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# 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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| 15 October 2019

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Global

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# 1. Kigali Amendment latest ratifications

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

**Mauritius**, 1 Oct 2019  
**New Zealand**, 3 Oct 2019  
**Sao Tome and Principe**, 4 Oct 2019  
**Lesotho**, 7 Oct 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. Ozone hole vigilance still required

The recovery of the ozone layer over Antarctica cannot be taken for granted and requires constant vigilance.

That's the message from Dr Jonathan Shanklin, one of the scientists who first documented the annual thinning of the protective gas in the 1980s.

This year's "hole" in the stratosphere high above the White Continent is the smallest in three decades.

It's welcome, says Dr Shanklin, but we should really only view it as an anomaly.

The better than expected levels of ozone have been attributed to a sudden warming at high altitudes, which can occasionally happen.

This has worked to stymie the chemical reactions that usually destroy ozone 15-30km above the planet.

"To see whether international treaties are working or not, you need to look at the long term," Dr Shanklin told BBC News.

"A quick glance this year might lead you to think we've fixed the ozone hole. We haven't. And although things are improving, there are still some countries out there who are manufacturing chlorofluorocarbons (CFCs), the chemicals that have been responsible for the problem. We cannot be complacent."

Dr Shanklin, along with Joe Farman and Brian Gardiner, first alerted the world in 1985 that a deep thinning was occurring in the ozone layer above Antarctica each spring.

Ozone filters out harmful ultraviolet radiation from the Sun.

The team's discovery, confirming the theoretical predictions of others, led to the Montreal Protocol.

This international treaty phased out most of the chlorine- and bromine-containing chemicals involved in ozone depletion.

At the time, these substances were being used widely as refrigerants, cleaning agents, and as the propellants in aerosol cans.

Dr Shanklin and his colleagues at the British Antarctic Survey made their seminal observations at the Halley research station on the Brunt Ice Shelf.

They used a Dobson photospectrometer - an instrument that is traditionally operated manually.

This became a major issue three years ago when BAS was forced to pull all winter staff out of Halley because of the uncertainty over the stability of nearby ice. It meant ozone measurements couldn't take place in those critical weeks when the hole begins to open.

With summer-only staffing set to continue for the foreseeable future, the situation has forced BAS to introduce an automated solution.

The survey is now running a mini-jet engine non-stop at Halley, which is providing the electricity for a host of computer-controlled experiments, including the Dobson photospectrometer.

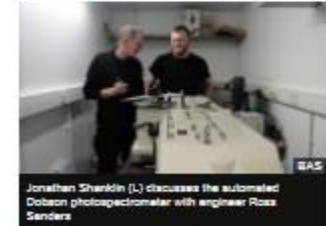
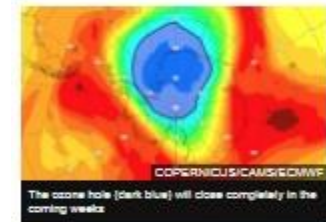
It's delivering ozone measurements direct to Dr Shanklin's computer back in the UK via satellite.

"It's very clear that the ozone data coming back from Halley is different to previous years; we haven't seen that rapid decline. As time progresses, probably later in October, we'll see the final demise of this year's ozone hole as warm air sweeps across the continent."

Dr Thomas Barningham, who's implemented the novel Halley set-up, added: "Resuming springtime stratospheric ozone observations with the automated Dobson, for the first time since the winter closure of the station, is what the project is all about - maintaining long-term monitoring datasets that are of global significance.

"We're very pleased to have reached this milestone. The next will be in 40 days' time, when the first personnel arrive back on station to begin our summer season."

Dr Shanklin is now an emeritus fellow at BAS. He goes into its Cambridge HQ twice a week to advise and help interpret the Dobson data. And, of course, he's still very plugged in to the politics of ozone and other atmospheric issues.



One topic that's caught his eye recently is sulphur hexafluoride, or SF6.

This substance is used in the electrical industry to prevent short circuits and accidents. It's an extremely potent greenhouse gas, and although emissions to the atmosphere are relatively small at the moment, they are increasing.

Dr Shanklin worries that SF6 is being treated in the same way that CFCs were treated when they were first introduced in the 1930s. There was an assumption they would do no harm.

He told BBC News: "I think we're treating SF6 in the same way. We think it possibly won't have a problem, although we know it's a greenhouse gas. And therefore we're using it perhaps not as wisely as we might do. And that's why we need the various monitoring sensors around the globe so we can... say to the scientific community that something's increasing, so they can do the modelling and find out what the likely consequences are."

[BBC Science & Environment, 8 October 2019, By: Jonathan Amos](#)

### 3. Ozone layer viewpoints: from observation to public protection

The ozone layer is an important part of Earth's atmosphere, and vital for our health as it helps filter out potentially damaging UV radiation coming from the Sun. The Copernicus Atmosphere Monitoring Service (CAMS) provides up-to-date reports on state of the ozone layer.

In this article, we will hear from scientists and users of CAMS data to find out how they are using this valuable information:

Antje Inness is a senior scientist at CAMS. She works on satellite observations of reactive gases such as ozone, nitrogen dioxide, and carbon monoxide.

Matt Tully works for the Bureau of Meteorology (BOM), Australia's national weather, climate and water agency. BOM uses CAMS ozone data to inform their UV forecast, which is then provided to the public.

Craig Sinclair leads Australia's Prevention Division for Cancer Council Victoria; an independent, not-for-profit organisation that plays a leading role in reducing the impact of all cancers on all people. As UV is a major cause of skin cancer, understanding the role of the ozone layer in blocking UV can contribute to protecting the public. CAMS data helps Cancer Council Victoria to do just that. [...]

Read the [viewpoints](#)

[The Copernicus Atmosphere Monitoring Service \(CAMS\), 8 October 2019](#)



## Africa

### 4. Adopt ozone and climate friendly technologies - Kenya

Ministry of Environment and Forestry Cabinet Secretary [CS] Mr. Keriako Tobiko has said that Kenya has made considerable progress in phasing out Ozone Depleting Substances (ODS) in most applications.

The CS said that the country has in most of the operations, adopted ozone – friendly alternatives and technologies, and further moving to adopt both ozone and climate friendly technologies in the Refrigeration and Air Conditioning sector.



In a speech read on his behalf by Environment Principal Secretary [PS] Ms Betty Maina during International Day for The Preservation of the Preservation of the Ozone Layer Kenya Meteorological Department., Tobiko said the day aims to increase awareness of Climate Change & Ozone Depletion.

He said that the day serves as a reminder that humans must keep up their momentum to ensure healthy people and a healthy planet. Tobiko said that Preservation of the Ozone Layer is one of the major environmental concerns for the world and responsibility of protecting mankind's heritage is collectively global.

On her part PS Betty Maina said; "the responsibility of saving the earth belongs to all of us it is not solely the Government.

She said the Government has significantly reduced the importation amount of ozone depleting goods. "We should however find alternatives to the ozone depleting substances" said the PS.

In a statement read by UNEP Ozone Secretariat Communications and Information Officer, Stephanie Haysmith, United Nations Secretary-General António Guterres' underscored the need for cooperation to address a global challenge saying cooperation is a key instrument for tackling today's climate crisis.

He called for shifting of energies on tackling climate change, and also the ozone layer and stay alert to the threats posed by the illegal use of ozone-depleting gases.

WMO representative Sebastian Grey said WMO assisted in setting up of four global atmosphere watch stations in Africa located in Kenya, South Africa, Morocco and Nigeria. Their role is to monitor trends in the earth's atmosphere.

[Kenya Ministry of Environment and Forestry, 14 October 2019](#)

## 5. First female technician in Western Cape [South Africa] to receive training in Bavaria

Young, ambitious and optimistic, Jessica de Villiers, a mechanical engineer from the Department of Transport and Public Works, is the first female candidate accepted into the COOL Training course offered to technicians of the Refrigeration and Air Conditioning (RAC) sector.

Stemming from a successful bilateral relationship of over 20 years, the Free State of Bavaria and the Western Cape Government has embarked on a partnership project on the "transition to climate-friendly refrigeration and air conditioning", in 2017.

The RAC project saw the two Governments, working closely to reduce emissions of harmful refrigeration chemicals to the atmosphere, in line with the 2016 Kigali Amendment to the Montreal Protocol: Hydrofluorocarbons Phase-down.

Dr Joy Leaner, Director for Air Quality Management says with rising temperatures and extreme weather patterns, the demand for refrigeration and air conditioning in developing countries has escalated.

"The industrial RAC sector contributes to global greenhouse gas (GHG) emissions because they make use of fluorinated gases as refrigerants. Our agreement with Bavaria allows us to create a platform to share knowledge and skills in introducing more climate friendly refrigerants towards mitigating the sources that contribute to climate change."

[90.4FM News, 8 October 2019](#)



## 6. Prohibited ODS goods still exported (Fiji)

As the Fijian Government works on phasing out ozone-depleting substances (ODS), prohibited goods are still being exported by some developed and developing countries.

Acting Minister for Waterways and Environment, Ashneel Sudhakar said these include banned refrigerants, with an increase in companies and individuals bringing equipment containing ODS without proper permits from the Department of Environment.

Sudhakar said over the years, the Department has been enforcing ODS related laws trying to address goods being declared as “personal item effects” and quality of goods.

He says there has been an increase in the cheap poor-quality equipment such as air-conditioning and refrigerator units entering Fiji.

Unscrupulous operators such as companies/individuals who are not authorized by the Department bring in refrigerants and refrigerant-based equipment.

These goods he says are normally declared as personal item effects and are later mostly traded for commercial gains by backyard operators rather than being privately used.

Fiji ratified the Montreal Protocol on Substances that Deplete the Ozone Layer in 1989.

The country’s most commonly imported ODS include hydrochlorofluorocarbons (HCFCs), which was given a freeze date of 2013 and phase out date by 2030.

[Fiji Broadcasting Corporation, 4 October 2019, By: Maggie Boyle](#)



## 7. South-south cooperation looks to strengthen Pacific partnership

The South-South cooperation is a broad framework for collaboration and exchange among countries of the South Pacific.

This will be within the political, economic, social, cultural, environmental and technical realms.

Minister for Agriculture Mahendra Reddy highlighted this to the National Ozone Officers from three Pacific Island countries that attended a two-week training in Fiji.

Reddy also highlighted that the National Ozone Officers from Marshall Islands, Nauru and Tuvalu had the opportunity to learn and apply, shares ideas and experiences.

The Montreal Protocol deals with the phasing out of ozone depleting substances (ODS) to protect the ozone layer.

[FBC News, 13 October 2019, By: Lena Reece](#)



## 8. Customs seizes refrigerant chemicals worth P4m

The Bureau of Customs (BOC) seized refrigerant chemicals worth some P4 million [USD 19,371.81] without the necessary clearance from the Department of Environment and Natural Resources—Environmental Management Bureau.

In a statement, 1,150 units of Koman Refrigerant chemicals arrived on September 7, 2019 at the Manila International Container Port from China.

The chemicals were consigned to Barcolair Philippines Inc. and were processed by customs broker Alex Talaboc Bayot but it was found out that the importer had neither renewed their registration as an importer nor secured a Pre-Shipment Importation Clearance resulting in the interception of their goods.



Refrigerant chemicals are widely used in air conditioners and refrigerators and the main cause of destruction on the ozone layer compounded by its huge global warming potential.

The BOC said importation of refrigerant chemicals required all importers to register with EMB and must secure a PSIC before the entry of such chemicals into the country.

Manila Standard, 9 October 2019, By: Vito Barcelo

## 9. National Halon Bank Environmental Policy- Australia

The National Halon Bank (NHB) is a Commonwealth owned facility operated by A-GAS Australia Pty Ltd (A-GAS), under a Management Agreement with the Department of the Environment and Energy (the Department). As described in the Australian Halon Management Strategy, the NHB was established to assist Australia meet its obligations under the Montreal Protocol on Substances that Deplete the Ozone Layer.

The Department has established an Environmental Management System (EMS) based on International Standard AS ISO 14001:2015 to guide the operation of the NHB. This Environmental Policy forms part of the requirements for the EMS.

The NHB is the only facility of its kind in the southern hemisphere. Through its operations, the Department is providing international leadership in the management of Ozone Depleting Substances and Synthetic Greenhouse Gases, predominantly halons, by providing services to customers in Australia and overseas.

The range of services provided by the NHB includes recovery, recycling, reclamation, storage, disposal and making halon available for essential use purposes (maritime, aviation & defence industries).

In order to maintain its operations to this standard, the NHB and A-GAS as its manager, have made the following environmental commitments for its operations at the NHB:

- Controlling and minimising negative environmental impacts
- Continual environmental improvement
- Preventing and/or minimising pollution and emissions
- Continual monitoring and evaluation of environmental performance
- Complying with regulatory obligations and other environmental requirements
- Setting and reviewing environmental objectives and targets through the use of Environmental Management Programs (EMPs)
- Understanding the needs and expectations of interested parties
- Assessing environmental risk and opportunities.

The NHB's ISO 14001 certification is reviewed annually to ensure ongoing compliance. The NHB's EMS was re-certified against ISO 14001:2015 for a further three years in 2019.

Communicating and implementing the environmental objectives of the NHB is paramount to achieving positive environmental outcomes. The NHB, through the Department and A-GAS, will achieve this by:

- Making this policy available to interested parties, including through publication on the Internet
- Communicating openly with all employees and other interested parties
- Making contractors aware of the EMS and their obligation to adhere to this system while operating at the NHB.

Department of the Environment and Energy, 1 October 2019

NATIONAL HALON BANK			
ENVIRONMENTAL POLICY			
DOCUMENT NO	ISSUE NO	ISSUE DATE	ISSUE STATUS
EM/00000001	01	08/10/2019	Current

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*Rachel Short*  
Rachel Short  
Director  
Ozone Protection and Synthetic Greenhouse Gas - Domestic  
International Climate Change and Energy Innovation Division  
Department of the Environment and Energy

## 10. Poland takes decisive action against illegal trade of hydrofluorocarbons



International illegal trade in ozone depleting substances and hydrofluorocarbons (HFCs)—powerful greenhouse gases—pose a serious threat to the environment and human health. Millions of cases of skin cancer and eye cataracts will be averted with the recovery of the ozone layer, preventing harmful UV-rays from reaching the earth. But, if unchecked, illegal trade in ozone depleting substances and HFCs could jeopardize the success of the Montreal Protocol and the Kigali Amendment which entered into force on 1 January 2019. The Amendment can avoid up to 0.4°C of global atmospheric temperature rise by the end of this century.

Customs play a crucial role in the fight against illegal trade. They provide effective training for their officers on environmentally sensitive commodities, and share information between importing and exporting countries. In recognition of the efforts of customs and enforcement officers to combat the illegal trade in environmentally sensitive commodities, the UN Environment Programme's OzonAction, the Ozone Secretariat and the World Customs Organization created the Montreal Protocol Customs Award.

Under the global customs award, 587 seizures were reported by 24 countries, including 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 were seized, equating to nearly 20,000 cans, cylinders or containers, alongside numerous pieces of equipment. Only 24 countries out of the 196 Parties to the Montreal Protocol countries reported seizures—or 12 per cent of Parties. This leaves us to deduce that the true volume of illegal trade is much higher.

The good news is that valuable information to help prevent the illegal trade is now more widely available, including common smuggling schemes and routes, and other intelligence concerning the illegal trade. Some of the objectives the global award was created to achieve have already been met.

Poland, the champion, with 72 per cent of all seizures under the global customs award

The National Revenue Administration of Poland, under which Polish customs operate, tightened their controls policy because of concerns over the reported availability of illegal HFCs on the market.

Customs officers were thus tasked with the collection of data on infringements of HFCs regulations to determine what enforcement actions were needed. Capacity-building on legal aspects, risk analysis, the use of available tools and devices, such as refrigerant identifiers, increased the knowledge and skills of customs officers.

This led to 425 seizures, following actions taken in 2018 to respect obligations under the Montreal Protocol. The cases included: shipments of non-quota HFCs, cylinders that either were not labelled or had non-compliant labels and numerous cases in which illegal HFCs were smuggled in relatively small amounts and concealed in vehicles entering Poland via the European Union external land border.

A press conference and a national award ceremony to congratulate all 45 awardees and six organizations will be organized in November 2019.

The cases submitted for the global customs award revealed a necessity for deeper national interagency collaboration, as well as a need for cooperation at a regional level between export, transit and destination countries, in order to monitor illegal shipments of HFCs once refused by customs.

Following the global customs award results, Poland launched an initiative to set up a European Union working group on F-gases to determine risks, identify and apply best working practices. The ongoing work of the group aims at drawing up recommendations that would help in enforcement on illegal trade, develop tools for effective customs actions and training on HFCs, and promote cooperation.

[United Nations Environment Programme, 11 October 2019](#)



## 11. Guidelines for safe handling flammable refrigerants - Asercom

The handling of components for flammable refrigerants involves numerous risks. Since flammable refrigerants, due to their lower global warming potential (GWP), are very important for achieving the objectives of the F-Gas Regulation, it is necessary to change to them.

The figure shows the zone classification according to Atex [EU directives related to equipment, work space and explosive atmospheres]. If a system with components according to the directive is installed in an Atex zone, the plant manufacturer must ensure Atex approval of the system. Such a system can also contain several components not approved according to Atex, while other critical components must then be certified.

Asercom has published a guide for the safe handling of components in the use of flammable refrigerants. The association therefore wants to provide experts, manufacturers and installers of systems that are operated in non-hazardous areas with a handling recommendation.

The guideline aims at the safe handling of components used in compression refrigeration circuits with flammable refrigerants.

Asercom president, Wolfgang Zaremski, explained: 'Although safety regulations document well how corresponding systems must be built, installed and maintained, the component manufacturers organised in Asercom have noticed a high degree of uncertainty among refrigeration and air conditioning specialists when dealing with flammable refrigerants. Therefore we would like to counteract this uncertainty with this guideline.'

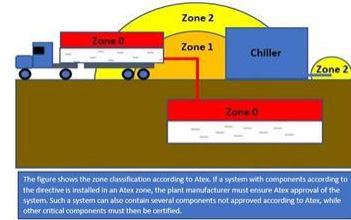
The HVACR industry has to look for alternatives with a lower GWP by gradually reducing the use of fluorinated refrigerants with a high GWP value. Unlike refrigerants with a high GWP value, refrigerants with a very low GWP value are likely to be flammable and combustible.

Flammable refrigerants have been used in millions of household applications for decades. The filling quantity in household appliances is limited to 150 grams per system. Industry and the associated service sectors are now faced with a new challenge: the increased use of flammable refrigerants means that larger fill quantities are required, which, if handled incorrectly, pose a significantly higher risk potential.

Asercom expresses in the current guideline the specific conditions under which flammable refrigerants are allowed to be used. If components are approved for a particular flammable refrigerant or for a group of flammable refrigerants and their conformity has been declared by the manufacturer, these components may be used, taking into account the specific requirements for their installation and use.

The installer must always carry out a comprehensive risk assessment of the installation. This means that he must design the installation in accordance with the safety requirements described in the application-specific safety regulations. Asercom provides appropriate instructions in its guideline to assist in specifying the requirements for handling components for flammable refrigerants.

[ACR news, 4 October 2019](#)



## 12. Cooling is essential to modern life and it makes people's lives better - AREA Vision 2025

Cooling is essential to modern life and it makes people's lives better: refrigeration preserves foodstuff and vaccines whilst air conditioning provides thermal comfort and keeps data centres running. Versatile and omnipresent, cooling has become absolutely critical to people's well-being and will be even more so in the face of climate change and digital transformation. Contractors fulfil an essential mission: they ensure the proper design, installation and functioning of the refrigeration, air conditioning and heat pump systems that satisfy these various societal needs.

The refrigeration, air conditioning and heat pump contracting sector is undergoing profound changes driven by 4 main factors: increased demand for cooling, sustainable cooling, technological developments, and attracting, retaining and upskilling personnel. In this context and with a new EU political cycle starting, AREA would like to present its strategic vision for the European refrigeration, air



conditioning and heat pump contracting industry for the next 5 years. This also follows on from the Vision 2020 presented in 2014.

**The AREA Vision 2025 consists of 4 pillars:**

Refrigerants: succeeding in the transition towards alternative refrigerants

Sustainable innovation: supporting energy and resource efficiency principles in a lifecycle approach

Human capital: supporting members in attracting and retaining skilled personnel

Framework conditions: promoting a coherent and supportive regulatory and standardisation framework.

These pillars will serve as overarching strategic imperatives that will guide AREA's activities in the next 5 years.

To ensure internal consistency, AREA has also restructured its working organisation with the creation of 4 Working Groups reflecting the 4 pillars of AREA Vision 2025 and replacing the existing Task Forces.

With this, AREA is well-equipped to take up the challenges ahead and looks forward to continuing the cooperation with other industry stakeholders and decision-makers at international, European and national levels.

Read/download [AREA vision 2025](#)

[AREA, October 2019](#)

## 13. ASHRAE Learning Institute offers training in Europe

-- New data course added --

ATLANTA (Oct. 8, 2019) – ASHRAE Learning Institute (ALI) has released its schedule of instructor-led training in Europe, including its HVAC Design Level I and Level II courses.

“The greatest challenge facing engineering firms and building owners is maintaining a workforce that understands the fundamentals of HVAC design and that is current with the application of new technologies,” said Stephen Comstock, ASHRAE’s manager of business development EMEA. “ASHRAE’s HVAC design courses provide practical design knowledge to young engineers, to engineers who have transitioned to positions and to experienced engineers who would benefit from an understanding of how new technologies rest on traditional design fundamentals.”



Also, on the schedule is a data center design course that will be presented for the first time. Data Center and IT Equipment Design Guidance from ASHRAE TC 9.9 for Engineers, IT Professionals and Facility Staff examines the required operational changes to data centers to achieve the maximum efficiency within the ASHRAE environmental envelopes of relative humidity, temperature and IT equipment power.

In all, four courses will be presented in three European cities.

### HVAC Design: Level I – Essentials

This three-day training provides an understanding of the fundamentals of HVAC design and knowledge that can be put to immediate use. The course speeds the transition of recent university graduates to effective practitioners that are able to meet real-world design challenges and acquaints experienced engineers with technologies to minimize energy consumption, meet current standards and improve building occupant comfort.

- 18-20 November, Dublin, Ireland
- 25-27 November, London (Hatfield), UK

### HVAC Design: Level II – Applications

This two-day training is tailored for engineers with advanced experience in the HVAC design field, or those who have completed HVAC Design: Level I – Essentials. Like Level I, it is developed and presented by industry-leading professionals. The training provides advanced information that allows practicing engineers and designers an opportunity to expand their exposure to HVAC systems design procedures for a better understanding of system options available today to save energy.

- [21-22 November, Lisbon, Portugal](#)

### **Data Center and IT Equipment Design Guidance from ASHRAE TC 9.9 for Engineers, IT Professional and Facility Staff**

This full day course presents the opportunities to save energy in data centers that are based on an understanding of equipment trends, performance measurements, and effectiveness that are critical to the principal objective: Data Integrity. The course is developed and presented by ASHRAE Technical Committee 9.9, the source of data center guidelines used throughout Europe.

- [20 November, Lisbon, Portugal](#)

Click [here](#) for further information and to register.

ASHRAE, October 2019

## — Latin America and Caribbean —

### **14. Ozone layer protection on the agenda of Grenada Customs and Excise Division**

As Grenada prepares for the new refrigerant reality, the National Ozone Unit (NOU) continues to engage all stakeholders to renew their commitment and to strengthen the cooperation in the global fight to rid the planet of ozone depleting substances (ODS) and fluorinated gases (F-gases) with high global warming potential, used in the refrigeration and air-conditioning sector.

A major stakeholder of the NOU is the Customs and Excise Division in the Ministry of Finance. As part of the co-operation between Customs and the NOU, Customs Officers assist in ozone layer protection with monitoring and control of trade in refrigerants, data collection, public awareness and education, implementation of licensing and quota system, examination and testing of refrigerants at the various ports of entry, among other duties. National Ozone Officer, Mr. Leslie Smith, continues to lament, that the Grenada Customs and Excise Department plays a major role in assisting Grenada in successfully meeting and sustaining its obligations under the Montreal Protocol.

At the recently concluded Joint Thematic Network Meeting for Ozone Officers and Customs Officers held in Suriname, 6-7 October 2019, a number of important issues relating to customs roles in the successful implementation of the Kigali Amendment to the Montreal Protocol were discussed.



Grenada was represented at the meeting by Systems Administrator (for the ASYCUDA System), Mr. Rene Parkes. Mr. Parkes works very closely with the National Ozone Unit and has been one of the NOU certified Montreal Protocol trainers for customs officers since 2005. Mr. Parkes was actively engaged in the meeting and delivered several presentations. He informed the meeting of the various activities undertaken by the local customs division in support of the obligations of the NOU under the Montreal Protocol, such as, Customs roles in Risk Management, Monitoring, Reporting, Verification and Enforcement systems and the implementation of the e-licensing systems for importation of refrigerants in Grenada.



Mr. Rene Parkes, Grenada Customs

Grenada is one of few countries in the region that has an e-licensing system in place for importation of refrigerants. Ozone Layer Protection is one of the integral training components in the Customs training manual for junior officers.

The Grenada Customs Division is also assisting the NOU in the establishment of break out codes for the classification of HFCs to aid in the country's data reporting requirements under the Kigali Amendment to the Montreal Protocol for the phase-down of HFCs.

A stakeholder consultation involving importers of refrigerants, customs brokers, trade officials and the Inland Revenue Department has been scheduled for 29 October 2019 to present and discuss the proposed break-out codes to be established for classifying HFCs for customs declaration.

[National Ozone Unit of Grenada, 8 October 2019](#)

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## Featured

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### OZONE SECRETARIAT

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

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

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

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

- [83<sup>rd</sup> meeting of the Executive Committee](#)

- [82<sup>nd</sup> meeting of the Executive Committee](#)

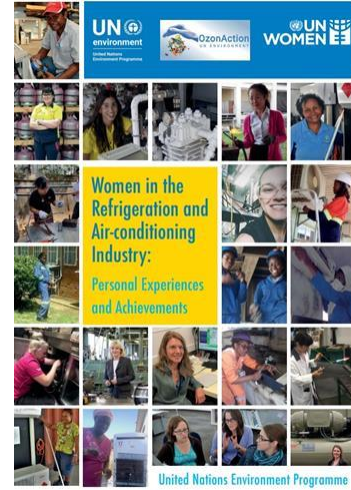
[Learn more](#)



## OZONACTION

**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



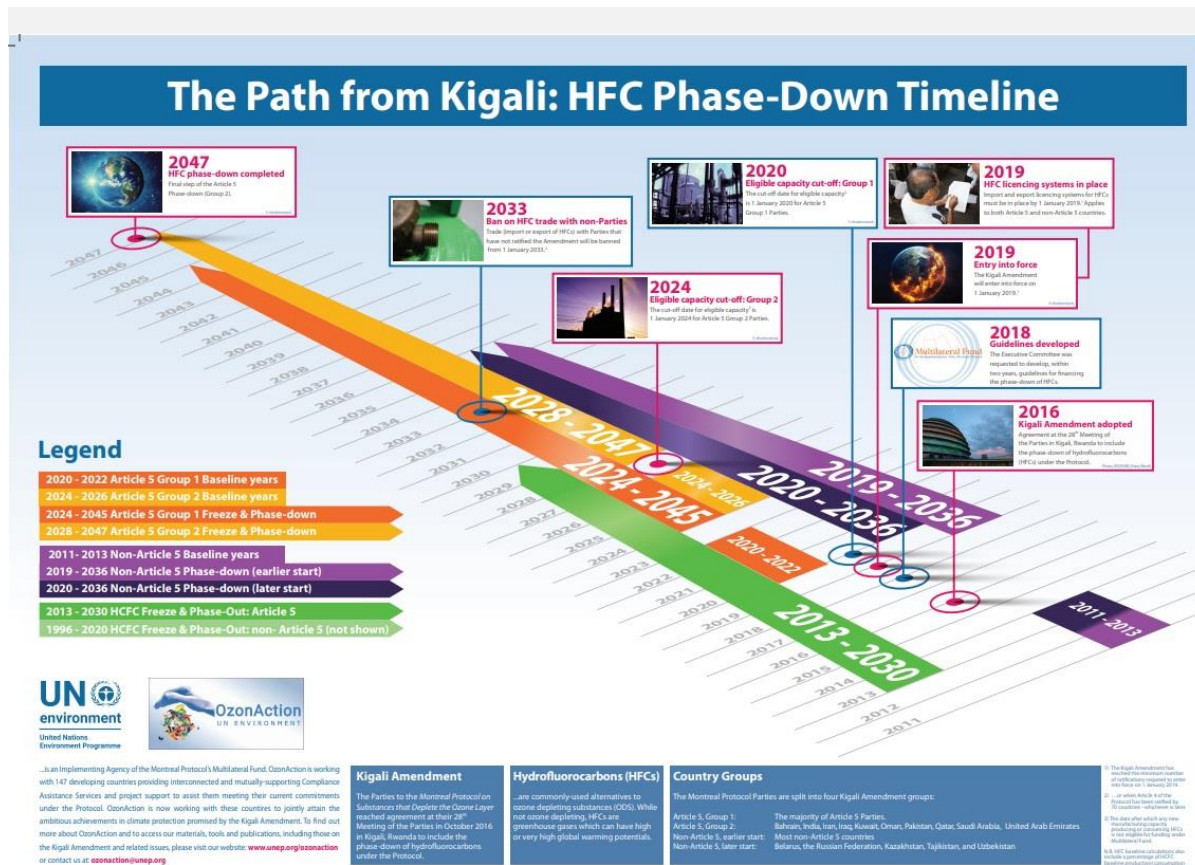
**Update on new refrigerants designations and safety classifications - factsheet** - The purpose of this fact sheet is to provide an update on ASHRAE standards for refrigerants and to introduce the new refrigerants that have been awarded an «R» number over the last few years and introduced into the international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

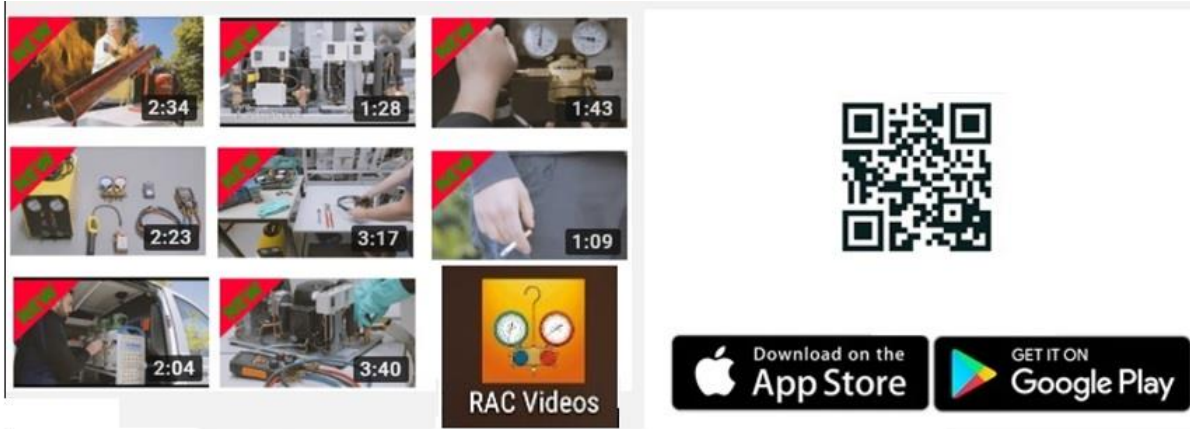
The application features 10 short instructional videos on the following topics:

- 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**





## 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, CO<sub>2</sub>-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 CO<sub>2</sub>-equivalent tonnes (or kg) and display the corresponding converted values
- The app includes both single component substances and refrigerant blends
- The components of a mixture and their relative proportions (metric, ODP, CO<sub>2</sub>-eq) are also displayed.

Available for **free** from the **Apple IOS store** and **Google PlayStore**. Search for **"GWP ODP CALC"** in the **Playstore** to install!

**Download it Now!**



## 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 28<sup>th</sup> 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 HFCs 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 28<sup>th</sup> 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](#).

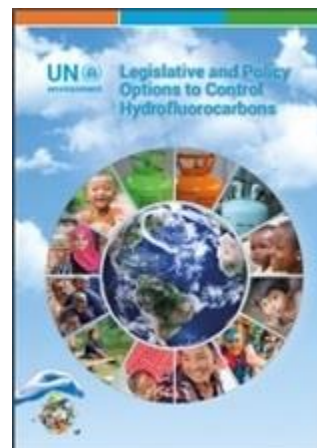
*(Just search for "OzonAction", or scan this QR code)*

## **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. 7, 2019



## 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

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

Lead authors:

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

Contributing authors:

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



International Centre for  
Global Sustainability

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.



**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. In particular, the report shows that in 2018, the consumption of ODS (an aggregated parameter that integrates imports, exports, production and destruction of ODS, except those for feedstock use) in the EU was negative (-1 505 metric tonnes), which means that more ODS were destroyed or exported than produced or imported. This was the case since 2010 with the exception of 2012. These negative values are the result of the phase-out according to Regulation (EC) No 1005/2009, which, in many aspects, goes further than the Montreal Protocol, in combination with rather high destruction rates and decreasing stocks. Companies in the EU have been consuming relatively small amounts of ODS 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

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

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This work was supported by the U.S. Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy under Lawrence Berkeley National Laboratory Contract No. DE-AC02-05OR21400.

## 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



### 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.
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Volumes, Topics and saved Searches.

Enhanced content and functions

- Easily export references, citations and abstracts.
- Print, download or share articles with colleagues or peers.
- See which papers, published in Elsevier or elsewhere, have cited any selected article.
- Consult the research highlights overview of articles in volumes from 2012 onwards.

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



**International Observers - New AREA membership category** - Due to the significant worldwide interest in European legislative developments and the increase in competence of personnel who handle new refrigerants, AREA is pleased to introduce its brand new “International Observer” membership category. This provides a fantastic opportunity for non-European RACHP installer bodies the world, to benefit from the expertise and discussions within Europe through access to AREA. Contact: [info@area-eur.be](mailto:info@area-eur.be)

Ozone Hole: How We Saved the Planet



**OZONE HOLE: HOW WE SAVED THE PLANET**  
Courtesy of Woodfin Films/USA

Premieres Wednesday, April 10, 2019  
10:00-11:00 p.m. ET on PBS

**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.

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



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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

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