



OzonAction

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In this issue

1. Joint letter by the President of the UN Environment Assembly and the President of the 28th Meeting of the Parties to the Montreal Protocol on ratification of the Kigali Amendment to the Montreal Protocol
2. Kigali Amendment: Ten Parties to the Montreal Protocol Have Ratified
3. Emissions Gap Report 2017: Governments, Non-state Actors Must do more to Reach Paris Agreement
4. East African Community Mulls Incorporating Green Customs Initiative into National Training Curricula
5. Government of India and UN Environment Celebrate Ozone-Customs Partnership
6. Australia Ratifies Kigali Amendment to Reduce HFCs
7. Undeclared Goods Including 9 Dogs Seized from 2 Foreign Fishing Vessels
8. What is the Alternative to Ozone Layer Depleting Halons?
9. México, Pionero en la Conservación de la Capa de Ozono
10. Lessons from the World Avoided - Ozone Depletion and the Montreal Protocol - Talk by Sean Davis
11. Europe and Central Asia Thematic Meeting on HCFC Phase-out Management Plans and HFCs Phase-down Initiatives, Tbilisi, Georgia, 24-26 October 2017
12. Tirana Meeting on Implementation of HCFC Phase-out management Plans and HFC Phase-down Initiatives under the Kigali Amendment
13. 40% of Retailers Unaware of HFC Phase Down
14. UK Inquiry into F-gas Regs Post-Brexit
15. 'Safe Ammonia Refrigeration' Conference in Dublin



A fortnightly electronic news update on ozone and climate protection and the implementation of the Montreal Protocol



GLOBAL

1. Joint letter by the President of the UN Environment Assembly and the President of the 28th Meeting of the Parties to the Montreal Protocol on ratification of the Kigali Amendment to the Montreal Protocol



Our ref: Oz.Sec/Kigali Amendment

31 October 2017

Dear Colleague,

We have many achievements to celebrate and many challenges to address together. As the Presidents of the United Nations Environment Assembly and the Twenty-Eighth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, respectively, we are joining our efforts to seek your support. We would like your support to celebrate one of our most successful common actions, the protection of the ozone layer. It is the confidence that we have all placed in the Montreal Protocol which has resulted in tangible results with a positive global impact on human health, social and economic welfare, and the environment.

As we mark the 30th anniversary of the Montreal Protocol this year, there is no better way to celebrate this success story than by showing our support for the recent Kigali Amendment to the Montreal Protocol, which was unanimously adopted on 16 October 2016 in Kigali, Rwanda. The objective of this Amendment is to phase down the production and consumption of a group of 18 hydrofluorocarbons (HFCs), which are powerful greenhouse gases. HFCs are commonly used as substitutes for ozone-depleting substances and their use and emissions are growing rapidly. The implementation of the Kigali Amendment is expected to avoid up to 0.5°C of global warming by the end of the century, while continuing to protect the ozone layer. The Amendment will enter into force on 1 January 2019, provided that it is ratified by at least twenty parties to the Montreal Protocol. To date ten parties have ratified the Kigali Amendment and a number of other parties are in the process of doing so.

This joint letter, together with many other initiatives that have been taking place, is a further attempt to build momentum for the ratification of the Kigali Amendment before the Twenty-Ninth Meeting of the Parties in November 2017, in Montreal and the Third Session of the United Nations Environmental Assembly in December 2017, in Nairobi. The ratification of the Kigali Amendment is an actionable and quantifiable pledge towards reducing pollution, which, this year, is the focus of the Environment Assembly, mitigating climate change, entrusting the international governance and building solid foundations in all countries with the institutions of the Montreal Protocol. The ratification of the Kigali Amendment by your Government will contribute towards consolidation of a global momentum of support for the Amendment and set an important example that we trust will be followed in the coming months by many more parties. Let us continue to work together towards realization of the objectives of the Montreal Protocol and the Kigali Amendment.

Accept, Excellency, the assurances of our highest consideration.

Hon. Dr. Edgar E. Gutiérrez-Espeleta
President of the United Nations
Environment Assembly
Minister of Environment and Energy of Costa
Rica

Hon. Vincent Biruta
President of the 28th Meeting of the Parties
to the Montreal Protocol
Minister of Environment of Rwanda

▶ UN Environment, [Ozone Secretariat](#)

2. Kigali Amendment: Ten Parties to the Montreal Protocol Have Ratified

Montreal Protocol parties continue to ratify the Kigali Amendment to the Protocol. The latest ratification was by Australia on 27 October 2017.

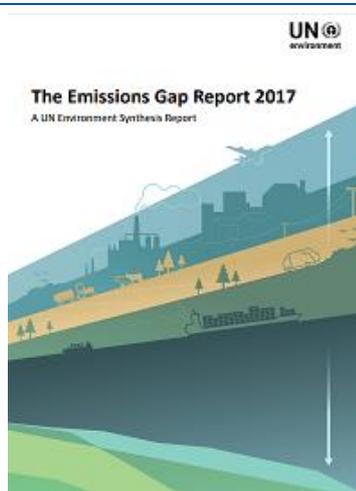
The other parties to the Amendment, listed in the order in which they ratified it, are: Mali, the Federated States of Micronesia, Marshall Islands, Rwanda, Palau, Norway, Chile, Tuvalu and Democratic People's Republic of Korea.

The Amendment was adopted by the 28th Meeting of Parties to the Montreal Protocol on 15 October 2016 in Kigali, Rwanda.

Under the Amendment, all countries will gradually phase down hydrofluorocarbons, a policy move that would avoid up to 0.5°C of global warming by the end of the century, while continuing to protect the ozone layer.

The Amendment will enter into force on 1 January 2019, provided that it is ratified by at least 20 parties to the Montreal Protocol. If that condition is not met by that date, the Amendment will become effective on the 90th day following the date of ratification by the 20th party.

▶ UN Environment, [Ozone Secretariat](#)



3. Emissions Gap Report 2017: Governments, Non-state Actors Must do More to Reach Paris Agreement

The eighth edition of UN Environment’s Emissions Gap report, released ahead of the UN Climate Change Conference in Bonn, finds that national pledges only bring a third of the reduction in emissions required by 2030 to meet climate targets, with private sector and sub-national action not increasing at a rate that would help close this worrying gap.

[...]Kigali Amendment to Montreal Protocol, action on short-lived climate pollutants, and increased pre-2020 G20 ambition on Cancun pledges can also help minimize climate impacts [...]

[...]Strong action on other climate forcers – such as hydrofluorocarbons, through the Kigali Amendment to the Montreal Protocol, and other short-lived climate pollutants such as black carbon – could also make a real contribution. [...]

[...]The Kigali Amendment to the Montreal Protocol aims to phase out the use and production of hydrofluorocarbons – chemicals primarily used in air conditioning, refrigeration and foam insulation. If successfully implemented, it kicks-in too late to impact the 2030 gap, but can make a real contribution to reaching the longer-term temperature goals.[...]

- ▶ Report can be downloaded [here](#)
- ▶ [UN Environment](#), 31 October 2017

AFRICA

4. East African Community Mulls Incorporating Green Customs Initiative into National Training Curricula



East African Community (EAC) customs officers are meeting in Kigali to discuss incorporation of the Green Customs Initiative into national custom training curricula to enable them meet their obligations under international environment agreements.

The Green Customs Initiative is a partnership designed to enhance the capacity of customs and other relevant border control officers to monitor and facilitate legal trade and to detect and prevent illegal trade in environmentally-sensitive commodities covered by trade related

conventions and multilateral environmental agreements (MEAs).

The three-day workshop, organised by the United Nations Environment Programme (UNEP), has brought together around 50 customs officers from Rwanda, Kenya, South Sudan, Tanzania, and Uganda, to talk about environmental crime in detail.

Officials said on Wednesday that it is also meant to facilitate the inclusion of Green Customs Initiatives as a regional programme involving custom officers.

Colette Ruhamy, Director General of the Rwanda Environment Management Authority (REMA), said that most environmental problems encountered in the world today have a trans-boundary nature and a global impact.

She said these environmental problems can only be addressed effectively through international co-operation and shared responsibility made possible through multilateral environment agreements, several of which regulate the cross-border movement of items, substances and products, mainly in the form of imports, exports and re-exports.

“This gives customs and border-protection officers’ responsibility to control trade across borders, a very important role in protecting the national and global environment,” Ruhamy said.

Environmental crimes are illegal acts which directly harm the environment, she said. They include: illegal trade in wildlife, smuggling of ozone depleting substances (ODS), illicit trade in hazardous waste; unregulated fishing, and illegal logging and the associated trade in stolen timber.

Multi-billion dollar enterprise

Perceived as low on the priority list, she explained, such crimes often fail to prompt requisite response from governments and the enforcement community while, in reality, impacts affect all in society.

Elisée Gashugi, a lecturer at University of Rwanda who is an environmental scientist, said the scale of environmental crimes is increasing worldwide and they include the trade of “environmentally sensitive” commodities.

Thus, he said, this workshop “comes at the right moment” because there is an increase in trade volumes among the EAC countries and also with other countries worldwide.

Experts say environmental crime is a significant and increasingly lucrative business.

According to REMA in 2016, environmental crimes were estimated to be worth US\$91 to US\$258 billion annually, a 26 per cent increase from previous estimate in 2014 and is rising five to seven per cent annually, which is two to three times the rate of the global economy.

Patrick Salifu, the UNEP Regional Network Coordinator, said environmental crime is a multi-billion dollar enterprise in which local and international syndicates worldwide earn an estimated US\$22-31 billion dollars annually from hazardous waste dumping, smuggling proscribed hazardous materials, and exploiting and trafficking protected natural resources.

“Customs officers are at the front line of every country’s efforts to combat illegal trade. They must, therefore, be empowered, equipped and trained if an MEA is to be successful. They are the cornerstone of national compliance and enforcement strategy for each international agreement since they are the front line in any controls on trans-boundary movements of controlled items.”

As part of UNEP’s role as an implementing Agency of the Multilateral Fund for the Implementation of the Montreal Protocol, Salifu explained, they designed and delivered national and regional customs training workshops in partnership with national ozone units.

Customs and border protection officers are considered the first link in the compliance and enforcement chain against trans-boundary illegal trade.

▶ [The New Times](#) – Rwanda, 12 October 2017, By: James Karuhanga



ASIA PACIFIC

5. Government of India and UN Environment Celebrate Ozone-Customs Partnership



Faridabad, 1 October 2017 - The National Academy of Customs, Indirect Taxes and Narcotics (NACIN), the Government of India, the Ministry of Finance, Government of India felicitated UN Environment (UNEP) on its Founding Day on Sunday, 1st October at the NACIN Complex in Faridabad. NACIN started as a Training School in 1955 on 1st October. The Founding Day was presided by Honourable Union Finance Minister Shri Arun Jaitley. Mr. Atul Bagai, Senior Regional Coordinator, who recently joined as Country Head of UN

Environment in India, accepted the memento on behalf of the organization. During the ceremony, international capacity

building partners of NACIN, i.e. the World Customs Organization, UN Environment, the UN Office of Drugs and Crime, and the Asia Development Bank and others were also congratulated by Honorable Finance Minister.

Ms. Vanaja N. Sarna (Chairman, Central Board of Excise and Customs), the senior-most official in the Indian Revenue Service, along with past Director Generals of NACIN were present on the occasion along with the 147 probationers of the 67th batch of the Indian Revenue Service who were completing their induction training.

The 2015 batch of Indian Revenue Service which has passed out from the Academy after completing their professional training consisted of 147 officer trainees including 32 women officers. These young officers will be at the helm of administering the General Sales Tax, India's biggest tax reform since independence. As a result of more than 15 years of cooperation between UN Environment's OzonAction initiative and NACIN, these officers also underwent a specialized module on environment with a focus on Montreal Protocol.

UN Environment's OzonAction has been providing capacity building to customs officers in India since 2001. In addition, as part of south-south cooperation framework, NACIN trainers have been assisting regional countries to build their capacity on Montreal Protocol and Green Customs issues.

The Finance Minister also unveiled the NACIN Coffee Table Book, which traces the history of the Academy as well as of the Indian Revenue Service. The coffee table highlights this long-standing partnership. Contributing to the coffee table book, the Head of OzonAction, Ms. Shamila Nair-Bedouelle remarked: "UN Environment's OzonAction recognises the critical role customs and enforcement agencies play in each country's compliance and enforcement chain, in enabling the country to fulfil its commitments under the Montreal Protocol on Substances that Deplete the Ozone Layer. The vigilance and dedication of these officers in monitoring the legal trade and detecting and preventing illegal trade in ozone depleting substances has been fundamental to the great success of the Protocol which has managed to effectively halt the destruction of the ozone layer as well as making a huge contribution to combatting climate change."

Speaking on the occasion, Ms. Vanaja Sarna, Chairperson of CBEC remarked: "UN Environment and NACIN have enjoyed a good partnership since 2001 and have actively worked together preparing and delivering training materials and training to customs officers. One of the requirements of remaining in compliance with the Montreal Protocol is timely annual data reporting, and another is ensuring that a country's imports and exports remain within the agreed ODS phase-out schedules. Both these requirements would not be able to be fulfilled without dedicated Customs officers."

Dr. Amit Love, Director, Ozone Cell, Ministry of Environment, Forests and Climate Change said: "By ensuring that Customs and Enforcement Officers on the frontline are well informed about the country's obligations and remain vigilant, the Government is confident that the success of the Montreal Protocol will continue to be underpinned by the tireless work of Customs officers."

Ms. Shamila Nair-Bedouelle outlining the future cooperation said: "We look forward to continued collaboration with NACIN in the future, particularly in the context of the Kigali Amendment to the Protocol and the additional challenges this will present for the enforcement community."

▶ UN Environment, [OzonAction](#)



6. Australia Ratifies Kigali Amendment to Reduce HFCs

Australia has become one of the first 10 countries to ratify the Kigali Amendment to the Montreal Protocol, a major international agreement to reduce global production and use of hydrofluorocarbons (HFCs) which are highly potent synthetic greenhouse gases.

Ratification of the amendment was confirmed in a joint statement released by the Minister for Foreign Affairs, Julie Bishop, and Minister for the Environment and Energy, Josh Frydenberg.

This early ratification cements the leading role Australia played in reaching this agreement, including as the co-chair of the negotiations which concluded in October 2016, the Ministers said.

Under the Kigali Amendment, Australia and other developed countries will reduce the use of HFCs by 85 per cent by 2036.

Action to phasedown HFCs will contribute towards meeting Australia's Paris Agreement target of reducing emissions by 26 to 28 per cent on 2005 levels by 2030.

The federal government has already passed legislation to implement the phasedown in Australia. Imports of HFCs will start reducing in 2018 over a gradual step-down path until 2036.

"The long phasedown period means that consumers can continue to use equipment with HFCs until the end of its useful life. There are already new technologies on the market which use fewer HFCs or different technologies altogether," the Minister said.

"The Kigali Amendment replicates the successful approach taken under the Montreal Protocol to phaseout ozone depleting substances, 99 per cent of which have been phased out to date.

"This has seen a significant reduction of those substances in the atmosphere and predictions that the ozone layer will be repaired by the middle of this century in the mid-latitudes and about 20 years later in Antarctica.

"Australia has long been a strong supporter and leader of action on the ozone layer under the Montreal Protocol. With universal acceptance, it is widely considered the world's most successful environmental protection agreement."

► [Climate control news](#), 30 October 2017, By: Sandra van Dijk



7. Undeclared Goods Including 9 Dogs Seized from 2 Foreign Fishing Vessels

Customs Officers from the Maritime Compliance Team of the Fiji Revenue and Customs Service have seized undeclared goods that included live dogs, cigarettes, liquor and R22 gas cylinders from two foreign fishing vessels at the Suva wharf.

The R22 gas is an ozone depleting substance.

Revenue and Customs CEO Visvanath Das says these fishing vessels were profiled as high risk by their officers and upon arrival were searched for smuggled items.

The assessment by the officers was proven correct as undeclared items and nine dogs were found on the vessel.

Das says their officers notified Biosecurity Authority of Fiji regarding the undeclared dogs and handed over the R22 cylinders to the Department of Environment.

Other undeclared items have been detained by Customs.

It is an offence not to declare items carried in the vessel.

Das has commended the investigation carried out by Revenue and Customs officers. [...]

► [FijiVillage](#), 20 October 2017, By Vijay Narayan



WEST ASIA

8. What is the Alternative to Ozone Layer Depleting Halons?

ما هو بديل الهالونات المستخدمة لاطفاء الحرائق المدمرة لطبقة الأوزون؟

إن البحث الطويل عن مادة كيميائية مكافحة للحريق لا تؤذي طبقة الأوزون أدى أخيرا الى الاعتماد على الماء .

فبعد إطفاء نحو 100 حريق تجريبي بالماء، توصل مختبر أبحاث الحرائق النرويجي في ترونهايم الى الاستنتاج بأن الرذاذ الدقيق للماء هو بديل ملائم للهالونات المدمرة للأوزون، التي لا تزال تستخدم على نطاق واسع في مطافئ الحريق .

والهالونات - مركبات من الكربون والبروم والفلور - تقطع الأكسجين عن الحرائق .

وقطيرات الماء تقوم بالعمل نفسه، متبخرة وتمتددة 1700 مرة أكثر من حجمها الأصلي لتحل محل الأكسجين .

والمرة الوحيدة التي وجدت فيها أقل فعالية من الهالونات هي في الحرائق الصغيرة التي لا لهب لها والتي لم تبلغ حرارة كافية لتبخير الماء.

► [الأنباء](#) 2 نوفمبر/تشرين الثاني 2017



LATIN AMERICA AND CARIBBEAN



9. México, Pionero en la Conservación de la Capa de Ozono

Desde la aprobación del “Programa XXI” en la Conferencia de las Naciones Unidas sobre el Medio Ambiente y el Desarrollo, en Río de Janeiro, Brasil en 1992, 178 países, incluido México, reconocían que la humanidad se encontraba en un momento decisivo de la historia.

Ante la perpetuación de las disparidades entre las naciones, el agravamiento de la pobreza, el hambre, las enfermedades, el analfabetismo y el continuo empeoramiento de los ecosistemas, los países aprobaron asertivamente integrar las preocupaciones relativas al medio ambiente y al desarrollo para poder satisfacer las necesidades básicas, elevar el nivel de vida, conseguir una mejor protección y gestión de los ecosistemas.

Bajo este enfoque integral, en el capítulo relacionado con la “Protección de la Atmósfera” se analizaron las preocupaciones por el cambio y la variabilidad climática, la contaminación del aire y el agotamiento del ozono. Para poder afrontar esta problemática, se decidió que los gobiernos en todos sus niveles debían mejorar la comprensión de los procesos que afectan a la atmósfera terrestre –a escala mundial, regional y local–, y que a su vez, se ven afectados por ésta, incluidos, entre otros, los procesos físicos, químicos, geológicos, biológicos, oceánicos, hidrológicos, económicos y sociales.

Pese a la gran preocupación y evidencias científicas, muchos países subestimaron dicho programa, y hoy en día los factores de riesgo ambientales, como la contaminación del aire, el agua y el suelo, la exposición a los productos químicos, el cambio climático y la radiación ultravioleta por el debilitamiento de la capa de ozono, contribuyen a más de 100 enfermedades o traumatismos. [...]

Los países no tenemos excusa, los acuerdos internacionales como el Convenio de Viena para la Protección de la Capa de Ozono de 1985, el Protocolo de Montreal relativo a las sustancias que agotan la capa de ozono de 1987; y la Convención Marco de las Naciones Unidas sobre el Cambio Climático de 1992 advertían de alguna manera estos escenarios y planteaban soluciones concretas, medidas y acciones que hoy están ratificadas en la Agenda 2030 para el Desarrollo Sostenible.

Es importante destacar que México fue el primero en ratificar el Protocolo de Montreal – de un total de 197 países –, y después de 30 años, eliminó el 99 por ciento del máximo nivel de consumo de las sustancias agotadoras de la capa de ozono. Asimismo, se finalizó el proyecto de destrucción de estas sustancias en desuso, que han sido recuperadas a través de los centros de recuperación y reciclado autorizados, eliminando 113 toneladas, lo que significó evitar la emisión de 504 mil toneladas de CO₂.

Aunque todavía hay mucho por hacer en materia de contaminación ambiental, es importante difundir e informar a la sociedad de estos logros, y dar cuenta que cuando responsabilidad global con el medio ambiente, es cuestión de trabajar en los acuerdos e instrumentos internacionales suscritos y cumplir con las metas empeñadas.

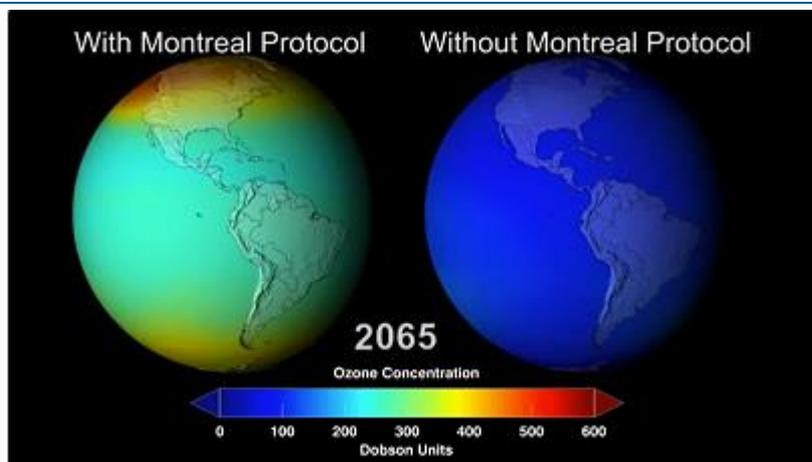
► [Cronica.com](https://www.cronica.com), 11 de octubre 2017, Por: Ma. del Rocío Pineda Gochi



NORTH AMERICA

10. Lessons from the World Avoided - Ozone Depletion and the Montreal Protocol - Talk by Sean Davis

30 years after signing of The Montreal Protocol on Substances that Deplete the Ozone Layer, the “World’s most successful environmental treaty”, the ozone layer is beginning to heal. Climate scientist Sean Davis reflects on this environmental success story and the world we’ve avoided by our efforts to save the ozone layer, and offers lessons we can carry forward in addressing the environmental crisis of our time – global warming.



[Watch the video](#)



[TEDx, October 2017](#)



EUROPE & CENTRAL ASIA

11. Europe and Central Asia Thematic Meeting on HCFC Phase-out Management Plans and HFCs Phase-down Initiatives, Tbilisi, Georgia, 24-26 October 2017



Tbilisi, 24 October 2017 - National Ozone Officers, Climate Focal points and Refrigeration Experts from Armenia, Belarus, Georgia, Kyrgyzstan, Moldova (Republic of), Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan, representatives of the Ozone Secretariat and the implementing agencies UN Environment and UNIDO participated in the Europe and Central Asia (ECA) thematic meeting on HCFC phase-out management plans and HFCs phase-down initiatives in Tbilisi, 24-26 October 2017.

The meeting was hosted by the Ministry of Environment and Natural Resources Protection of Georgia and organized by UN Environment OzonAction in collaboration with UNDP Georgia. Mr. Solomon Pavliashvili, First Deputy Minister, and Mr. Niels Scott, UN Resident Coordinator and UNDP Resident Representative opened the meeting. Ms. Sophia Mylona, Senior Environmental Affairs Officer of the Ozone Secretariat, and Mr. Halvart Koeppen, Coordinator of UN

Environment's Regional Ozone Network for Europe and Central Asia welcomed the participants on behalf of their respective organizations.

Mr. Solomon Pavliashvili highlighted Georgia's achievements in phasing out ozone-depleting substances over the past decades and reconfirmed Georgia's commitment to fully implement the Montreal Protocol provisions. Mr. Niels Scott emphasized that countries of the region don't only have a common past but also have a common future and offered UNDP's support to implement the sustainable development goals in Georgia. Ms. Mylona encouraged countries to ratify the Kigali Amendment to the Montreal Protocol as soon as possible and to actively participate in the discussions at the Meeting of the Parties. Mr. Halvart Koeppen stated that the cooperation between Montreal Protocol focal points and experts on refrigeration, climate change, energy-efficiency and safety standards will become more and more crucial in the context of the Kigali Amendment... and that one of the objectives of the meeting is to explore opportunities for joint action and synergies.

The meeting takes place in the context of the Kigali Amendment which has been agreed during the 28th Meeting of the Parties in Rwanda on 15 October 2016. It aims to phase-down high global warming hydrofluorocarbons (HFCs), thus transforming the Montreal Protocol into a powerful treaty for climate protection. It is expected to significantly contribute to the objectives of the Paris Agreement e.g. limiting global warming to 2 degrees by 2100.

The main objective of the thematic meeting, amongst others, is to share experiences and information between the Montreal Protocol and Climate Change focal points of the participating countries to assist them to implement their HPMPs and to get prepared for the HFC phase-down under the Kigali Amendment.

The meeting is organized as part of the Regional Network service that OzonAction's Compliance Assistance Programme (CAP) provides to Article 5 (developing) countries as part of its role as an Implementing Agency of the Multilateral Fund for the Implementation of the Montreal Protocol.

- ▶ Contact: [Halvart Koeppen](#), Coordinator, Regional Ozone Network for Europe and Central Asia, UN Environment, OzonAction, Compliance Assistance Programme

12. Tirana Meeting on Implementation of HCFC Phase-out management Plans and HFC Phase-down Initiatives under the Kigali Amendment



Tirana, 10 October 2017 - National Ozone Officers and climate focal points from Albania, Bosnia and Herzegovina, Macedonia FYR, Montenegro, Serbia and Turkey, bilateral partners from Croatia and Romania, representatives of UN Environment and UNIDO and technology experts from Centro Studi Galileo and Daikin are participating in the Europe and Central Asia (ECA) Thematic Meeting on HCFC Phase-out Management Plans and HFCs Phase-down Initiatives from 10-12 October 2017. The meeting is hosted by the Ministry of Tourism and Environment of Albania and organized by UN Environment OzonAction in collaboration with UNDP Tirana. The Multilateral Fund for the Implementation of the Montreal Protocol supported this event.

The meeting takes place in the context of the implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer including its Kigali Amendment, which was agreed during the 28th Meeting of the Parties in Rwanda on 15 October 2016. Whereas the Protocol is phasing out ozone depleting hydrochlorofluorocarbons (HCFCs), the amendment aims to phase-down high global warming hydrofluorocarbons (HFCs), transforming the Montreal Protocol into a powerful treaty for climate protection. It is expected to significantly contribute to the objectives of the Paris Agreement e.g. limiting global warming to 2 degrees by 2100.

Mr. Pellumb Abeshi, Director General of Environmental Policies of the Ministry of Tourism and Environment and Mr. Brian Williams, UN Resident Coordinator and UNDP Resident Representative opened the meeting and welcomed the participants. Mr. Abeshi reconfirmed Albania's commitment to protect the environment and to implement the Montreal

Protocol provisions. Mr. Williams highlighted the importance to such regional meetings not only to address technical and policy issues but also to build bridges between countries and to encourage collective and forward looking action. Mr. Halvart Koeppen, Coordinator of OzonAction's Regional Ozone Network for Europe & Central Asia stated that the cooperation between Montreal Protocol focal points and experts on refrigeration, climate change, energy-efficiency and safety standards will become more and more crucial in the context of the Kigali Amendment, and this was one of the objectives of the meeting - to explore opportunities for joint action and synergies.

The main objective of this thematic meeting is, amongst others, to share experiences and information between the Montreal Protocol and climate change focal points of the participating countries to assist them to implement their national HCFC Phase out Management Plans and to get prepared for the HFC phase-down under the Kigali Amendment.

- ▶ Contact: [Halvart Koeppen](#), Coordinator, Regional Ozone Network for Europe and Central Asia, UN Environment, OzonAction, Compliance Assistance Programme



13. 40% of Retailers Unaware of HFC Phase Down

GERMANY: Just two months before next year's major cut in HFC refrigerants, a survey of European retailers has revealed that 40% are not fully aware of the regulatory changes.

Despite huge increases in refrigerant prices and next year's widely publicised 37% cut in HFC availability under the F-gas regulations, a survey by Emerson reveals that 40% of purchasing decision-makers in the retail sector are unaware of the phase-down of HFCs. Nearly half (44%) of the respondents

said they either hadn't started to make the shift, or were unsure.

The survey conducted by international polling company ComRes asked 140 professionals in the retail sector to comment on their preparedness for and awareness of more sustainable technologies, and the primary challenges associated with the shift away from HFCs.

The online poll in August included 40 participants in France, 50 in Germany, and 50 in the UK.

Most respondents (81%) said they viewed the shift away from HFCs as a positive change. However, the survey also showed the retail industry was lagging behind schedule due to a lack of clarity in regulatory changes and replacement technologies available.

Where retailers have started to phase-down HFCs, notable priorities for selecting replacement refrigeration systems included safety (57%), energy efficiency (53%) and environmental sustainability (48%).

Speaking about the survey findings, Eric Winandy, director of integrated solutions, Emerson Commercial and Residential Solutions said: "European retailers are enthusiastic about the transition to low GWP refrigerants, but it is concerning that there is still a lack of understanding of the upcoming regulatory changes. It was also surprising that capital and operational cost doesn't rank as a key driver for retailers identifying replacement systems, as industry analysis shows there could be big maintenance liabilities associated."

Among the three primary alternative options available, carbon dioxide (CO₂) technology was most commonly ranked as the preferred choice for replacing HFC systems at 38%.

Despite being the most popular choice however, Emerson maintains that industry analysis shows CO₂ systems could cost a medium-sized retailer as much as €51,000 more per store compared to hydrocarbon integral systems over a 10 year period. The company, which is best known as the manufacturer of Copeland compressors, also insists that while CO₂ is a significant improvement over HFCs in terms of GWP, it is found to have lower energy efficiency performance and higher maintenance requirements than other alternatives.

The survey also shed some light on the challenges and opportunities for making the transition away from HFCs.

Challenges identified included operational expenditure and installation disruption which drew significant scores of 43% and 33% respectively. Yet, interestingly, cost alone was not identified as the main priority for selecting a new refrigeration system. The survey highlighted the desirability of energy efficiency and environmental sustainability, with energy efficiency scoring 48% and environmental sustainability 39%.

When asked what would encourage respondents to accelerate the replacement of HFC refrigeration systems with lower global warming potential options, depreciation schemes or other tax rebates were the most popular (43%), followed by finding less expensive low GWP options (40%).



14. UK Inquiry into F-gas Regs Post-Brexit

UK: The UK government has launched an inquiry into F-gas emission policies and the future of the F-gas regulations post-Brexit. The inquiry by the Environmental Audit Committee will also look at the UK's progress on reducing F-gas emissions, and the impact leaving the EU will have on future progress and reporting.

“The UK's F-gas reduction targets are set and monitored by the EU. With Brexit looming, businesses need clarity on how the UK will reduce F-gas emissions and on who will ensure the Government meets its targets,” Environmental Audit Committee chair Mary Creagh said.

As part of the EU, the UK is bound to the F-gas regulation (517/2014) and its attendant phase down target to reduce HFC use and sales by 79% by 2030. The UK is also party to the UN's Montreal Protocol which, through the Kigali Amendment, plans to cut HFC use by a similar amount by 2036.

The Kigali Amendment could be seen as a ‘back stop’ if the UK operates outside of the EU's regulatory regime, but UK withdrawal from the EU raises several issues. Firstly, because the UK is party to the Montreal Protocol as an individual state and as part of the EU it may be unclear if it is bound by the whole (or part) of the agreement as the UK leaves. Secondly, as environmental policy is a devolved matter there is potential for policy divergence on F-gases.

One of the major stumbling blocks would be how the UK can operate within the European quota system if it is no longer part of the EU?

The Committee invites submissions on a broad range of questions including what action the Government needs to take to ensure that the EU's 2015 F-gas regulation is incorporated into UK law or whether the UK should actually go beyond EU regulatory minimums and develop stronger F-gas legislation?

It will also look at which UK body should have oversight of adherence to F-gas legislation and how it could be adequately resourced to ensure compliance.

The inquiry will also consider whether the Government is doing enough to reduce F-gases. Latest analysis by the Committee on Climate Change suggests that UK emissions have not fallen at the rate expected, though their modelling suggests that if the EU F-gas regulation works as intended the UK is still in line with targets. It will look at whether there are blockers preventing adoption of existing alternatives to F-gases and if there is potential to develop new cost-effective replacements.

The Committee is seeking submissions (maximum 3,000 words) from all interested parties by 12pm on 6 November. Later submissions will be accepted, it says, but may be too late to inform the first oral evidence hearing.

Written submissions are invited using the form on the inquiry page [here](#)



15. ‘Safe Ammonia Refrigeration’ Conference in Dublin

The River Liffey, Dublin, Co. Dublin, Ireland

The Institute of Refrigeration Ireland, along with Engineers Ireland, will hold a joint one-day conference on “Safe Ammonia Refrigeration” in Dublin, Ireland on Wednesday, 22 November 2017.

“The aim of the Conference is to raise awareness of the benefits and hazards of ammonia refrigeration and to inform attendees on how best to ensure ammonia refrigeration systems are installed, maintained, and operated safely,” [according to the seminar website](#).

The conference is aimed at any professional working with ammonia, including operators of systems, maintenance workers, contractors, refrigeration system designers and technical support personnel, safety consultants, and test and inspection service specialists.

The seven-hour conference will take place in Dublin's industrial district at the Clarion Hotel in Liffey Valley, Dublin 22, Co. Dublin, Ireland.

The event will familiarise attendees with several EU and Irish standards including:

- The Irish Pressure Systems Regulations 2012
- The New EU Pressure Equipment Directive
- European wide ATEX Directives;
- The revised EU Standard, EN 378-2016

Along with these presentations, the conference will cover leak prevention and how to respond to a leak, including:

- Emergency Service Response to a Hazardous Substance (Ammonia) Leak: What to expect from the Fire Service, and what they expect from ammonia plant operators.
- Statutory Examination and Inspection of Ammonia Pressure Vessels and Pipework: Examination of ammonia vessels and inspection of pipework under the Pressure Systems Regulation.
- Establishing the Integrity of Pressure Systems: Non-Destructive Testing (NDT) techniques for ammonia systems.

Ammonia Gas Detection Systems: Implementing an effective ammonia gas detection system – technologies, regulations and selection.

Speakers at the conference include Andy Pearson, Star Refrigeration’s managing director; John Sheeran from the Irish Health and Safety Authority (a national body in Ireland looking after occupational health and safety); William Magher, haz. mat. specialist and district officer at Dublin South’s Fire Service; and Maurice Young from the UK’s Food Storage and Distribution Federation (FSDF).

- ▶ For more information email: cpdtraining@engineersireland.ie
- ▶ [Ammonia21](#), 31 October 2017, By: Charlotte McLaughlin



FEATURED

OZONE SECRETARIAT

- ▶ Vienna Convention and Montreal Protocol Meetings: A Primer - [Read/Download](#)
- ▶ [29th Meeting of the Parties to the Montreal Protocol](#)
- ▶ [COP11-MOP29 : Issues for discussion by and information for the attention of the Conference of the Parties to the Vienna Convention at its eleventh meeting and the Twenty Ninth Meeting of the Parties to the Montreal Protocol - UNEP/OzL.Conv.11/2–UNEP/OzL.Pro.29/2 - Advance copy \(E \)](#)
- ▶ [28th Meeting of the Parties to the Montreal Protocol](#)
- ▶ Final text of the Kigali Amendment to the Montreal Protocol available in all the six official UN languages ([A](#) [C](#) [E](#) [F](#) [R](#) [S](#))
- ▶ OEWG 39: The 39th Session of the Open-ended Working Group of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, preceded by the 58th meeting of the Implementation Committee under the Non-Compliance Procedure for the Montreal Protocol, held on 9 July and a workshop on safety standards relevant to the use of low-GWP alternatives to HFCs, held on 10 July 2017.
 - [Draft report of the thirty-ninth meeting of the Open-ended Working Group of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer - Addendum](#)
 - [Draft report of the thirty-ninth meeting of the Open-ended Working Group of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer](#)
- ▶ Click [here](#) for further information.

– Browse through the Ozone Secretariat “[In Focus](#)” to learn about latest updates.

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

The UN Environment Assessment Panels have been the pillars of the ozone protection regime since the very beginning of the implementation of the Montreal Protocol. Through provision of independent technical and scientific assessments and information, the Panels have helped the Parties reach informed decisions that have made the Montreal Protocol a world-recognized success.

UNEP initiated the process of setting up the assessment panels in 1988, pursuant to Article 6 of the Montreal Protocol, to assess the scientific issues of ozone depletion, environmental effects of ozone depletion, and the status of alternative substances and technologies and their economic implications.

Four panels, namely the panels for Scientific, Environmental Effects, Technology, and Economic Assessments were formally established and approved at the First Meeting of the Parties to the Montreal Protocol in 1989 where their first set of Terms of Reference were adopted. Shortly after the Second Meeting of the Parties in 1990, the Panels for Technical Assessment and the Panel for Economic Assessment were merged into one Panel called the Technology and Economic Assessment Panel (TEAP), which together with the Scientific Assessment Panel (SAP) and the Environmental Effects Assessment Panel (EEAP) make up the three assessment panels active today.

In accordance with Article 6 of the Montreal Protocol and subsequent decisions of the Parties, the three panels carry out a periodic assessment at least every 4 years. The first assessment reports were published in 1989 and since then major periodic assessments have been published by all three panels in 1991, 1994, 1998, 2002, 2006 and 2010. For each periodic assessment, the key findings of the panels are synthesized into a short report. The full SAP assessment report for 2014 was published in December 2014, while the EEAP assessment report for 2014 was published in January 2015.

PROGRESS & QUADRENNIAL ASSESSMENT REPORTS

- [EEAP](#)
- [SAP](#)
- [TEAP](#)

[Assessment Panels List of Meetings](#)

SYNTHESIS REPORTS

- [2014 assessments](#)
- [2010 assessments](#)
- [2006 assessments](#)

THE MULTILATERAL FUND FOR THE IMPLEMENTATION OF THE MONTREAL PROTOCOL



- [Documents for the 80th meeting of the Executive Committee](#)
- [Agenda for the 80th meeting of the Executive Committee](#)
- [Report of the 79th meeting of the Executive Committee](#)

[Learn more](#)

OZONACTION

UN Environment, [OzonAction](#) highlights



Please visit the [OzonAction Ozone Day website](#) for other interesting products. Also, in the right-hand column of this webpage you will find links to last year's Ozone Day webpage and other previous years; please feel free to browse through them for useful information and ideas.

We would also appreciate receiving your Ozone Day planned activities/reports for posting on the OzonAction website. You may send this information through your respective regional OzonAction CAP office or to Ms [Jo Chona](#).



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

Now available for **free** in the Google Play and Apple IOS Store



Scan the QR code or search for “UNEP”, “OzonAction” or “WhatGas?”



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!**



[The Kigali Amendment to the Montreal Protocol - Opportunities and Next Steps](#) - OzonAction Video

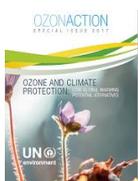
The Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer reached agreement at their 28th Meeting of the Parties on 15 October 2016 in Kigali, Rwanda to phase down hydrofluorocarbons (HFCs). The UN Environment, OzonAction developed a video to find out from renowned international 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](#)

[Ozone and Climate Protection: Low-Global Warming Potential Alternatives](#) - OzonAction Special Issue 2017



OzonAction Factsheets:

 [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).



OzonAction Factsheet: [Refrigerant Blends: Calculating Global Warming Potentials](#) (post-Kigali update)



OzonAction Factsheet: [Global Warming Potential \(GWP\) of Refrigerants: Why are Particular Values Used?](#) (post-Kigali update).



OzonAction Factsheet: [Tools Commonly used by Refrigeration and Air-Conditioning Technicians](#)



OzonAction Multimedia Video Application: Refrigeration and Air-conditioning Technician Video Series - 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. Additional videos will be added regularly.

Please share with your RAC associations, technicians and other interested stakeholders... **Over 11, 200 installations to date!**

Now available in the [Android Play Store](#) and Apple Store/iTunes.



(Just search for 'OzonAction' or scan this QR Code)



OzonApp eDocs+ launched in Android Play Store and Apple Store. This new application launched by OzonAction on February 12, includes publications, videos, fact sheets and other awareness materials to help National Ozone Units (NOUs) and other stakeholders to build their capacity to implement the Montreal Protocol in a sustainable manner and at the same time to derive climate benefits. Now available in the [Android Play Store](#) and Apple Store/iTunes.



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

OzonAction News Drops - UNEP OzonAction is presenting a series of short video "News Drops" which focus on ozone layer protection, climate change and the importance of continuing ozone observations.



Regional News Drops

The Regional Networks of National Ozone Units (NOUs) under the Multilateral Fund are a path-breaking mechanism for North-South and South-South cooperation. Networking provides a platform for NOUs from Article 5 countries to exchange experiences, develop their skills and tap the expertise of their peers in both developing and developed countries. Conducted at the regional level, the Networking activity builds the Ozone Officers' skills for implementing and managing their national ODS phase-out activities. During 2016 these videos were filmed at the regional network meetings around the world.

The NOUs were asked about their success stories, alternative refrigerants selected and their personal messages for national ozone celebrations...

Click [here](#) to access the News Drops

OzonAction Recent Publications:



Lower-GWP Alternatives in Commercial and Transport Refrigeration: An expanded compilation of propane, CO₂, ammonia and HFO case studies - This booklet presents an expanded compilation of case studies on lower-GWP alternatives in commercial and transport refrigeration and provides an update to the first set of case studies which was published in 2014 by UNEP DTIE OzonAction/CCAC (Low GWP Alternatives in Commercial Refrigeration: Propane, CO₂ and HFO Case Studies).



[NATIONAL CERTIFICATION SCHEMES FOR RAC SERVICING TECHNICIANS](#) - This publication aims to provide introductory information for institutions in developing countries to better understand the issue of certification in the field of refrigeration and air conditioning, to assist in the creation of such certification and training schemes and to demonstrate to service technicians and enterprises why it is in their interest to participate.



[THE MONTREAL PROTOCOL AND HUMAN HEALTH](#) - This booklet summarizes how the successful implementation of the Montreal Protocol has protected human health. It describes how ozone depletion would have led to increases in UV radiation and, based on current understanding of the mechanisms by which UV affects biological processes, how that would have led to a dramatic increase in skin cancers, cataracts and affected human health in other ways. It also covers recent progress in understanding the ‘World Avoided’ – that is the world we would have lived in without a successful Montreal Protocol.



[FINANCING THE CLIMATE CO-BENEFITS OF THE HCFC PHASE-OUT](#) - A guide for Low Volume Consuming Countries - Hydrochlorofluorocarbons (HCFCs) are being phased out worldwide under the Montreal Protocol on Substances that Deplete the Ozone Layer. The Parties to this treaty encouraged countries to promote the selection of alternatives to HCFCs that minimise environmental impacts, in particular impacts on climate. The Protocol’s Multilateral Fund encourages developing countries to explore potential financial incentives and opportunities for additional resources to maximise the environmental benefits from HCFC Phase out Management Plans (HPMPs). This booklet explains how Ozone Officers in low volume consuming countries can explore such opportunities for climate co-benefits. [English](#) | [French](#) | [Spanish](#)



[SAFE USE OF HCFC ALTERNATIVES IN REFRIGERATION AND AIR CONDITIONING](#) - An Overview for Developing Countries - Many of the alternative refrigerants to hydrochlorofluorocarbons (HCFCs) have particular characteristics in terms of toxicity, flammability and high pressure which are different from those used previously. It is therefore important that the refrigeration and air-conditioning industry adapts to both the technical and safety issues concerning these refrigerants. This publication provides an overview of the alternatives, their general characteristics and their application in the context of the safety issues. It provides guidance for National Ozone Units (NOUs) and other interested parties in developing countries on how they can advise and assist their national stakeholders in the selection and implementation of alternative refrigerants.



[PHASING-OUT HCFCs IN SMALL AND MEDIUM-SIZED ENTERPRISES](#) - This booklet aims to assist foam enterprises, especially SMEs, to better understand policies on HCFC phase-out, access to assistance from the Multilateral Fund for the Implementation of the Montreal Protocol and access alternative technologies in different foam applications taking into account challenges in converting to alternative technology. It also discusses some tips on how to identify enterprises that may use HCFCs and verify the HCFCs consumption of enterprises.



[INTERNATIONAL STANDARDS IN REFRIGERATION AND AIR-CONDITIONING](#) - This guide provides an introduction and simple overview of the issues related to international standards in the refrigeration and air-conditioning sector and how they can be useful in the context of the phase-out of hydrochlorofluorocarbons (HCFCs) in developing countries as required by the Montreal Protocol on Substances that Deplete the Ozone Layer.



EVENTS

2017

EUREKA²⁰¹⁷

[EUREKA 2017: Heating, Cooling & Ventilation: Sustainable technologies for a better life,](#)
11-12 December 2017, Berlin, Germany

2018



1st IIR International Conference on the Application of HFO Refrigerants
2nd - 5th September 2018

[1st IIR International Conference on the Application of HFO Refrigerants.](#)
2-5 September 2018, Austin Court Conference Centre, Birmingham, United Kingdom



[The HVAC & Refrigeration Show,](#) 23 - 25 January 2018, London, United Kingdom

A/Ccess is the theme of the MACS 2018 Training Event and Trade Show to be held 14-18 February 2018, at the Caribe Royale Hotel and Convention Center, USA



[AIRAH Refrigeration 2018,](#) 26 – 27 March 2018, Sydney, Australia



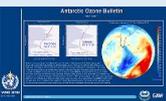
READING



[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.



[UNEP and USEPA: Promoting ozone and climate-friendly technologies in public procurement - a scoping study of Asia Pacific](#)



[WMO Antarctic Ozone 2016 Bulletins](#) - Containing information on the state of the ozone layer in the Antarctic at roughly two week intervals from August to November. The bulletins are based on data provided by WMO Members which operate ozone monitoring stations in the southern hemisphere and satellites to observe ozone globally.



The [EU F-Gas Regulation Handbook,](#) Keeping Ahead of the Curve as Europe Phases Down HFCs - a free online resource for climate media and other concerned parties, published by the London-based Environmental Investigation Agency (EIA).



[Alternative Refrigerant Evaluation for High-Ambient-Temperature Environments: R-22 and R-410A Alternatives for Mini-Split Air Conditioners](#)



[AREA Guidance on minimum requirements for contractors' training & certification on low GWP Refrigerants](#) - AREA has updated its Guidance on minimum requirements for contractors' training & certification on low GWP Refrigerants.



[Free guide to F-gas changes](#) The European contractors association AREA has produced a timely guide to the F-gas regulations which clarifies the new rules, their impact and their practical application...[Read more](#)



The recent [Alternatives to HCFCs/HFCs in developing countries](#) with a focus on high ambient temperatures” study carried out by Öko-Recherche for the European Commission stresses that the refrigerant and blowing agent demand is expected to triple by 2030 in developing countries as a result of economic growth. A sector by sector analysis shows that a climate-friendly replacement for current and future of HCFCs and high GWP HFCs is possible in most applications ...



[Primer on Hydrofluorocarbons](#), Fast action under the Montreal Protocol can limit growth of HFCs, prevent up to 100 billion tonnes of CO₂-eq emissions by 2050, and avoid up to 0.5°C of warming by 2100. IGSD, January 2014, Lead authors: Durwood Zaelke, Nathan Borgford-Parnell, and Danielle Fest Grabel. Contributing authors: Stephen O. Andersen, Xiaopu Sun, Dennis Clare, Yuzhe Peng Ling, and Alex Milgroom.



[Flammable Refrigerants Safety Guide](#), AIRAH - Many of the refrigerants traditionally used in refrigeration and air conditioning systems in Australia have been non-flammable, non-toxic, synthetic greenhouse gases (SGGs) that have a high global warming potential (GWP). These were typically synthetic refrigerants including CFCs, HCFCs and HFCs. Due to the growing national and international concern regarding the resulting atmospheric effects of SGGs, the use of alternative low GWP refrigerants is increasing. ...



[Recent Trends in Global Emissions of Hydrochlorofluorocarbons and Hydrofluorocarbons: Reflecting on the 2007 Adjustments to the Montreal Protocol](#). S. A. Montzka *†, M. McFarland ‡, S. O. Andersen §, B. R. Miller †||, D. W. Fahey †, B. D. Hall †, L. Hu †||, C. Siso †||, and J. W. Elkins †† Earth System Research Laboratory, National Oceanic and Atmospheric Administration, Boulder, Colorado 80305, United States ‡ DuPont Chemicals & Fluoroproducts, Wilmington, Delaware 19805, United States § Institute for Governance & Sustainable Development, Washington, D.C. 20007, United States || Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, United States.



[Geothermal Heating and Cooling: Design of Ground-Source Heat Pump Systems](#)-ASHRAE



A first edition, the IIR guide “[CO₂ as a Refrigerant](#)” highlights the application of carbon dioxide in supermarkets, industrial freezers, refrigerated transport, and cold stores as well as ice rinks, chillers, air conditioning systems, data centers and heat pumps. This guide is for design and development engineers needing instruction and inspiration as well as non-technical experts seeking background information on a specific topic. Publication, IIR Technical Guide, 2014.



FREE [HVAC Optimisation Guide released](#) by AIRAH and the NSW Office of Environment & Heritage outlines 20 HVAC optimisation strategies and how they can be applied to the vast majority of commercial systems, both in older and modern buildings...



[Latin America Industrial Refrigeration Equipment Market Benefits from Region Flourishing Food and Beverage Production and Processing Market](#) – Trends and forecast 2013-2019.



[Solvents & Bio Solvents Market Outlook - Global Trends, Forecast, and Opportunity Assessment \(2014-2022\)](#)



[Chlorofluorocarbon Market: Global Industry Analysis and Forecast 2015 to 2021](#)



[Getting The World Off the Chemical Treadmill: A per capita convergence framework for an ambitious phase-down of HFCs under the Montreal Protocol](#), By: Umang Jalan, Research Associate, Climate Change Programme, Centre for Science and Environment



[The Importance of Ambition in the 2016 HFC Phase-Down Agreement](#). Download the full report from EIA, [here](#)



[Update on the Illegal Trade in Ozone-Depleting Substances](#) – The Environmental Investigation Agency (EIA) briefing to the 38th meeting of the Open-Ended Working Group of Parties to the Montreal Protocol, in Vienna, Austria, from July 18-21, 2016.



[F-Gas Regulation shaking up the HVAC&R industry](#). Commissioned by the Greens in the European Parliament, the study provides qualitative and quantitative analysis of the early impacts of the EU F-Gas Regulation on the European industry and evaluates its influences on other countries and regions in designing their own policies to curb HFCs.



"[The Road to Competence in Future Green Technologies](#)", the International Special Issue 2016-2017 of Centro Studi Galileo. Read/Download [pdf version](#) | [E-book](#)



The [2016 editions of ASHRAE's major refrigerants-related standards](#) have been published as a package with 30 new refrigerants and refrigerant blends added.



[Quest for climate-friendly refrigerants finds complicated choices](#), National Institute of Standards and Technology (NIST), 17 February 2017, Summary: Researchers have just completed a multiyear study to identify the 'best' candidates for future use as air conditioning refrigerants that will have the lowest impact on the climate.



The second issue of [The Natural Voice magazine](#), entitled 'Mainstreaming Natural Refrigerants' showcases examples of installations using natural refrigerants around the world, including in the Gambia, Jordan, South Africa, China, Thailand, Tanzania and Saudi Arabia.



[Industria & Formazione, no. 2/17](#), Preview of the journal Industry & Training in refrigeration and air conditioning, technical refrigeration and air-conditioning, Centro Studi di Galileo # 406 Technological innovations in cooling and air conditioning with special focus on the F-Gas new regulations, new refrigerants, components and systems, food storage and cold sector. Vol. XLI - No. 2-2017.



Refrigeration: An increasingly strategic issue for data centres - [Cooling data centres: A major economic challenge](#) Today, data centres play a key role in many businesses as information technology is becoming an increasingly strategic factor. Cooling can present a major economic challenge for data centres. If cooling is implemented incorrectly or is inadequate, the amount of energy required to cool a data centre can equal or exceed that used to operate the equipment. Larger data centres can use a staggering amount of energy just to ensure the day-to-day running of electronic equipment. As a result, these data centres can produce a great deal of heat, which require large-scale cooling systems in order to maintain efficient and continual operation... Browse through a selection of [articles and papers](#), by [iifiiir](#)



[shecco](#) GUIDE to Natural Refrigerants Training in Europe shows that training is readily available. [Read on r744](#)



[40 Years of Global Environmental Assessments: A Retrospective Analysis](#), J. Jabbour and C. Flachsland. Environmental Science & Policy



FactSheet - [Hazards during the Repair and Maintenance of Refrigeration Systems on Vessels](#).



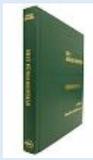
[High-performance insulation materials market](#), June 2017



[EIA Applauds Bipartisan Effort to Tackle Super Pollutants, Including HFCs](#). Environmental Investigation Agency, 8 June 2017



[The Environmental Investigation Agency \(EIA\)](#), recently launched report: [Chilling Facts VII](#), [Chilling Facts I-VI](#) reports available [here](#)



ASHRAE Releases New Edition of [Principles of Heating, Ventilating and Air Conditioning](#).- *Eighth edition of textbook updated based on the 2017 ASHRAE Handbook* - The textbook is ASHRAE's recommended text for HVAC instruction and presents the fundamental concepts for HVAC systems and design.



[The Australian Institute of Refrigeration, Air Conditioning and Heating outlines the Future of HVAC in a Net-Zero World](#)



“[Absorption Chillers Market: Global Industry Analysis and Forecast, 2017-2025](#),”... The demand for thermally-driven chillers in multiple industrial verticals is poised to grow in the immediate future. Considering the rising demand for electrical chillers in commercial, residential as well as industrial settings, the adoption of absorption chillers will gain traction at considerable rate. By consuming lesser energy than conventional electrical chillers, absorption chillers will also garner surplus demand for not using ozone-depleting chlorofluorocarbons (CFC) for chilling purposes. Persistence Market Research's latest report delivers key insights for the future of global [absorption chillers market](#), excerpts from which highlight that by the end of 2025, more than US\$ 2 Bn worth of absorption chillers will be sold throughout the globe...



MISCELLANEOUS

Announcement!

The UN Environment, OzonAction, in collaboration with Marco Gonzalez and Stephen O. Andersen are updating and expanding the Montreal Protocol Who's Who" as part of the celebration of the 30th Anniversary of the Montreal Protocol - which was agreed as 16 September 1987.



The new website will be launched during the upcoming Meeting of the Parties to the Montreal Protocol, Montreal, Canada, 20-24 November 2017.

We are pleased to invite you to submit your nomination*, and/or nominate an 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

Looking forward to receiving the 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 men and women who made important contribution to the Montreal Protocol success and ozone layer protection.

▶ Contact : [Samira Korban-de Gobert](#), UN Environnement, OzonAction

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



[UN knowledge platform launches live-tracking tools to review progress towards SDGs](#), UN Environment's dynamic online platform designed for sharing contextualized data...



New *International Journal of Refrigeration* service for IIR members - As of January 2017, not only will IIR members continue to receive the hard copy of the journal but IIR membership will now also give members access to 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



The Mobile Air Conditioning Society (MACS) Worldwide has released the **MACS Mobile A/C Diagnostics app** powered by Shiftmobility[®] for use on all mobile devices. The MACS app includes comprehensive mobile A/C and engine cooling system specifications for cars and light duty trucks from 1960-present; A library of heavy duty vehicle specifications donated by MACS member companies; access to MACS training calendar and website, archived MACS *ACTION*[™] magazines and *Service Reports*, MACS mobile A/C diagnostic checklists and a MACS member supplier directory. The MACS app is available only to MACS members in good standing. Each membership will receive one free download; and

additional member downloads are \$60 each annually. The MACS app can be downloaded from the Google play or iTunes store



The Montreal Protocol Who's who

See the latest nominations /

Nominate Ozone Layer Protection Champion

From Your Country /Region >>

<http://www.unep.fr/ozonaction/montrealprotocolwhoswho>

Disclaimer: The United Nations Environment (UNEP), Economy Division, OzonAction provides OzoNews as a free service for internal, non-commercial use by members of the Montreal Protocol community.

Since its inception in January 2000, the goal of OzoNews is to provide current news relating to ozone depletion and the implementation of the Montreal Protocol, to stimulate discussion and promote cooperation in support of compliance with the Montreal Protocol. With the exception of items written by UNEP and occasional contributions solicited from other organizations, the news is sourced from on-line newspapers, journals and websites.

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

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



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