme congratulates the award winners for their excellent work to protect the environment and respect the national

obligations under the Montreal Protocol, but also encourages all Latin American countries to establish strong and enforceable laws against environmental crime.”

See also article number 12 in Latin America and Caribbean section.

The United Nations Environment Programme, August 2019

3. Challenges for the recovery of the ozone layer

The recovery of stratospheric ozone from past depletion is underway owing to the 1987 Montreal Protocol and its subsequent amendments, which have been effective in phasing out the production and consumption of the major ozone-depleting substances (ODSs).

However, there is uncertainty about the future rate of recovery. This uncertainty relates partly to unexpected emissions of controlled anthropogenic ODSs such as CCl₃F [CFC-11] and slower-than-expected declines in atmospheric CCl₄[carbon tetrachloride].

A further uncertainty surrounds emissions of uncontrolled short-lived anthropogenic ODSs (such as CH₂Cl₂ [dichloromethane] and CHCl₃[trichloromethane]), which observations show have been increasing in the atmosphere through 2017, as well as potential emission increases in natural ODSs (such as CH₃Cl [chloromethane] and CH₃Br [methyl bromide]) induced by climate change, changes in atmospheric concentrations of greenhouse gases N₂O [nitrous oxide] and CH₄, [methane] and stratospheric geoengineering.

These challenges could delay the return of stratospheric ozone levels to historical values, (for example, the abundance in 1980), by up to decades, depending on the future evolution of the emissions and other influencing factors.

To mitigate the threats to future ozone recovery, it is crucial to ensure that the Montreal Protocol and its amendments continue to be implemented effectively in order to have firm control on future levels of ODSs.

This action needs to be supported by an expansion of the geographic coverage of atmospheric observations of ODSs, by enhancing the ability of source attribution modelling, and by improving understanding of the interactions between climate change and ozone recovery.

Authors: Xuekun Fang, John A. Pyle, Martyn P. Chipperfield, John S. Daniel, Sunyoung Park & Ronald G. Prinn

Nature Geoscience, volume 12, pages 592–596 (2019), 8 August 2019



4. Nigeria Federal Government, UNIDO to phase out 71,000 [ODP tonnes of] ozone chemicals



Ministry seeks new policies for ecological problems.

A tripartite agreement has been reached between United Nations Industrial Development Organisation (UNIDO), Federal Government and a firm BASF, to phase-out 71,000 ozone depletion potential (ODP) tonnes yearly.

The agreement is part of a new country programme with Nigeria, which would run from 2018 to 2022. Environment is one of the key components for the 98 countries, in line with Montreal Protocol. An official of the UNIDO Regional Office for ECOWAS, Mr. Oluyomi Banjo revealed this during a stakeholders' workshop on Safer Production and Business Development in the Refrigeration, Air conditioning and Foam Sector, held in Abuja.

"We worked with Nigeria in successfully achieving the ban on importation, production and phasing out of chlorofluorocarbons, methylbromide, and have adopted strategies to reduce yearly production," Banjo said. He explained that they are trying to protect and heal the ozone layer, adding that this is a protective blanket in the stratosphere that covers man from harmful radiations from the sun, particularly the ultraviolet rays.

On his part, Idris Abdullahi of National Ozone Office, explained that intervention project of government with UNIDO was on course to curb ozone [depleting] substances by phasing them out in the near future [...]

Meanwhile, the new Minister of Environment, Dr. Mohammed Abubakar, has said that they will work tirelessly to design problem-solving policies to tackle ecological problems and other environmental issues. [...]

The Guardian [Nigeria], 27 August 2019, By: Cornelius Essen

Asia Pacific

5. Pacific Island Countries Identify Options for Enhancing Monitoring and Enforcement of Montreal Protocol Trade Controls

Koror, Palau, 16 August 2019 — Besides training of enforcement officers, what other practices are effective for monitoring and enforcing national laws and regulations relating to hydrochlorofluorocarbons (HCFCs) and other ozone depleting substances (ODS)? Certainly these good practices can be adopted by the National Ozone Officers and Customs Officers of other countries and further extended to hydrofluorocarbon (HFC) trade control under the recently-adopted Kigali Amendment. Thirty-eight Ozone Officers and Customs Officers from 12 countries as well as resource persons from the Australian government and the Multilateral Fund Secretariat attended the Twinning Workshop for the Pacific Island Countries (PIC) Ozone and Customs Officers on Strengthening Monitoring and Enforcement Mechanism for Ozone Depleting Substances and HFC Trade Control in Koror, Palau from 16-17 August 2019. The workshop was jointly organized by the UN Environment Programme (UNEP) Ozone Action Compliance Assistance Programme (CAP), the Palau Environmental Quality Protection Board (EQPB) and the Palau Bureau of Customs and Border Protection. This workshop is the second of its kind in the region, the previous one having been hosted by the Government of Tonga in 2014.

The two-day workshop was timely given the current discussions under the Montreal Protocol to further strengthening national monitoring, reporting, verification and enforcement (MRVE) systems. The participants discussed how National Ozone Units and Customs Departments can enhance enforcement based on the identified best practices for the implementation of the Montreal Protocol, including the Kigali Amendment, and to explore solutions to accurately report HFC consumption while waiting for new customs codes to be issued.



Mr. John Tarkong Jr., Director of Bureau of Customs and Border Protection, on behalf of the Government of Palau, welcomed all participants to the workshop. He emphasized the importance of the Kigali Amendment to avoid the increase in global temperature, and stated that “the workshop would be a useful forum for the Pacific Island Countries to learn from each other and to identify potential collaboration that they can forge to strengthen the monitoring and enforcement system.”

Mr. Pipat Poopeerasupong, OzonAction's Montreal Protocol Officer, Asia and the Pacific, stated that, “Based on HCFC phase-out experiences, Article 5 countries including the Pacific Island Countries will face more challenges to phase-out HCFCs, while preparing themselves for HFC phase-down. This necessitates strengthening collaboration between the National Ozone Units and Customs Authorities on monitoring and enforcement of trade control not only at the border but also in the domestic markets - beyond the customs check point; establishment of reliable data reporting system; and strengthening prosecution mechanism.”
8057 Twinning workshop Palau-2

The participants shared their experiences and challenges in border control enforcement, including a wide variety of case studies of seizures and prosecution of illegal trade of HCFCs and HCFC-based equipment. The workshop also discussed the importance of verification of HCFC consumption, which would be useful for countries to identify loopholes and strengthen the current licensing and quota system. Experiences on integrating risk profiling for ODS and HFC control was shared and discussed as a new initiative to strengthen the customs risk control in the region. The Ozone Officers and Customs Officers were encouraged to strengthen their partnership through a Memorandum of Understanding, develop Standard Operating Procedures on the management of confiscated substances, and consider including customs brokers and other new partners to effectively control trade of ODS and HFCs.

As one of the key outcomes of the workshop, participants agreed and supported a proposal to amend the regional Harmonised System customs code under the “Pacific Harmonized Commodity Description and Coding System 2017 (PACHS17),” to have regional sub-headings for single HFCs and mixtures containing HFCs based on the recommendation of the World Customs Organization as an interim solution, which will facilitate data reporting of HFCs and blends by substance. The amendment proposal will be submitted to the Oceania Customs Organisation for review in September 2019.

This twinning workshop, which was supported by the Multilateral Fund, is part of the regional OzonAction CAP work plan for 2019 to support countries in meeting and sustaining their Montreal Protocol commitments.

Contact:

[Shaofeng Hu](#), Senior Montreal Protocol Regional Coordinator, OzonAction, UNEP Asia and Pacific Office

[Pipat Poopeerasupong](#), Montreal Protocol Regional Officer, OzonAction, UNEP Asia and Pacific Office

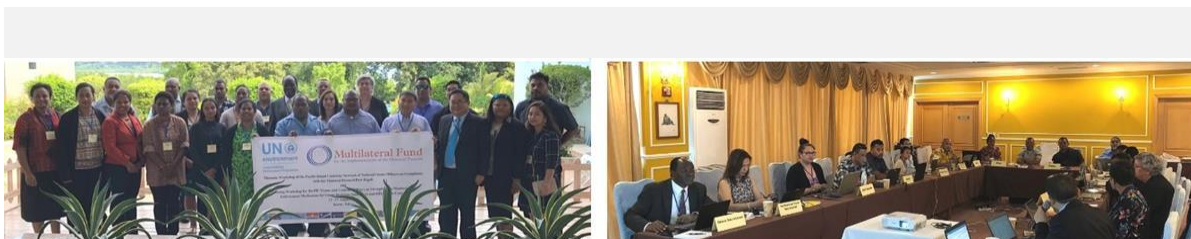
UNEP, OzonAction, August 2019

6. Pacific Island Countries geared for complete HCFC Phase-out and Future Kigali Amendment Challenges

Koror, Palau, 12 August 2019 — What are the challenges and policy options for the Pacific Island Countries (PIC) to sustain compliance with Montreal Protocol obligations notwithstanding that most countries have achieved more than 90% reduction in HCFC consumption in 2018? How should the PIC countries prepare themselves to meet initial obligations under the Kigali Amendment especially in ensuring accurate HFC data reporting? Twelve PIC countries gathered in Koror, Palau, to share their experiences and discuss a way forward for the preparation of the hydrochlorofluorocarbon (HCFC) Phase-out Management Plan (HPMP) Stage II taking into account the future phase-down of hydrofluorocarbons (HFCs) under the recently-adopted Kigali Amendment.

The Thematic Workshop of the PIC Network of National Ozone Officers on Compliance with the Montreal Protocol Post-Kigali was jointly organized by the UN Environment Programme (UNEP) OzonAction Compliance Assistance Program (CAP) and the Palau Environmental Quality Protection Board (EQPB) of the Government of the Palau from 12-15 August 2019. Twenty-five participants attended, including National Ozone Officers from 12 countries and resource persons from the Australian government, the Ozone Secretariat and the Multilateral Fund Secretariat.

Article 5 countries under the Montreal Protocol including the PICs have only four months left to prepare for the next obligation under the Montreal Protocol to reduce their consumption of HCFCs to 35% compared with their baselines. Given that 12 PICs are preparing a regional HPMP Stage II, this workshop explored policy options for the refrigeration and air-conditioning (RAC) servicing sector under HPMP Stage II which would enable the PICs to completely phase-out HCFC consumption, while phasing down HFCs. The workshop discussed the issues of supply and demand of the refrigerant in the fishing vessel sector. The PICs further considered measures of strengthening national monitoring, verification, reporting, and enforcement (MRVE) systems with the aim to sustain achievements under the Montreal Protocol. Given that nine of the fourteen PICs have ratified the Kigali Amendment, the participants also exchanged good practices and ideas for the establishment of an HFC quota and licensing system, HFC data collection and reporting, etc. to ensure accurate reporting of HFC baseline data for 2020-2022, as part of their approved Enabling Activities projects for HFC Phase-down.



During the four-day workshop, the participants shared their experiences and challenges in enforcement of regulations, tracking systems for HCFCs and methyl bromide for quarantine and pre-shipment (QPS) application, prosecution of offenders, and sustaining capacity building of the RAC servicing sector to ensure safe adoption of flammable climate-friendly alternatives. The PICs expressed the need for support in developing Standard Operating Procedures (SOP) on the processes of seizures/confiscations and levying penalties to strengthen the implementation of the Montreal Protocol and options to manage unwanted refrigerants. Countries agreed that a certification system for RAC technicians needs to be either developed or upgraded including bolstering partnerships with local institutions to explore incorporating a RAC syllabus into training curricula.

The Thematic Workshop, which was supported by the Multilateral Fund, is part of the regional OzonAction CAP work plan for 2019 to support countries in meeting and sustaining their Montreal Protocol commitments.

Contact:

[Shaofeng Hu](#), Senior Montreal Protocol Regional Coordinator, OzonAction, UNEP Asia and Pacific Office

7. Lessons from Montreal Protocol Help Southeast Asia Prepare for Future Kigali Amendment Compliance

Cebu, Philippines, 30 July 2019 — What policies and programmes have worked well for our countries under the Montreal Protocol on Substances that Deplete the Ozone Layer? What needs strengthening? How do we prepare ourselves to meet new commitments? Eleven Southeast Asia countries gathered in Cebu, Philippines to discuss such questions and chart a path forward for the implementation of this multilateral environmental agreement, which is currently phasing out hydrochlorofluorocarbons (HCFCs) and which will soon phase down hydrofluorocarbons (HFCs) under the recently-adopted Kigali Amendment. The Thematic Workshop of the South East Asia Network of National Ozone Officers on Compliance with the Montreal Protocol Post-Kigali was jointly organized by the UN Environment Programme (UNEP) OzonAction Compliance Assistance Program (CAP) and the Environmental Management Bureau (EMB) of the Government of the Philippines from 30 July to 2 August 2019. Thirty-eight participants attended, including National Ozone Officers from 11 countries and resource persons from the Ozone Secretariat, the Multilateral Fund Secretariat, other Implementing Agencies and industries.

Like other developing countries that operate under Article 5 of the Protocol, the Southeast Asian countries only have six months left to prepare for the next obligation under the Montreal Protocol to reduce their consumption of HCFCs to 35% compared with their baselines. The countries analyzed their existing policy and technical measures for reducing demand and supply of these chemicals, which are commonly used as refrigerant gases for air conditioning and refrigerators, and identified further actions needed to ensure compliance with that target. They further considered how to strengthen their national monitoring, verification, reporting and enforcement (MRVE) systems with the aim to sustain phase-out achievements for controlled substances. The participants also exchanged good practices and ideas for the establishment of HFC quota and licensing system and HFC data collection and reporting, most critical needs to ensure accurate reporting of HFC baseline data during 2020-2022, as part of their approved Enabling Activities projects under the Multilateral Fund.

Mr. Metodio U. Turbella, Director of the Environmental Management Bureau (EMB), Philippines, welcomed the participants and stated that, “The Government of the Philippines commits to compliance with obligations under the Montreal Protocol not only sustaining achievements for substances that have been phased out, but also future obligations of HCFC phase-out. Developing countries should work on the practical strategy and to engage private sector participation for the HFC phase-down strategy, while phasing-out HCFCs”.



During the four-day workshop, the participants shared their experiences and challenges in promoting sustainable development of the cooling sector, building the infrastructure of the refrigeration servicing sector for the HCFC phaseout and safe adoption of flammable refrigerants, halon bank management, as well as quarantine and pre-shipment uses of the ozone-depleting fumigant methyl bromide. A site visit to a regional training center of Technical Education and Skills Development Authority (TESDA) was undertaken to gain experience from the Philippines on the integration of good servicing practices into the national certification system for refrigeration and air-conditioning servicing technicians, which could be one of the approaches to sustain compliance with the Montreal Protocol obligations.

Mr. Shaofeng Hu, OzonAction's Montreal Protocol Regional Coordinator for Asia and the Pacific, appreciated the active engagement of the discussion, and noted that, "this workshop provided a good forum for countries to take stock of the Montreal Protocol achievements to get them better prepared to address emerging challenges such as how to sustain phaseout, and balance the needs for compliance of the HCFC phaseout and the long term targets under the Kigali Amendment."

The Thematic Workshop, which was supported by the Multilateral Fund, is part of the regional OzonAction CAP work plan for 2019 to support countries in meeting and sustaining their Montreal Protocol commitments.

Contact: [Shaofeng Hu](#), Montreal Protocol Regional Coordinator, UNEP Asia and Pacific Office

UNEP, OzonAction, 30 July 2019

8. Training the trainers on R290 AC in Thailand



New program aims educate more than 200 trainers in Thailand by the end of 2020.

As Thailand evolves from synthetic refrigerants to natural propane (R290) in air conditioning and refrigeration, an effort is underway to ensure that its trainers know how to safely handle flammable refrigerants so they can inform their peers.

The training program debuted on August 19, at King Mongkut's University of Technology North Bangkok (KMUTNB), with the "Grand Opening of First R Training: Safe Use and Handling of Flammable Refrigerants."

The event – jointly held by KMUTNB, the Electricity Authority of Thailand (EGAT), and GIZ GmbH – marked the official start of a "training of trainers" series on the safe use of R290 in refrigeration and air conditioners in Thailand, including how to charge and vacuum a system.

The program is part of the larger Thailand Refrigeration and Air-Conditioning Nationally Appropriate Mitigation Action (RAC NAMA) initiative which "aims to promote natural refrigerants for energy efficient and climate-friendly cooling technologies in Thailand," according to a statement released by GIZ Thailand.

More manufacturers in Thailand have switched to green cooling, GIZ Thailand says in an informational video, which explains the importance of switching from synthetic refrigerants to natural refrigerants in air-conditioning in the country. About 1.8 million AC units were sold in Thailand in 2017, up from 900,000 in 2008, according to GIZ Thailand.

Eight locations in Thailand have been selected as training centers for the project, said Tim Mahler, country director of GIZ Thailand and Malaysia. "In total, the project will have organized 13 training courses with more than 200 trainers trained all over Thailand by the end of 2020."

Training is mainly focused on the safe use of R290 in room air-conditioning applications "as it has less global warming potential [GWP], which helps reduce global warming," said Associate Professor Chatchan Thangjub, who serves as project leader and head of the Refrigeration and Air Conditioning Engineering Technology department at KMUTNB.

"It also can reduce up to 5%-25% of energy consumption and has an excellent heat transfer property, leading to the development of high-quality air conditioners that are energy efficient and thus help save on electricity bills," he said.

The first training course will see participation from 16 room air conditioning trainers from 16 different Thai provinces. Course content includes theoretical knowledge, operational safety, and "hands-on practice at every step of work, from installation, brazing, operation and leakage testing to labeling, reporting and delivery," according to Thangjub.

The RAC NAMA project is funded by the NAMA Facility on behalf of the German Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the U.K.'s Department for Business, Energy and Industrial Strategy.

"Through the founding of the innovative financing instrument known as the NAMA Facility, the U.K. and Germany have put in place an important initiative that provides both the policies and fiscal measures to support Thailand's transformational change towards low-carbon development," said Margaret Tongue, deputy head of mission at the British Embassy Bangkok.

Hydrocarbons21, 22 August 2019, By: Devin Yoshimoto and Jan Dusek

Europe & Central Asia

9. Temporary restrictions on bringing ozone-depleting substances into Russia in 2019



The Russian Government

Temporary restrictions on bringing ozone-depleting substances into Russia in 2019

27 August 2019 00:00

The goal of the restrictions is to protect the ozone layer in the atmosphere and fulfil Russia's commitments under the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances That Deplete the Ozone Layer.

This document was drafted by the Ministry of Natural Resources and Environment of the Russian Federation with a view to implementing the Government resolution of March 24, 2014 on state regulation of the consumption and turnover of ozone-depleting substances and Russia's commitments under the 1985 Vienna Convention for the Protection of the Ozone Layer and the 1987 Montreal Protocol on Substances That Deplete the Ozone Layer.

There is a procedure for the annual calculation of the acceptable amount of production of ozone-depleting substances (ODS) in Russia and the annual quantity of specific ODS in an acceptable amount of consumption.

Government Resolution #2555-r of November 22, 2018 established the quantity of ODSs that may be brought into Russia in 2019.

The signed resolution has introduced temporary restrictions on the import of ODSs into Russia in 2019. Acceptable amounts are to be distributed between applicants based on enforcement statistics over the past few years in the cross-border regulation of movement of ODSs. Sixty percent of ODSs are distributed between the applicants that imported ODSs in 2018; 35 percent between the applicants that did not import ODSs in 2018 and did not have the relevant permits; and 5 percent of ODSs between the applicants that received permits in 2018 but did not bring them into the country.

The goal of the introduced restrictions is to protect the ozone layer in the atmosphere and fulfil Russia's commitments under the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances That Deplete the Ozone Layer.

Ministry of Natural Resources and Environment of the Russian Federation, 27 August 2019

10. Tomsk State University scientists with France and USA physicists study ozone evolution



TOMSK, Russia, August 20 – RIA Tomsk. Scientists of Tomsk State University (TSU) with colleagues from France and the USA received a grant from the Russian Science Foundation to study the mechanisms of formation and decay of ozone; the results of the project will help control the quality of the ozone layer, the press service of the university said on Tuesday [August 20].

It is specified that the problems of the formation, decay and evolution of ozone are priority for many leading research centers. This, for example, is evidenced by the signing of the Montreal Protocol on its global control and the Nobel Prizes for studies of the ozone layer. At the same time, the scientific world has still not solved the key issues related to the probabilities of the formation of ozone molecules and isotopic anomalies.

As noted by the scientific project supervisor, chief scientific associate of the Laboratory for Quantum Mechanics and Molecular Radiation Processes Vladimir Tyuterev, ozone has a number of paradoxical properties: for example, the ozone layer at the top (in the stratosphere) protects us and is climate-forming, but in the lower layers of the atmosphere it is a part urban smog toxic to the human pulmonary system.

According to the scientist, for effective monitoring of the content and evolution of ozone in the atmosphere, constant remote sensing from satellites by spectral analysis methods is necessary. With the help of such a study, it is possible to determine the presence of ozone particles, their quantity, under what conditions they exist, at what temperature, how they interact.

Within the framework of the grant, physicists plan to measure the spectra of ozone, determine details of its quantum structure in various energy states, explain the process of formation of this molecule, and so on.

The acquisition and processing of experimental spectra will be carried out in collaboration with the laboratories of the French National Centre for Scientific Research (CNRS). Quantum calculations will be carried out on European supercomputers and on Tomsk SKIF Cyberia.

PNA Tomsk, 20 August 2019

Latin America and Caribbean

11. Six Latin American Government officials receive Customs and Enforcement Officers Global Awards

Asuncion, 20 August 2019 — International illegal trade in environmentally sensitive commodities such as ozone depleting substances, toxic chemicals, hazardous wastes, endangered species and living modified organisms, is an international problem with serious consequences. It directly threatens human health and the environment; contributes to the loss of species; results in revenue loss for governments; and undermines the success of international environmental agreements by circumventing agreed rules and procedures.

Aiming to address these challenges, National Ozone Officers and Customs Officers from 16 Latin American countries have today commenced in Asuncion, Paraguay a three-day training workshop (20-22 August 2019) on illegal trade of environmentally regulated goods.

The first two days of the workshop, which will focus on practical cooperation to support compliance with national obligations under the Montreal Protocol on Substances that Deplete the Ozone Layer, are organized by United Nations Environment Programme's OzonAction Branch and the Ministry of Environment and

Sustainable Development of Paraguay, with support from the Multilateral Fund for the Implementation of the Montreal Protocol.

Since the same Customs Officers responsible for surveillance of international trade of Montreal Protocol controlled substances are also often in charge of other Multilateral Environmental Agreements' trade controls, the final day of the training workshop will be organized and supported by the Green Customs Initiative, a unique partnership of international organizations and Secretariats of trade-related Multilateral Environmental Agreements aiming at enhancing the capacities of Customs authorities.

One of the highlights of the workshop is that government officers and organizations of six Latin American countries received the Global Montreal Protocol Award for Customs and Enforcement Officers as part of a recognition programme that was launched in January 2018 jointly by OzonAction, the Ozone Secretariat and the World Customs Organization.

Government officers and organizations of Argentina, Costa Rica, Dominican Republic, Honduras and Paraguay received an award for preventing illegal trade of substances controlled under the Montreal Protocol. Colombia also received an award for promoting effective information exchange between importing and exporting countries. The following are recipients of the awards (in alphabetical order):

The Ozone Programme Office of the Ministry of Environment and Sustainable Development and the Customs Service of the Ministry of Finance of Argentina due to the seizure in 2009 of 1,150 cylinders of HCFC-22 mis-labeled as HFC-134a. The case was prosecuted and heavily fined, and the next step is the final disposal of the seized refrigerants.

Ms. Cindy Sofia Sterling Howard from Limon Customs Office and Mr. Luis Gerardo Barrantes Suarez from Fiscal Control Police of Costa Rica, who together seized 412 cylinders of HCFC-22 in 2014. Due to effective post-control measures, the Costa Rica National Customs Service managed to identify past illegal traffic and confiscate the remaining goods.

The Ozone National Programme of the Ministry of Environment and Natural Resources and the General Directorate of Customs of the Dominican Republic for the seizure of 6,700 cylinders of CFC-12 mislabeled as HFC-134a in 2017. The company was subjected to a fine and the cylinders are to be re-exported to the country of origin.

The Ozone Technical Unit, Secretariat of Natural Resources and Environment of Honduras and the Executive Directorate of Revenue Customs Office of Puerto Cortes for nine different seizures of illegal traffic between 2015-2018 of used milk tanks and air-conditioners containing HCFC-22, which is prohibited by national law. The confiscated equipment was retrofitted to alternative refrigerants before it was donated to public institutions.

Mr. Juan Carlos Amarilla Rojas, the Green Customs Focal Point and the General Directorate of Customs of Paraguay for three seizures that included 1,150 cylinders of mainly HCFC-22 in 2010, and 27,000 split air conditioning units that use HCFC-22 gas, in 2015.

The Ozone Technical Unit of the Ministry of Environment and Sustainable Development of Colombia also received an award in the effective use of OzonAction's informal Prior Informed Consent (iPIC) mechanism for the import and export of ozone depleting substances. In this case, China's Import/Export Licensing Office contacted Colombia and appropriately identified that the export permit request made in China did not match with the import license issued by the Colombian authorities. As a result, the export of 4,704 kg of HCFC-22 was rejected.



The Global Montreal Protocol Awards are an example of the crucial role that Customs play in fighting illegal trade in ozone depleting substances and the importance of ensuring effective customs training on environmentally sensitive commodities as well as of sharing information between importing and exporting countries. A total of 9,412 cylinders and 27,024 items of equipment were seized in Latin America by these countries. In some cases, the issue of disposal of the seized goods (re-export, destruction, auctioning and tracking of operations) is still being decided.

In the presentation of the medals and certificates to the 11 Latin American awardees, the Regional Director and Regional Representative, Mr. Leo Heileman said, “The United Nations Environment congratulates the award winners for their excellent work to protect the environment and respect the national obligations under the Montreal Protocol, but also encourages all Latin American countries to establish strong and enforceable laws against environmental crime. Our presence here in Paraguay shows this country gives high importance for reinforcing Customs capabilities to control the illegal trade of ozone depleting substances.”

See also [Environmental authorities and customs join forces against environmental crime](#)

UNEP, OzonAction, 20 August 2019

North America

12. United States Settles with Southeastern Grocers to reduce ozone-depleting emissions at grocery stores in the Southeastern States



WASHINGTON - August 23, 2019 — Southeastern Grocers Inc. and its subsidiaries BI-LO LLC and Winn-Dixie Stores Inc. (together, “SEG”), owners and operators of regional grocery store chains BI-LO LLC, Winn-Dixie Stores Inc., Fresco y Más and Harveys Supermarket, have agreed to reduce emissions of potent ozone depleting gases from refrigeration equipment at 576 stores under a proposed settlement with the U.S. Department of Justice and the U.S. Environmental Protection Agency to resolve alleged violations of the Clean Air Act. Under the settlement, SEG will spend an estimated \$4.2 million over the next three years to reduce coolant leaks from refrigerators and other equipment and improve company-wide compliance. SEG will also pay a \$300,000 civil penalty.

The United States alleged that SEG violated the Clean Air Act by failing to promptly repair leaks of class I and class II refrigerants, ozone-depleting substances used as coolants in refrigerators. SEG also failed to keep adequate servicing records of its refrigeration equipment and failed to provide information about its compliance record.

“Through this settlement, Southeastern Grocers will implement concrete steps to reduce leaks of ozone depleting gases from the refrigeration equipment in their stores,” said EPA Assistant Administrator for Enforcement and Compliance Assurance Susan Bodine. “These steps will not only help to prevent damage to the environment, but should also help save energy.”

“This consent decree will help assure SEG’s future compliance with the Clean Air Act’s ozone-depletion program — by requiring leak monitoring, centralized computer recordkeeping, and searchable electronic reporting to EPA,” said Assistant Attorney General Jeffrey Bossert Clark of the Department of Justice’s Environment and Natural Resources Division.

SEG will now implement a corporate refrigerant compliance management system to comply with federal stratospheric ozone regulations and to detect and repair leaks through a new bi-monthly leak monitoring program. In addition, SEG will achieve and maintain an annual corporate-wide average leak rate of 17.0%

through 2022, well below the grocery store sector average of 25%. SEG must also use non-ozone depleting advanced refrigerants at all new stores, and an additional 15 existing, non-advanced refrigerant stores.

EPA regulations issued under the Clean Air Act require that owners or operators of commercial refrigeration equipment that contain over 50 pounds of ozone-depleting refrigerants repair any leaks within 30 days. Damage to the ozone layer results in dangerous amounts of cancer-causing ultraviolet solar radiation, increasing skin cancers and cataracts. An added benefit of repairing refrigerant leaks is improved energy efficiency of the system, which can save electricity.

The settlement is the fourth in a series of national grocery store refrigerant cases, including cases previously filed against Safeway Inc., Costco Wholesale Corp., and Trader Joe's Co. [...]

The U.S. Environmental Protection Agency, 23 August 2019

13. What's Happening with the Stratospheric Ozone Layer? Upcoming US EPA GreenChill Webinar



Topic: [What's Happening with the Stratospheric Ozone Layer?](#)

Date: Tuesday, 24 September 2019

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

Description: Paul Newman (NASA) will give an update on the ozone layer. The ozone layer is the Earth's natural sunscreen from harmful ultraviolet radiation. Widespread usage of chlorofluorocarbons (CFCs) was identified in 1974 as an existential threat to our ozone layer. In 1987, the Montreal Protocol was signed to control CFCs, and as a result, their levels are declining in the atmosphere. This presentation will provide information on how CFCs (and other compounds) are changing and how the ozone layer is responding (and should continue to respond in the future).

To join the webinar:

1. Visit the [webinar access page](#): What's Happening with the Stratospheric Ozone Layer?
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 (706-758-1822 from outside the U.S.)
2. Use Conference Code: 202 343 9185#

Contact: [US EPA GreenChill](#)

14. Province of Quebec proposes new halocarbon regulations

The Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) reports that on July 17, the Government of Quebec published proposed revisions to its halocarbon regulations in the Quebec Gazette.

The proposed regulation changes will prohibit, effective January 1, 2021, the sale, manufacture, installation and distribution of air conditioning and refrigeration equipment operating with HFCs with a high global warming potential, with the exception of domestic appliances, chiller-type appliances and transport refrigeration appliances. The complete ban on the installation of HFC-based appliances will be applied to certain industries, including food stores and large supermarkets, which may use technologies that use natural refrigerants. [...]

The draft regulation also proposes to review the qualifications of persons who carry out operations on devices containing halocarbons. It also specifies the standards related to their recovery, the actions to be taken in the event of a leak, as well as the recovery and treatment of used halocarbons.

Under the proposed regulations, the new prohibitions will apply to new facilities and end-of-life devices only, which would allow the industry “a gradual and orderly withdrawal of the affected products.” The Minister’s announcement also stated that the “government is hopeful that the modernization of equipment will be done quickly enough, as several companies have already demonstrated the profitability of halocarbon-free systems.”

According to Minister’s statement:

The proposed regulation offers a fast, efficient and economical way to reduce greenhouse gas emissions in Québec. It is perfectly in line with our desire to implement concrete and pragmatic solutions to combat climate change. Indeed, after having long considered HFCs as an alternative to ozone-depleting substances, we are seeing, more precisely, the extent of their contribution to global warming. It is for this reason that we must limit its use to the maximum. Where other solutions are available on the market, these should be used.

Read the [English](#) | [French](#) version of the Draft Regulation.

HPAC, 14 August 2019

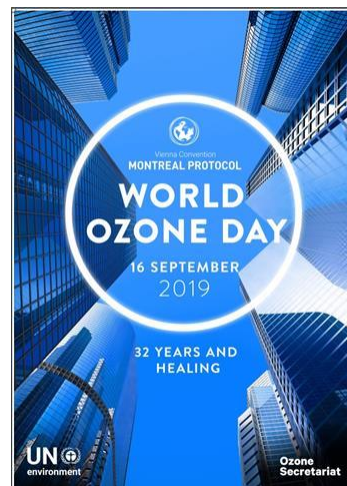


Featured



OZONE SECRETARIAT

32 Years and Healing - Theme for World Ozone Day 2019



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

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

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

- [Report of the 83rd meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol](#), Montreal, Canada, 27-31 May 2019

- [83rd meeting of the Executive Committee](#)

- [82nd meeting of the Executive Committee](#)

[Learn more](#)



OZONACTION



World Ozone Day 2019 - OzonAction has a wide range of existing information and awareness-raising materials that could be used for your national celebrations. Please refer to the [Ozone Day webpage](#) in the [OzonAction website](#).

We would appreciate very much to receive information about your planned World Ozone Day activities or reports about what took place for posting on the OzonAction website. Please send this information to your Network's Montreal Protocol Coordinator or directly to Ms. [Jo Chona](#). Sharing such information is very encouraging, not only to us, but to the whole Montreal Protocol community.

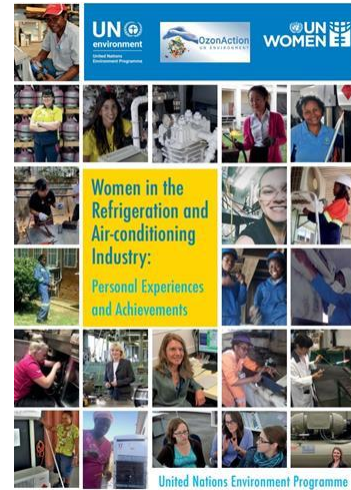
If you require assistance or any specific awareness material for your celebrations, please do not hesitate to contact [us](#) or your Network's Montreal Protocol Coordinator.

We thank you for your ongoing commitment to compliance with the Montreal Protocol and your excellent work in implementing your national strategies and projects.

OzonAction CAP team wish you great success in this year's World Ozone Day celebration!

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](#)



Read/Download

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: Dr. Ezra Clark, UNEP, OzonAction



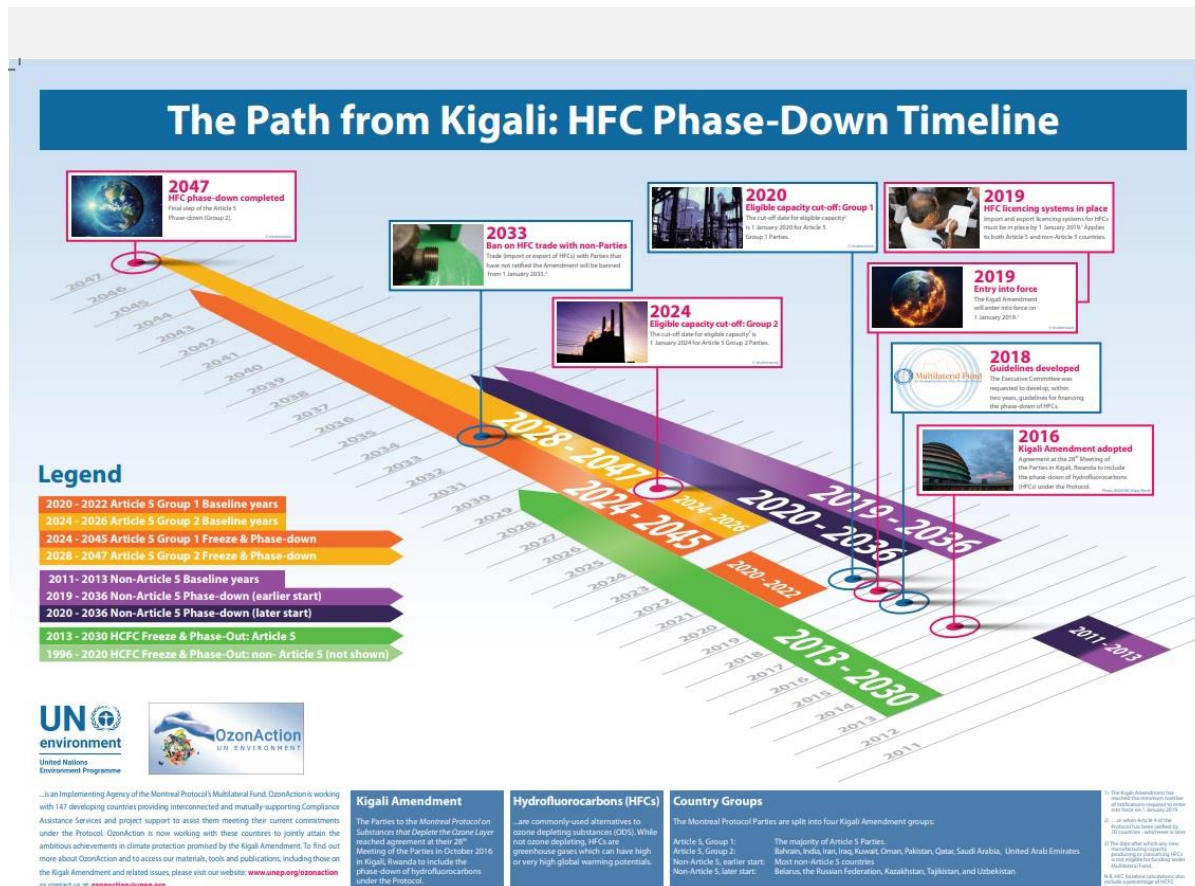
Update on new refrigerants designations and safety classifications - factsheet - The purpose of this fact sheet is to provide an update on ASHRAE standards for refrigerants and to introduce the new refrigerants that have been awarded an «R» number over the last few years and introduced into the international 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 Eitalouny](#), Coordinator International Partnerships, UN Environment OzonAction



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.

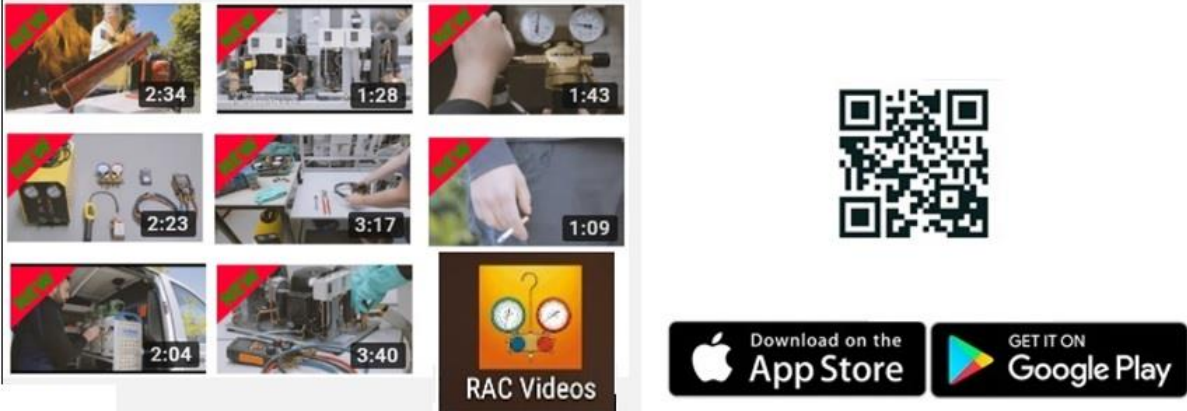
It is intended for use by Montreal Protocol National Ozone Officers, Customs and Enforcement Officers as well as technicians involved in the servicing and maintenance of refrigeration and air conditioning systems.

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



RAC Videos

Download on the
App Store

GET IT ON
Google Play

New videos available on the OzonAction RAC video application

A series of new videos has just been released on the Refrigeration and Air-conditioning Technician Video Series application, with a focus on working with flammable refrigerants ...

50,000 downloads and counting!

To install, search for “RAC Video” in the Google Playstore or Apple IOS store, or scan the QR code.



GWP-ODP Calculator Smartphone Application

The application allow you to easily convert ODP, CO₂-eq and metric quantities of refrigerants and other chemicals.

- 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!



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?”

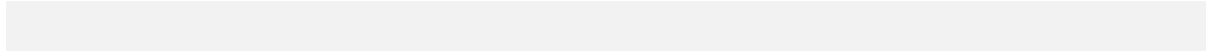


The Kigali Amendment to the Montreal Protocol - Opportunities and Next Steps - OzonAction Video

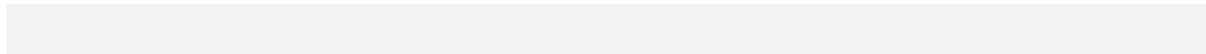
The Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer reached agreement at their 28th Meeting of the Parties on 15 October 2016 in Kigali, Rwanda to phase down hydrofluorocarbons (HFCs). The UN Environment, OzonAction developed a video to find out from renowned international scientific, health, technical, financial and national experts about background and significance of this Kigali amendment.

The amendment presents many opportunities: improving the environment, refrigeration and air-conditioning systems and especially energy efficiency. It also presents new challenges. It is absolutely critical now for industry, governmental bodies and civil society to work together to adopt greener technologies in each country of the world and fight global warming.

[OzonAction YouTube](#) | See also: [United Nations Treaty Collection](#)



OzonAction Factsheets





UN Environment-ASHRAE Factsheet Update on New Refrigerants Designations and Safety Classifications

OzonAction Series of 19 Fact Sheets related to the Kigali Amendment.

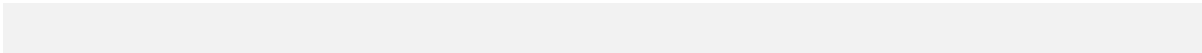
HS codes for HCFCs and certain other Ozone Depleting Substances ODS (post Kigali update).

The Kigali Amendment to the Montreal Protocol: HFC Phase-down - The phase-down of HFCs under the Montreal Protocol on Substances that Deplete the Ozone Layer has been under negotiation by the Parties since 2009 and the successful agreement on the Kigali Amendment at the 28th Meeting of the Parties on 15 October 2016 in Kigali, Rwanda to phase-down hydrofluorocarbons (HFCs) continues the historic legacy of the Montreal Protocol. This factsheet summarises and highlights the main elements of the Amendment of particular interest to countries operating under Article 5 of the Protocol (Article 5 Parties).

Refrigerant Blends: Calculating Global Warming Potentials (post-Kigali update).

Global Warming Potential (GWP) of Refrigerants: Why are Particular Values Used? (post-Kigali update).

Tools Commonly used by Refrigeration and Air-Conditioning Technicians.





OzonAction Multimedia Video Application: Refrigeration and Air-conditioning Technician Video Series - Over 50,000 downloads to date -

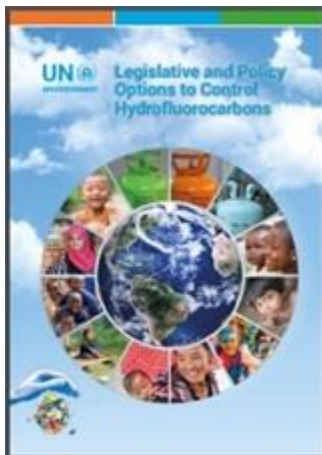
OzonAction has launched an exciting new application which hosts series of short instructional videos on techniques, safety and best practice for refrigeration and air-conditioning technicians. This application, consisting of short instructional videos on techniques, safety and best practice, serves as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



Latest issue of the Centro Studi Galileo - [Industria & Formazione](#). La rivista per il tecnico della refrigerazione e della climatizzazione, N. 6, 2019

Events

2019

- [International Institute of Refrigeration](#) events
- [Refrigeration Week](#) - 16 - 20 September 2019. This year's event aims to prepare stakeholders for refrigerant change.

Please feel free to [share](#) with us relevant events to be featured.

Reading



[Twenty Questions and Answers About the Ozone Layer](#), presents complex science in a straightforward manner. It complements the [2014 Scientific Assessment Report of Ozone Depletion](#) by WMO and the U.N. Environment Programme.

Lead Author:
Michaela I. Hegglin

Coauthors:
David W. Fahey, Mack McFarland, Stephen A. Montzka, Eric R. Nash



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

Summary:

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 - The refrigeration and air conditioning industry is the largest user of synthetic greenhouse gases and ozone depleting substances in Australia. Cold Hard Facts 3 provides an economic and technological assessment of the refrigeration and air conditioning industry in Australia in 2016. The report includes an analysis of the size and economic value of the industry, the equipment and refrigerant gas bank, trends in gas imports and equipment, and direct and indirect emissions in this sector. [...] 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.

Miscellaneous



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

The United Nations Environment, 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*



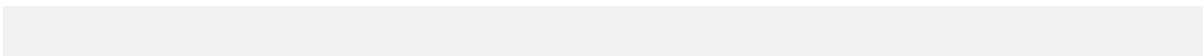
The International Institute of Refrigeration supports World Refrigeration Day -
 As the only independent intergovernmental organisation in the field of refrigeration, the International Institute of Refrigeration (IIR) joins associations and companies worldwide to support the initiative of an official

World Refrigeration Day on 26 June every year. The annual World Refrigeration Day, to be launched on 26 June 2019, aims to raise awareness among the wider public about the importance of refrigeration technologies in everyday life.

Refrigeration is essentially a question of temperature and, as such, it only seems natural to celebrate the field on the birthday of the pioneer at the origin of the international unit of temperature, Lord Kelvin (Sir William Thomson) – born 26 June 1824.

With increasing global stakes at hand, over the past years refrigeration has come to take a leading role at the heart of international affairs.

The inauguration of a World Refrigeration Day would not only be an ideal way to recognise the many historical achievements of the industry, but also a means to anticipate and overcome together the challenges we face. ... Click [here](#) for more information.



New International Journal of Refrigeration service for IIR members -

Access the complete archives of the International Journal of Refrigeration (IJR) online. Designed with IIR 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

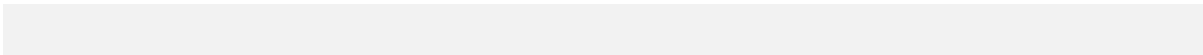
Volume 1, Issue 1.

- 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



OZONE HOLE: HOW WE SAVED THE PLANET - New Documentary Tells the Remarkable Story of How Scientists Discovered the Deadly Hole in the Ozone – and the **Even More Remarkable Story of How the World’s Leaders Came Together to Fix It.**

New program to scale up efficient, clean cooling in developing countries- The World Bank announced today [24 April 2019] a new program to accelerate the uptake of sustainable cooling solutions, including air conditioning, refrigeration and cold chain in developing countries. The program will provide technical assistance to ensure that efficient cooling is included in new World Bank Group investment projects and mobilize further financing. Globally, demand for cooling is increasing, mainly driven by growing populations, urbanization and rising income levels in developing countries. Further exacerbating the issue, rising temperatures will increase demand for cooling appliances, which not only use large amounts of energy, but also leak refrigerants that contribute to global warming.

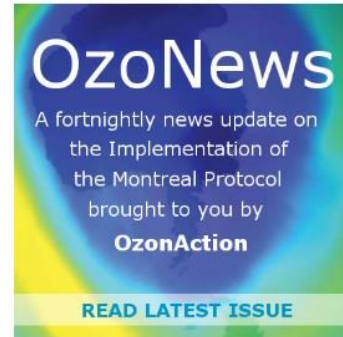




Climate Action Summit - 23 September 2019

Member states, local leadership, private sector, civil society leaders and youth have been responding to the [Secretary General's call for this summit to accelerate ambition and increase commitments to take action to address the climate crisis](#), one year ahead of when the Paris Agreement comes into effect.

The United Nations Environment Programme is leading the [Nature Based Solutions to Climate Change track](#) and the NBS Coalition which received [150+ proposals](#) to bring to the summit.



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Read/Download PDF of the current issue

Disclaimer:

The United Nations Environment (UNEP), Law 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: Dr. 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



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