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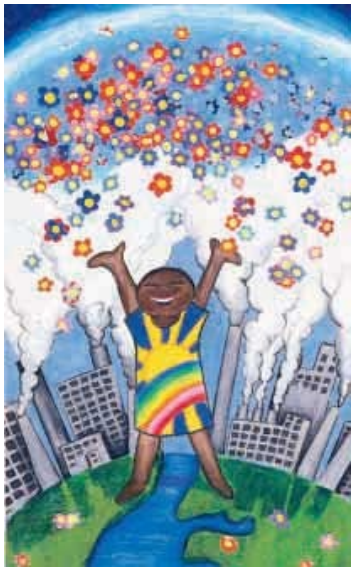
UN environment

OzoNews

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

Volume XVIII | 15-30 January 2018



OzoNews is Turning 18!

The OzoNews 15 January 2018 issue marks 18 years of continued service of providing a regular and concise news update directly to your screen, to keep our readers abreast of the latest news regarding the implementation of the Montreal Protocol and ozone and climate protection.

At this occasion we are delighted to launch the brand new OzoNews design!

Your invaluable support and feedback throughout the years has helped us to serve you better.

Thank you for your continued interest!

In this issue:

Global

1. First Inter-Regional Thematic Technical Workshops and Regional Network Meetings for National Ozone Officers

The UN Environment Economy Division OzonAction Compliance Assistance Programme organised the first Inter-Regional Thematic Technical Workshops and Regional Network Meetings for all National Ozone Officers, 15-19 January 2018 in Paris, France at the UNESCO Fontenoy Building.

The National Ozone Officers Network meetings are a flagship of the UN Environment OzonAction Compliance Assistance Programme and part of the agreed work programme of the Compliance Assistance Programme under the Multilateral Fund for the Implementation of the Montreal Protocol.

This meeting, for the first time, brought together National Ozone Officers of 147 developing countries, as well as the Multilateral Fund Secretariat, the Ozone Secretariat, Implementing Agencies, and international technical and policy experts.
The meeting took place in the context of the ongoing phase-out of hydrochlorofluorocarbons (HCFCs) under the HPMPs and the ambitious Kigali amendment to the Montreal Protocol to phase-down hydrofluorocarbons (HFCs), which commits parties to significantly reduce consumption and production of HFCs. HFCs are man-made chemicals that are primarily used in air conditioning, refrigeration and foam insulation, and are powerful greenhouse gases that can be thousands of times more potent than carbon dioxide in contributing to climate change.

The meeting enabled OzonAction and its partners to discuss details of the issues currently facing Montreal Protocol Parties in the following three thematic areas: HCFC Phase-out commitments and sustaining compliance with prior targets; the Refrigeration Servicing Sector; and HFC Phase-down.

Structure of the Workshops and Meetings

The first two days (Monday 15th and Tuesday 16th January) and the final day (Friday 19th January) were dedicated to the Inter-Regional Thematic workshop. The Monday and Tuesday primarily consisted of a series of seven panel discussions on the three workshop themes (HCFC Phase-out commitments and sustaining compliance with prior targets; Refrigeration Servicing Sector; and HFC Phase-down). Each Panel comprised five panelists representing the five regions (Africa, Asia Pacific, Europe and Central Asia, Latin America and the Caribbean and West Asia), in addition to two expert presents (keynote speakers) and a facilitator. After the two introductory presentations, the facilitator moderated the panel session discussions and then opened the floor to the audience for questions.

Wednesday 17th and Thursday 18th January were taken up with the Regional Network Meetings. There were nine parallel meetings of the 147 countries Article 5 (developing) countries. Each network followed regional-specific agendas. The session in the afternoon of Thursday 18th January (15:00 – 18:00) was a special session for Inter-Regional Coordination. This was to allow organisation between regions to coordinate on joint conclusions and recommendations for the seven feedback sessions on the final day (Friday 19th January). It involved coordination between the Session Facilitators, the National Ozone Officer, Presenters and the CAP team. The session also provided a platform for more general Inter-Regional Coordination and Bilateral meetings.

IAs, Secretariats and resource persons attended any of the parallel sessions.

The Inter-Regional Thematic workshop resumed on Friday 19th January. The day was divided into seven short sessions that presented feedback on the topics of the seven panels as well as subsequent discussions and negotiations from the network meetings. Each of these 'Feedback Sessions' comprised a short presentation made by the session facilitator and NOU representative, briefly presenting the conclusions and recommendations from all regions on that specific topic.

1 Hydrochlorofluorocarbon (HCFC) Phase-Out Management Plans

UN Environment, OzonAction, January 2018

2. Launch of the Global Montreal Protocol Award for Customs and Enforcement Officers

UN Environment OzonAction, in cooperation with the World Customs Organization and the Ozone Secretariat, is launching the global Montreal Protocol award for customs and enforcement officers.

The award recognizes the crucial role of customs & enforcement officers in implementing trade restrictions and bans for hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs). Both groups of chemicals are widely used as refrigerants and foam blowing agents.
HCFCs contribute to ozone layer depletion and global warming.

They will gradually be phased out by 2030 and are already banned in the European Union. HCFC traders require annual import / export quota as well as import / export licenses for HCFC shipments.

HFCs contribute to global warming. They will be controlled and gradually phased down by the parties to the Montreal Protocol once the Kigali Amendment enters into force for them. National legislation might already require import / export licenses for HFC shipments and they are already restricted in the European Union.

The informal Prior Informed Consent (iPIC) system allows trade partners to confirm the legitimacy of an intended trade prior to issuing import / export licenses. More information on iPIC is available **here**.
Tolerating illegal or unwanted trade in HCFCs / HFCs would undermine the success of the Montreal Protocol and might lead to non-compliance.

Objectives

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

The award is expected to enhance regional and international cooperation and awareness of the customs and enforcement community. It will facilitate reporting on illegal trade to UN Environment and the Ozone Secretariat, pursuant to paragraph 7 of decision XIV/7 of the parties to the Montreal Protocol and encourage trade partners to consistently apply iPIC prior to issuing trade licenses for HCFCs / HFCs. Thus, it will contribute to enforcing the Montreal Protocol trade provisions and compliance.

Often, seizures are not publicized because of a perception that they reflect negatively on the concerned countries. Providing recognition and visibility might change this perception and encourage the reporting on illegal trade cases and seizures. Publicizing the seizures, court cases and penalties with the names of convicted companies and persons involved can discourage potential smugglers.

Eligibility

Eligible nominees include customs and enforcement officers or their respective organizations who successfully prevented illegal or unwanted trade in HCFCs / HFCs as well as equipment or products containing or relying on the use of HCFCs / HFCs.
Eligible enforcement actions include the detection of an illegal shipment and the subsequent seizure or

rejection or a successful iPIC consultation preventing the issuance of export / import licenses for illegal or unwanted shipments.
Enforcement actions are eligible as long as they have not been submitted to any other past or current award schemes.

Nomination

Completed nomination forms with detailed case descriptions and photos should be received by the UN Environment regional focal points as soon as possible but at the latest by: 31 December 2018.
Detailed contacts of the UN Environment OzonAction regional focal points are available **here**.
Africa (English-speaking): **Patrick Salifu**
Africa (French-speaking): **Yamar Guisse**
Caribbean: **Marco Pinzon**
Europe and Central Asia: **Halvart Koppen**
Latin America: **Mirian Vega**
West Asia: **Khaled Klaly**
South Asia, South-East Asia Pacific, Pacific Island Countries: **Shaofeng Hu**

Nominations and case descriptions should preferably be submitted in English but other UN languages will be accepted (Arabic, Chinese, French, Russian, Spanish).
Montreal Protocol focal points are encouraged to coordinate nominations from their respective countries. Self-nominations are welcome.

Verification and outreach

Nominations and case descriptions will be reviewed and verified by an expert panel established by UN Environment.
Verified cases will be compiled into a summary report, publicized on OzonAction's dedicated award webpage and informed to the Ozone Secretariat. They will be presented at the side event of the Meeting of the Parties and regional network meetings, and widely outreached to the international Montreal Protocol and enforcement community e.g. WCO Regional Intelligence Liaison Officers and Environet.

Award winners

All nominated customs and enforcement officers and / or their respective organizations whose cases have been verified will be awarded with certificates and medals of honour. The certificates will be signed by representatives of UN Environment OzonAction, World Customs Organization and the Ozone Secretariat.

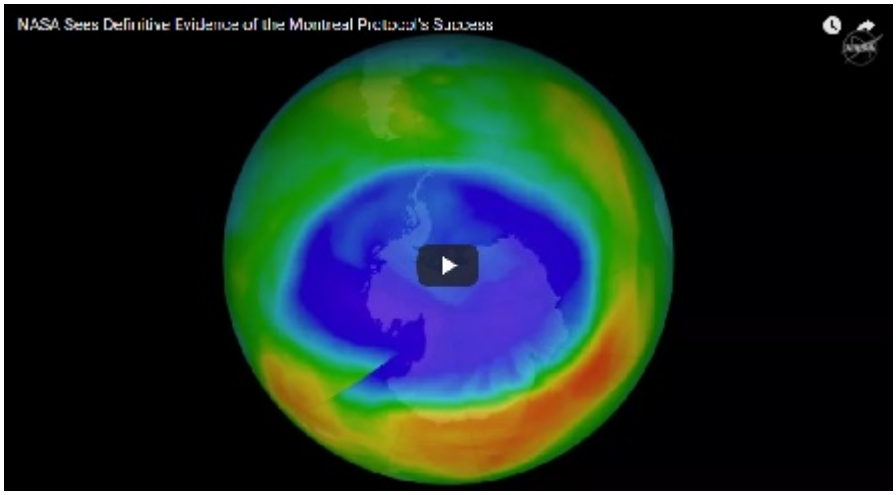
The award certificates and medals will be handed over during national or regional award ceremonies depending on regional specificities. Selected winners might be invited to present their cases at the side event of the Meeting of the Parties and regional network meetings subject to fund availability.

Contact
- Dr. **Shamila Nair-Bedouelle**, Head of OzonAction
UN Environment, Economy Division, **OzonAction**
- **World Customs Organization**
- UN Environment, **Ozone Secretariat**

Download normination form **English | Russian**

UN Environment, OzonAction, 2018 Global Montreal Protocol Award for Customs and Enforcement Officers

3. NASA Study: First Direct Proof of Ozone Hole Recovery Due to Chemicals Ban



Using measurements from NASA's Aura satellite, scientists studied chlorine within the Antarctic ozone hole over the last several years, watching as the amount slowly decreased.
Credits: NASA's Goddard Space Flight Center/Katy Mersmann
Please download more visuals at NASA's Scientific Visualization Studio

For the first time, scientists have shown through direct satellite observations of the ozone hole that levels of ozone-destroying chlorine are declining, resulting in less ozone depletion.

Measurements show that the decline in chlorine, resulting from an international ban on chlorine-containing manmade chemicals called chlorofluorocarbons (CFCs), has resulted in about 20 percent less ozone depletion during the Antarctic winter than there was in 2005 — the first year that measurements of chlorine and ozone during the Antarctic winter were made by NASA's Aura satellite.

"We see very clearly that chlorine from CFCs is going down in the ozone hole, and that less ozone depletion is occurring because of it," said lead author Susan Strahan, an atmospheric scientist from NASA's Goddard Space Flight Center in Greenbelt, Maryland.

CFCs are long-lived chemical compounds that eventually rise into the stratosphere, where they are broken apart by the Sun's ultraviolet radiation, releasing chlorine atoms that go on to destroy ozone molecules. Stratospheric ozone protects life on the planet by absorbing potentially harmful ultraviolet radiation that can cause skin cancer and cataracts, suppress immune systems and damage plant life.

Two years after the discovery of the Antarctic ozone hole in 1985, nations of the world signed the Montreal Protocol on Substances that Deplete the Ozone Layer, which regulated ozone-depleting compounds. Later amendments to the Montreal Protocol completely phased out production of CFCs.
Past studies have used statistical analyses of changes in the ozone hole's size to argue that ozone depletion is decreasing. This study is the first to use measurements of the chemical composition inside the ozone hole to confirm that not only is ozone depletion decreasing, but that the decrease is caused by the decline in CFCs.

The study was published Jan. 4 in the journal Geophysical Research Letters.

The Antarctic ozone hole forms during September in the Southern Hemisphere's winter as the returning sun's rays catalyze ozone destruction cycles involving chlorine and bromine that come primarily from CFCs. To determine how ozone and other chemicals have changed year to year, scientists used data from the Microwave Limb Sounder (MLS) aboard the Aura satellite, which has been making measurements continuously around the globe since mid-2004. While many satellite instruments require sunlight to measure atmospheric trace gases, MLS measures microwave emissions and, as a result, can measure trace gases over Antarctica during the key time of year: the dark southern winter, when the stratospheric weather is quiet and temperatures are low and stable.

The change in ozone levels above Antarctica from the beginning to the end of southern winter — early July to mid-September — was computed daily from MLS measurements every year from 2005 to 2016. "During this period, Antarctic temperatures are always very low, so the rate of ozone destruction depends mostly on how much chlorine there is," Strahan said. "This is when we want to measure ozone loss."

They found that ozone loss is decreasing, but they needed to know whether a decrease in CFCs was responsible. When ozone destruction is ongoing, chlorine is found in many molecular forms, most of which are not measured. But after chlorine has destroyed nearly all the available ozone, it reacts instead with methane to form hydrochloric acid, a gas measured by MLS. "By around mid-October, all the chlorine compounds are conveniently converted into one gas, so by measuring hydrochloric acid we have a good measurement of the total chlorine," Strahan said.

Nitrous oxide is a long-lived gas that behaves just like CFCs in much of the stratosphere. The CFCs are declining at the surface but nitrous oxide is not. If CFCs in the stratosphere are decreasing, then over time, less chlorine should be measured for a given value of nitrous oxide. By comparing MLS measurements of hydrochloric acid and nitrous oxide each year, they determined that the total chlorine levels were declining on average by about 0.8 percent annually.

The 20 percent decrease in ozone depletion during the winter months from 2005 to 2016 as determined from MLS ozone measurements was expected. “This is very close to what our model predicts we should see for this amount of chlorine decline,” Strahan said. “This gives us confidence that the decrease in ozone depletion through mid-September shown by MLS data is due to declining levels of chlorine coming from CFCs. But we’re not yet seeing a clear decrease in the size of the ozone hole because that’s controlled mainly by temperature after mid-September, which varies a lot from year to year.”

Looking forward, the Antarctic ozone hole should continue to recover gradually as CFCs leave the atmosphere, but complete recovery will take decades. “CFCs have lifetimes from 50 to 100 years, so they linger in the atmosphere for a very long time,” said Anne Douglass, a fellow atmospheric scientist at Goddard and the study’s co-author. “As far as the ozone hole being gone, we’re looking at 2060 or 2080. And even then there might still be a small hole.”

Click **here** to read the study.

National Aeronautics and Space Administration (NASA), 4 January 2018, By Samson Reiny

4. HFC Refrigerant Market Outlook, Geographical Segmentation, Industry Size & Share, Comprehensive Analysis to 2022

History, Trends and Forecast Market Intelligence (HTF MI) published a new industry research that focuses on HFC Refrigerant market and delivers in-depth market analysis and future prospects of Global (North America, Europe and Asia-Pacific, South America, Middle East and Africa) HFC Refrigerant market. The study covers significant data which makes the research document a handy resource for managers, analysts, industry experts and other key people get ready-to-access and self-analyzed study along with graphs and tables to help understand market trends, drivers and market challenges.

The study is segmented by Application/ end users [Air Condition, Automotive Air Conditioner, Refrigerator & Others], products type [R-134a, R-410A, R-407C, R125 & Others] and various important geographies like North America (USA, Canada and Mexico), Europe (Germany, France, UK, Russia and Italy), Asia-Pacific (China, Japan, Korea, India and Southeast Asia), South America (Brazil, Argentina, Columbia etc.) & Middle East and Africa (Saudi Arabia, UAE, Egypt, Nigeria and South Africa)].

Refrigerants are generally in the fluid form and are used in a heat pump or refrigeration process. They primarily are of three types: Chlorofluorocarbons (CFC), Hydrochlorofluorocarbons (HCFC), and Hydrofluorocarbons (HFC). All these types are believed to be hazardous to environment. HFCs are third generation of CFCs which do not deplete ozone layer, but are potentially greenhouse gases.

The research covers the current market size of the Global (North America, Europe and Asia-Pacific, South America, Middle East and Africa) HFC Refrigerant market and its growth rates based on 5 year history data along with company profile of key players/manufacturers.

The in-depth information by segments of HFC Refrigerant market helps monitor future profitability & to make critical decisions for growth. The information on trends and developments, focuses on markets and materials, capacities, technologies, CAPEX cycle and the changing structure of the Global (North America, Europe and Asia-Pacific, South America, Middle East and Africa) HFC Refrigerant Market. […]

SATPR News, 11 January 2018, By: Raig Francis

Latin America and Caribbean

5. La industria del frío ante el cambio climático

Ante la urgencia medioambiental, la industria de la refrigeración enfrenta diversos desafíos. El creciente uso de refrigerantes naturales se anota como uno de los aspectos cruciales para atender esta problemática, cuyo progreso dependerá de los desarrollos tecnológicos del sector y de las condiciones climatológicas de cada región. Éste es un breve panorama. Eleazar Rivera

Los estudios científicos indican que si las emisiones de los gases de efecto invernadero continúan al paso actual, las temperaturas atmosféricas seguirán aumentando y podrían pasar el umbral de dos grados Celsius más respecto de la temperatura preindustrial. Eso significa que el mundo será más caliente, que los niveles del mar incrementarán, las tormentas e inundaciones serán más fuertes, al igual que las sequías, y que habrá escasez de alimentos y más condiciones extremas.
Erradicar el daño al medioambiente ha empujado a la industria HVACR a investigar refrigerantes con un bajo impacto ecológico.

Una buena transición dependerá de la comprensión de los beneficios, las regulaciones actuales y la capacitación que los técnicos adquieran. Los refrigerantes usados dictaminan los equipos mecánicos, de control y materiales por utilizar dentro de un sistema; su selección es fundamental para el proceso de ingeniería básica, conceptual y a detalle de cada proyecto.

En materia legal, en marzo de 2009, México fue el primer país en desarrollo en proponer una meta para reducir sus emisiones, con la expectativa de disminuir en 50 por ciento sus Gases de Efecto Invernadero (GEI) para 2050. El Acuerdo de París entró en vigor el 4 de noviembre de 2016, un mes después de que 55 países, que representan el 55 por ciento de todas las emisiones, firmaran el compromiso de la COP21 ante las Naciones Unidas.

Asimismo, el contexto nacional dice que en 2012 se aprobó la Ley General de Cambio Climático, la cual establece las bases en materia de adaptación y promueve la transformación hacia una economía baja en carbono, competitiva y sustentable.
De esta Ley se desprende el Reglamento de la Ley General de Cambio Climático (octubre 2014). Éste menciona, en su Artículo 6, que los establecimientos sujetos a reporte serán aquellos que emitan más de 25 mil toneladas de dióxido de carbono (CO_2) equivalente al año.

En diciembre de 2015, prácticamente todos los países del mundo (195 en total; Siria y Nicaragua son los únicos que no son parte) se sumaron al primer pacto global para reducir las emisiones de GEI, que contribuyen a aumentar la temperatura global. Fue un logro diplomático histórico conocido como Acuerdo de París.

La idea es que cada país, desarrollado o no y sin importar su PIB, establezca metas para reducir las emisiones de dióxido de carbono.

La histórica Enmienda de Kigali –que llevó siete años de negociaciones y mantuvo activas a las partes que forman el Protocolo de Montreal sobre el uso de sustancias Agotadoras la capa de ozono– llegó a un acuerdo en su 28 reunión el 15 de octubre de 2016 en Kigali, Ruanda.

Suecia se convirtió en el vigésimo país que ratificó la histórica Enmienda de Kigali al Protocolo de Montreal. Esto significa que la Enmienda cumple con el umbral para que el acuerdo entre en vigencia lo más pronto posible; de acuerdo con el tratado, para el 1 de enero de 2019.

La enmienda ha sido descrita por expertos como un pilar clave en la búsqueda para detener el cambio climático global y evitar hasta medio grado de calentamiento para 2100. El Programa de Naciones Unidas para el Medioambiente la calificó como “la mayor contribución del mundo” a los Acuerdos de París.

El Acuerdo busca eliminar los hidrofluorocarbonos, químicos de efecto invernadero más conocidos como HFC, que generalmente se usan en refrigeradores y aires acondicionados, que son, entre otros, los culpables de calentar el planeta.
Con la Enmienda, los fabricantes de refrigerantes están obligados a producir gas (tecnología) de enfriamiento alternativo que sea menos nocivo para el clima.

Por su parte, ASHRAE recibió el 27 de noviembre de 2017 el prestigioso premio por su asociación con el programa de las Naciones Unidas para el Medio Ambiente (UN Environment, en inglés), de la Secretaría del Ozono, por el extraordinario compromiso y contribución al progreso y logros del Protocolo de Montreal relativo a las sustancias agotadoras de la capa de ozono que está celebrando su trigésimo aniversario.

Este Premio de Asociación reconoce el trabajo de la sociedad civil y otras organizaciones internacionales que han desempeñado un papel fundamental en el desarrollo de la Enmienda de Kigali y/o la implementación del Protocolo de Montreal.

Los gases
Existen dos términos muy importantes para comprender las nuevas políticas con relación al aspecto técnico referente a la selección de refrigerantes:
1. ODP (reducción potencial del ozono). Es la razón entre el impacto sobre el ozono causado por una sustancia determinada y el impacto causado por una masa similar de CFC-11 (el potencial de agotamiento del CFC-11 está definido como 1)
2. GWP (calentamiento global potencial) indica el efecto de los refrigerantes sobre el efecto invernadero en comparación con un valor de dióxido de carbono de 1.0

Desde hace algunos años, los refrigerantes naturales han sido el medio más empleado en grandes sistemas de refrigeración industrial dentro de la industria alimentaria y de bebidas, tanto para producción como almacenamiento.

Debido al creciente temor sobre los efectos perjudiciales que pueden ejercer sobre el entorno, los refrigerantes naturales han experimentado un renacimiento, especialmente el Amoniaco (NH_3) y el CO_2 utilizados con propósitos industriales y con bajas temperaturas. […]

Mundo & HVACR, 11 January 2018

6. New Video about the Environmentally Friendly Maintenance of Refrigeration and Air Conditioning (AC) Systems

The repair and maintenance of cooling equipment bears the risk of ozone- and climate-damaging refrigerants escaping into the atmosphere. The unintentional release of the filling volume of a small split AC (with a filling volume of 800 grams) corresponds approximately to the emissions of a medium-sized car that travels a distance of 14,000 km.

The new **video** shows, how the correct maintenance can save the ozone layer and the global climate. The film was produced by the Brazilian Ministry of the Environment (MMA) together with Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH Proklima as a part of the Brazilian phase-out program for HCFC (HPMP).

GIZ Proklima has been active in Brazil since 2003 with the aim of reducing the consumption of HCFCs in the servicing sector. Over the last 15 years, more than 30,000 refrigeration technicians have been trained.

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, January 2018

North America

7. Canada's HFC Use Destined to Decline

The Kigali Amendment to The Montreal Protocol is estimated to avoid emissions of over 70 billion tonnes carbon dioxideequivalent or potentially reduce the impact of greenhouse warming by 0.5 degrees. This landmark climate treaty amendment reached the minimum threshold of at least 20 nations who ratified it on November 17, 2017.

The Amendment will come into force on January 1, 2019 and will see countries reduce HFCs by 80% over the next 30 years.

Canada has proposed to set manufacturing and import restrictions (Regulations) on HFC containing equipment among the various industry sectors. These proposed regulatory measures can be seen **here**

The Manitoba Ozone Protection Industry Association Inc (MOPIA), January 2018

Europe & Central Asia

8. At MOP29, European Commission's Owen Says TFA Formation from HFOs Requires Further Evaluation

HFOs came up as a topic of some concern last month at MOP29 – the 29th Meeting of the Parties to the Montreal Protocol.
Philip Owen, from the European Commission, the EU's executive arm, cited the Ozone Research Managers' conclusion that the formation of toxic TFA (trifluoroacetic acid), as well as tropospheric ozone, results from the degradation of HFOs. This "is a concern which requires further research and evaluation."

Questions have been raised about HFOs' impact on the environment, particularly their decomposition in the atmosphere into TFA, a long-lasting substance that descends to the earth as a form of "acid rain" and accumulates in freshwater bodies.

TFA's long-term toxicity has been the subject of ongoing scientific study. One 2014 study in Chemosphere – "A 17-fold increase of trifluoroacetic acid in landscape waters of Beijing, China during the last decade" – recommended that "measures are needed to control the increase of TFA in China."

In other activity at MOP29, Norway and Switzerland reintroduced a draft decision to adopt a "precautionary approach" to the development and promotion of low-GWP one-component HFCs that are not listed as controlled

substances by the Kigali HFC phase-down scheme and have a GWP greater than 53 (the lowest GWP of covered HFCs).

And in a final decision, the Parties at MOP29 requested the Protocol Assessment Panels to provide a report evaluating the consumption and production of these low-GWP HFCs in time for the MOP in 2023 and every four years thereafter.

Ammonia21, 18 December 2018, By Michael Garry

9. Refcom Urges Post-Brexit Parity with F-Gas Regulations

[United Kingdom] Industry body joins FETA [Federation of Environmental Trade Associations] in telling parliamentary committee that preferred option to curb HFCs would be to mirror or remain as close to existing EU F-Gas phasedown regime as possible

Refcom has urged the UK government to continue to comply with the EU's F-Gas regulations as closely as possible following the conclusion of the Brexit process.

The organisation made the call during a recent investigation by the parliamentary **Environmental Audit Committee** into UK progress on curbing emissions of HFCs and other F-Gas. The Federation of Environmental Trade Associations (FETA), which also took part in the inquiry, echoed similar sentiments on how the UK should look to curb emissions when no longer an EU member state.

Graeme Fox, senior mechanical engineer at the Building Engineering Services Association (BESA) that manages Refcom, told the committee that remaining committed to EU targets would ensure the UK was ahead of broader global targets set out in the Montreal Protocol and the recently ratified Kigali amendment.

He said, "We are already ahead of the game in the UK because of our adoption of the F Gas regulation."

FETA commercial manager Martyn Cooper said at the same time that ensuring industry access to refrigerant going forward would be vital when considering any amendments to change the UK's commitment and reporting regime for curbing F-Gas emissions.

With manufacturers, suppliers and end users having spent time and money to ensure compliance, Mr Cooper argued for as close as possible regulatory alignment so UK and EU suppliers could continue to support each other at a time when gas supplies were being further restricted.

Mr Cooper said, "In an ideal world, you'd carry on as if nothing had happened. But clearly that isn't going to happen, therefore you need to have a UK system that mirrors as closely as possible the EU system, while not putting either party at a disadvantage."

He added, "The situation you have is that the largest quota holder under the EU system is a UK-based company. Now they don't just sell in the UK, they also sell into Europe, so equally European-based quota holders sell into the UK."

Stakeholders during the committee hearing discussed the need of considering a possible reciprocal arrangement to keep current phasedown commitments on track over the coming years.

Quota cuts

With the most significant quota cuts outlined under the F-Gas regulation coming into effect from 2018, Graeme Fox told the committee that some of the highest GWP refrigerants on the market had already doubled, and in some cases tripled, in price. He added," While this is great news for the environment, it has also put real pressure on our industry's skills base. Contractors need to be able to work with alternatives some of which are mildly flammable and many of which are not suitable for retrofitting in existing systems – this means they need to undertake further training."

Mr Fox argued that price rises of up to 60 per cent had been recorded for the refrigerants R404A and R507A in December alone.

A further 37 per cent reduction of the availability of such gases on the market next year was also driving up prices on the lower GWP alternatives as a result of increased demand, he said.

Mr Fox urged the committee during the session that as opposed to amending current F-Gas targets or regulations, the government should prioritise enforcement and compliance. He therefore pushed for more resources to be afforded to the Environment Agency to better police F-Gas regulations and welcomed the possibility of introducing civil penalties for possible infringements.

A consultation on introducing a new civil penalties for infringing F-Gas launched by the Department for Environment, Food and Rural Affairs (Defra) and the Scottish Government **closed** late last month.

RACplus, 14 December 2017, By: Neil Merrett

West Asia

10. New Plant to Recycle Harmful Chemicals in Bahrain

Image used for illustrative purpose. Technician walks inside e-waste recycle factory at Mankhal. REUTERS/Krishnendu Halder

The factory has been set up in Tubli which will start functioning within two months.

A $600,000 recycling centre to treat harmful chemicals that can contribute to ozone layer depletion will start functioning soon in Bahrain, it was revealed.

The facility in Tubli, under the Supreme Council for Environment (SCE), is supported by the United Nations Industrial Development Organisation (Unido).

It is funded from the Multilateral Fund (MLF), the financial aid mechanism set up for developing countries for their projects in line with the Montreal Protocol.

The protocol is a global treaty aimed at protecting the ozone layer by phasing out the production of numerous substances that are responsible for ozone depletion.

“We use hydrochloroflourocarbons (HCFCs) and hydroflourocarbons (HFCs) in refrigeration and people are complaining that because we are reducing the import amount of these chemicals (in compliance with the Montreal Protocol), there are concerns that the prices of these chemicals might go up,” SCE chief executive Dr Mohammed Bin Daina told the GDN.

Zawya, 14 December 2017

Featured

OZONE SECRETARIAT

• Vienna Convention and Montreal Protocol Meetings: A Primer - **Read/Download**
• **29th Meeting of the Parties to the Montreal Protocol**
• **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**

SYNTHESIS REPORTS
- **2014 assessments**
- **2010 assessments**
- **2006 assessments**

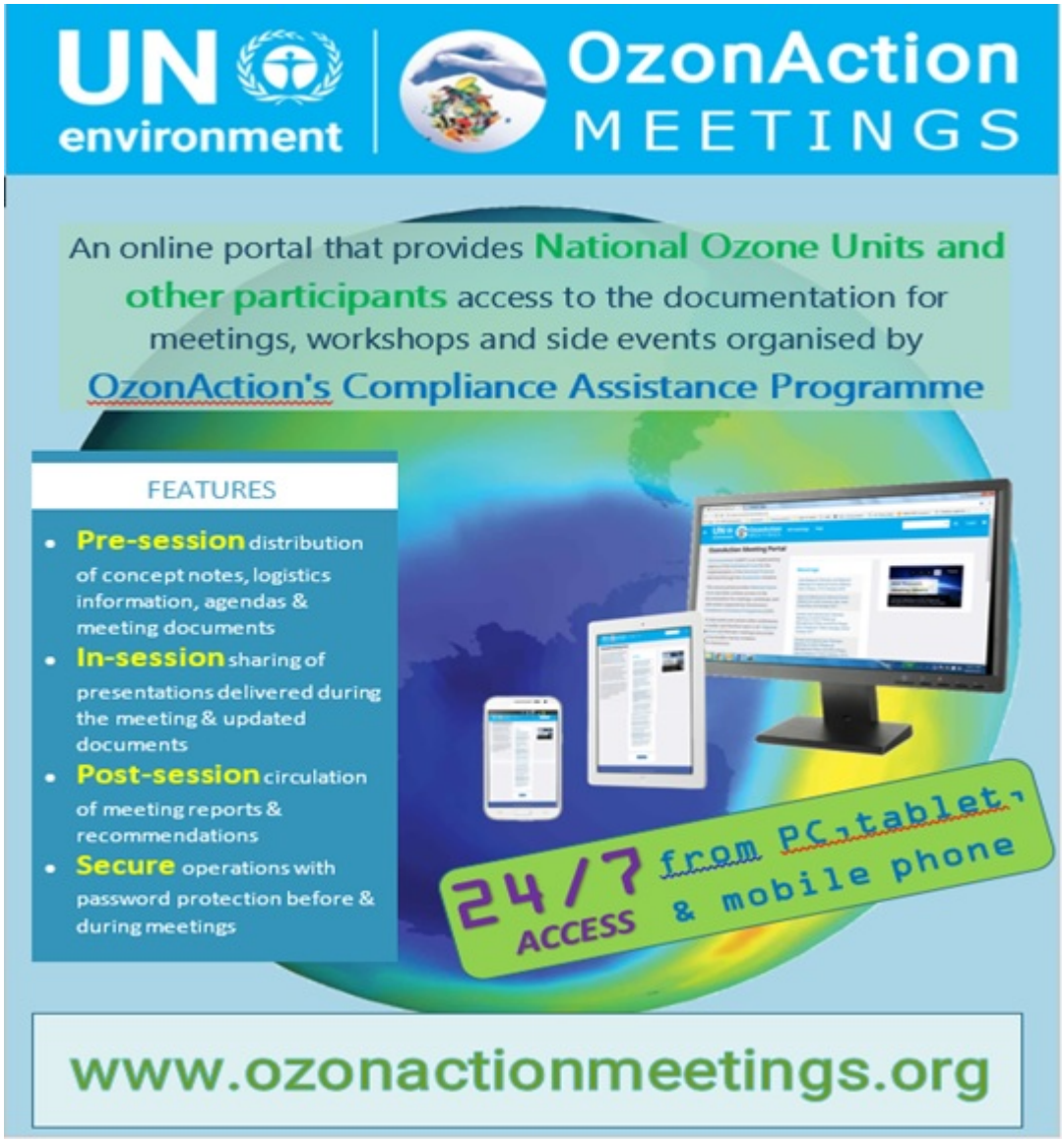
Assessment Panels List of Meetings

THE MULTILATERAL FUND FOR THE IMPLEMENTATION OF THE MONTREAL PROTOCOL

- **Report and other 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

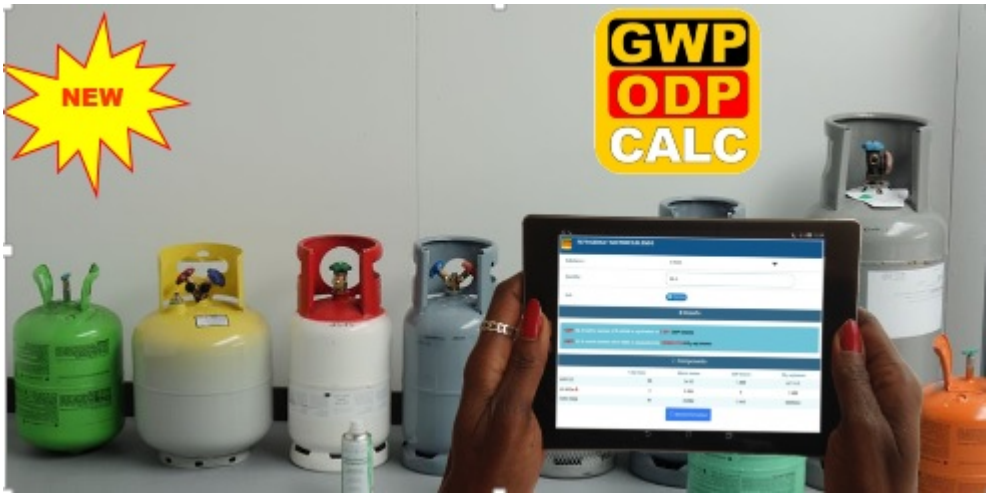
OZONACTION



Visit the OzonAction Meetings Portal and learn more about our current, upcoming, and future events

OzonAction Scoop- A tri-annual newsletter by UN Environment, OzonAction under the Multilateral Fund for the Implementation of the Montreal Protocol.

Issue#**1** | Issue#**2**



The application allow you to easily convert ODP, CO_2-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_2-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_2-eq) are also displayed.

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

Download it Now!

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

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

OzonAction Smartphone Application WhatGas?
Available for free in the Google Play and Apple IOS Store
Scan the QR code or search for "UNEP", "OzonAction" or "WhatGas?"

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

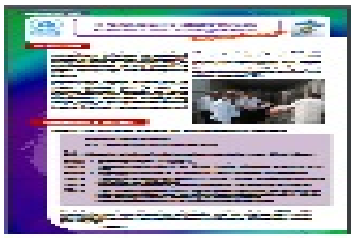
The Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer reached agreement at their 28th Meeting of the Parties on 15 October 2016 in Kigali, Rwanda to phase down hydrofluorocarbons (HFCs). The UN Environment, OzonAction developed a video to find out from renowned international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

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

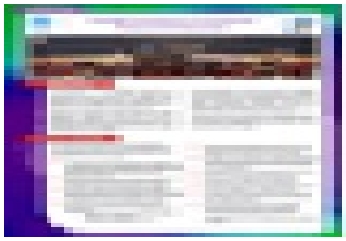
OzonAction YouTube | See also: **United Nations Treaty Collection**

OzonAction Factsheets

Click **here** to access **OzonAction Series of Fact Sheets relevant to the Kigali Amendment.**



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

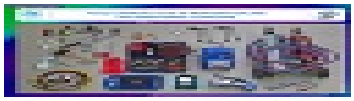


The Kigali Amendment to the Montreal Protocol: HFC Phase-down - The phase-down of HFCs under the Montreal Protocol on Substances that Deplete the Ozone Layer has been under negotiation by the Parties since 2009 and the successful agreement on the Kigali Amendment at the 28th Meeting of the Parties on 15 October 2016 in Kigali, Rwanda to phase-down hydrofluoro-carbons (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 - 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…

OzonAction Multimedia Video Application: Refrigeration and Air-conditioning Technician Video Series

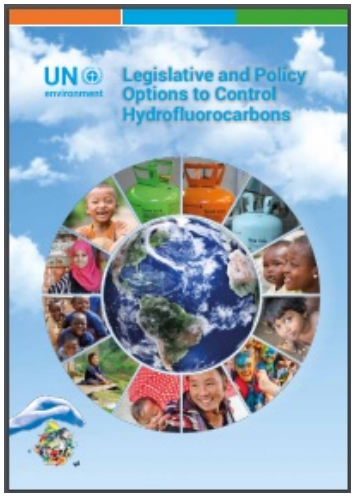
Available in the **Android Play Store** and Apple Store/iTunes.
(Just search for "OzonAction", or scan this QR code)

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.

OzonApp eDocs+ 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) countriesmay wish to consider for implementation. It is intended to be a guide/tool for countries.

Events

2018

• **AIRAH Refrigeration 2018**, 26 – 27 March 2018, Sydney, Australia

• **12th Conference on Phase-change Materials & Slurries for Refrigeration & Air Conditioning**, 21-23 May 2018, Quebec, Canada

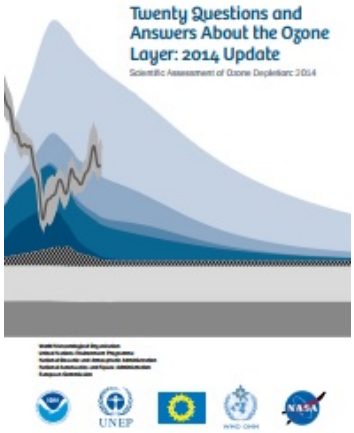
• **13th IIR-Gustav Lorentzen Conference on Natural Refrigerants**, 18-20 June 2018, Valencia, Spain

• **1st IIR International Conference on the Application of HFO Refrigerants**. 2-5 September 2018, Austin Court Conference Centre, Birmingham, United Kingdom. See other **IIR upcoming events**

Reading

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

Lead Author:
Michaela I. Hegglin
Coauthors:
David W. Fahey, Mack McFarland, Stephen A. Montzka, Eric R. Nash



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

Summary:
Fast action under the Montreal Protocol can limit growth of hydrofluorocarbons (HFCs), prevent 100 to 200 billion tonnes of CO2-eq by 2050, and avoid up to 0.5°C of warming by 2100.

Lead authors:
Durwood Zaelke, Nathan Borgford-Parnell, and Stephen O. Andersen.
Contributing authors:
Kristin Campbell, Xiaopu Sun, Dennis Clare, Claire Phillips, Stela Herschmann, Yuzhe Peng Ling, Alex Milgroom, and Nancy J. Sherman.

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" as part of the 30th Anniversary of the Montreal Protocol celebration.

The new website was launched during the 29th 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 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 men and women 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*

Artie Dubrie Wins International Award

The newest addition to the ECLAC Caribbean family, Sustainable Development Officer, Artie Dubrie, a national of Trinidad and Tobago (T&T), was one of three Caribbean citizens who were recently awarded by the Ozone Secretariat for their leadership work on policy and implementation of the Montreal Protocol (MP) on substances that deplete the ozone layer. The two other awardees were Dr. Marissa Gowrie, Deputy Environmental Manager/National Ozone Officer, at the Ministry of Planning and Development, T&T and Mr. Leslie Smith, the National Ozone Officer, Energy Division Ministry of Finance, Grenada. [...]

The Caribbean awardees were also recently honoured during a recognition ceremony hosted by the United Nations Development Programme in T&T.

issuu, January 2018

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.
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- Keep up-to-date with subscriptions to customized e-alerts on New Volumes, Topics and saved Searches.

Enhanced content and functions
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- 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**

Disclaimer:
The United Nations Environment (UNEP), Economy Division, OzonAction provides OzoNews as a free service for internal, non-commercial use by members of the Montreal Protocol community. Since its inception in January 2000, the goal of OzoNews is to provide current news relating to ozone depletion and the implementation of the Montreal Protocol, to stimulate discussion and promote cooperation in support of compliance with the Montreal Protocol. With the exception of items written by UNEP and occasional contributions solicited from other organizations, the news is sourced from on-line newspapers, journals and websites.
The views expressed in articles written by external authors are solely the viewpoints of those authors and do not represent the policy or viewpoint of UNEP. While UNEP strives to avoid inclusion of misleading or inaccurate information, it is ultimately the responsibility of the reader to evaluate the accuracy of any news article in OzoNews. The citing of commercial technologies, products or services does not constitute endorsement of those items by UNEP.
If you have questions or comments regarding any news item, please contact directly the source indicated at the bottom of each article.

Prepared by: Samira Korban-de Gobert, OzonAction
Reviewed by: Shamila Nair-Bedouelle, Head OzonAction Branch, and Ezra Clark, OzonAction

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Multilateral Fund for the Implementation of the Montreal Protocol

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