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 | 30 May 2018

In this issue:

Global

1. UN Environment statement on CFC emissions

- Report by Nature finds that the rate of decline of trichlorofluoromethane (CFC-11) in atmosphere has slowed by approximately 50 per cent since 2012.
- If emissions continue unabated, they have potential to slow down the recovery of the ozone layer.
- The Montreal Protocol has reduced the abundance of ozone-depleting substances in the atmosphere and as a result, the ozone layer is healing.

May 16, 2018 – New findings from a study released this week in Nature report that emissions of CFC-11, the second most abundant ozone-depleting gas controlled by the Montreal Protocol, have unexpectedly increased in recent years, despite a global ban on production since 2010.

These emissions partially offset gains made by the Montreal Protocol, by slowing the decline of ozone-depleting chlorine concentration in the atmosphere. The increased emissions may stem from new, unreported production of CFC-11.

In response, UN Environment issued the following statement:

While current scientific models show that the ozone layer remains on track to recovery by mid-century, continued increase in global CFC-11 emissions will put that progress at risk. The Scientific Assessment Panel of the Montreal Protocol, which includes the authors of the report, will finalize its quadrennial assessment by the end of the year and we expect these findings to be presented to the parties to the Montreal Protocol, who will carefully review and address them.

It is important to note that these findings also highlight the efficacy of the Montreal Protocol, its institutions and mechanisms, with science at their core. So long as scientists remain vigilant, new production or emission of ozone depleting chemicals will not go unnoticed.

If these emissions continue unabated, they have the potential to slow down the recovery of the ozone layer, it is therefore, critical that we take stock of this science, identify the causes of these emissions and take necessary action.

The United Nations Environment Programme, 16 May 2018

2. An unexpected and persistent increase in global emissions of ozone-depleting CFC-11


nature
International journal of science

An unexpected and persistent increase in global emissions of ozone-depleting CFC-11

Stephen A. Montzka, Geoff S. Dutton, Pengfei Yu, Eric Ray, Robert W. Portmann, John S. Daniel, Lambert Kuijpers, Brad D. Hall, Debra Mondeel, Carolina Siso, J. David Nance, Matt Rigby, Alistair J. Manning, Lei Hu, Fred Moore, Ben R. Miller & James W. Elkins

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Atmospheric dynamics
Environmental impact
Environmental monitoring

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Abstract

The Montreal Protocol was designed to protect the stratospheric ozone layer by enabling reductions in the abundance of ozone-depleting substances such as chlorofluorocarbons (CFCs) in the atmosphere1,2,3. The reduction in the atmospheric concentration of trichlorofluoromethane (CFC-11) has made the second-largest contribution to the decline in the total atmospheric concentration of ozone-depleting chlorine since the 1990s.

However, CFC-11 still contributes one-quarter of all chlorine reaching the stratosphere, and a timely recovery of the stratospheric ozone layer depends on a sustained decline in CFC-11 concentrations.

Here we show that the rate of decline of atmospheric CFC-11 concentrations observed at remote measurement sites was constant from 2002 to 2012, and then slowed by about 50 per cent after 2012. The observed slowdown in the decline of CFC-11 concentration was concurrent with a 50 per cent increase in the mean concentration difference observed between the Northern and Southern Hemispheres, and also with the emergence of strong correlations at the Mauna Loa Observatory between concentrations of CFC-11 and other chemicals associated with anthropogenic emissions.

A simple model analysis of our findings suggests an increase in CFC-11 emissions of 13 ± 5 gigagrams per year (25 ± 13 per cent) since 2012, despite reported production being close to zero4 since 2006. Our three-dimensional model simulations confirm the increase in CFC-11 emissions, but indicate that this increase may have been as much as 50 per cent smaller as a result of changes in stratospheric processes or dynamics.

The increase in emission of CFC-11 appears unrelated to past production; this suggests unreported new production, which is inconsistent with the Montreal Protocol agreement to phase out global CFC production by 2010. [...]

Nature, International Journal of Science, 16 May 2018

See also:

- UN to investigate mysterious emissions of banned ozone-damaging CFCs
- Mysterious rise in banned ozone-destroying chemical shocks scientists
- Rising emissions of ozone-destroying chemical banned by Montreal Protocol
- Mystery ozone-destroying gases linked to badly recycled fridges
- Earth's Ozone Layer Is under Attack-Again

- Improperly recycled refrigerators not enough to explain rise in ozone-eating gas

- An international team of scientists has reported that emissions of ozone-destroying chemicals have increased in the past six years despite the chemicals being banned by the Montreal Protocol

3. All nations including US will ratify 2016 climate deal: UNEP


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India's Premier News Agency

All nations including US will ratify 2016 climate deal: UNEP

By T G Biju

Kochi (Kerala), May 27 (PTI) All nations including the US and India will certainly ratify a key 2016 climate deal, hugely important for fighting climate change, UN Environment Chief Erik Solheim said

All nations including the US and India will certainly ratify a key 2016 climate deal, hugely important for fighting climate change, UN Environment Chief Erik Solheim said

About 200 nations, including India, the US and China, had struck a legally-binding deal in the Rwandan capital Kigali in 2016 after intense negotiations to phase down climate-damaging refrigerant gas hydrofluorocarbons known as HFCs that have global warming potential thousand times more than carbon dioxide

The deal, formally known as the Kigali Amendment to the Montreal Protocol, is now open for ratification and 35 nations have ratified it so far.

"The Kigali Amendment to the Montreal Protocol will for sure be ratified by all nations," Solheim told PTI in an interview here.

The statement of the Executive Director of the United Nations Environment Programme (UNEP) came amid concerns over the actions of the Donald Trump administration

The Trump administration had pulled out of the key Paris Climate Change agreement, landmark treaty to cut carbon emissions,in June 2017.

Both Paris and Kigali agreements were signed during Barack Obama's presidency

The UNEP chief said, "The United States will ratify the the Kigali Amendment to the Montreal Protocol as it is in the interest of American business" and President Trump would listen to the industry

The Kigali agreement will come into force on January 1, 2019

However, key global players including the US, China and India have not ratified the agreement so far.

"We are very very positive to the number of states which have ratified (the deal) because it is happening very fast compared to other treaties."

"India will now ratify, also the United States for their positive signals because cooling business of the United States also see this is in their very clear interest. It is good for environment," Solheim said.

The UNEP chief, currently visiting India, said he was sure that India, the key driver of the amendment to the Protocol, will ratify it. He said he would talk to Indian authorities about it.

The agreement reached by 197 parties on the amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer is expected to prevent a global temperature rise of up to 0.5 degrees Celsius by the end of the century, while continuing to protect the ozone layer

According to the amendment, developed nations will reduce HFC use first, followed by China

India and nine other nations of South and West Asia will follow suit

Overall, the deal is expected to reduce HFC use by 85 per cent by the year 2045.

"Phase down of HFCs will happen faster than the people believe and faster than the agreement," the UNEP chief said

He said, "Montreal Protocol on Substances that Deplete the Ozone Layer,which is the platform, is the best to all environment agreement made in the whole history."

"Every nation has delivered. You see the ozone layer coming back. Now we decided to phase out climate gases, which is very good. The next big step is to make the cooling industry much more energy efficient," he said

Solheim was in the city to visit the Cochin International Airport, the world's first fully solar-powered airport.

Press trust of India, 27 May 2018

4. Air conditioning use emerges as one of the key drivers of global electricity-demand growth

The growing use of air conditioners in homes and offices around the world will be one of the top drivers of global electricity demand over the next three decades, according to new analysis by the International Energy Agency that stresses the urgent need for policy action to improve cooling efficiency.

A new IEA report – "The Future of Cooling" – shows that without new efficiency standards the world will be facing a "cold crunch" from the growth in cooling demand in coming decades.

Global energy demand from air conditioners is expected to triple by 2050, requiring new electricity capacity the equivalent to the combined electricity capacity of the United States, the EU and Japan today. The global stock of air conditioners in buildings will grow to 5.6 billion by 2050, up from 1.6 billion today – which amounts to 10 new ACs sold every second for the next 30 years, according to the report.

Using air conditioners and electric fans to stay cool already accounts for about a fifth of the total electricity used in buildings around the world – or 10% of all global electricity consumption today. But as incomes and living standards improve in many developing countries, the growth in AC demand in hotter regions is set to soar. AC use is expected to be the second-largest source of global electricity demand growth after the industry sector, and the strongest driver for buildings by 2050.

Supplying power to these ACs comes with large costs and environmental implications. One crucial factor is that the efficiency of these new ACs can vary widely. For example, ACs sold in Japan and the European Union are typically 25% more efficient than those sold in the United States and China. Efficiency improvements could cut the energy growth from AC demand in half through mandatory energy performance standards.

"Growing electricity demand for air conditioning is one of the most critical blind spots in today's energy debate," said Dr Fatih Birol, the Executive Director of the IEA. "With rising incomes, air conditioner ownership will skyrocket, especially in the emerging world. While this will bring extra comfort and improve daily lives, it is essential that efficiency performance for ACs be prioritized. Standards for the bulk of these new ACs are much lower than where they should be."

The report identifies key policy actions. In an Efficient Cooling Scenario, which is compatible with the goals of the Paris Agreement, the IEA finds that through stringent minimum energy performance standards and other measures such as labelling, the average energy efficiency of the stock of ACs worldwide could more than double between now and 2050. This would greatly reduce the need to build new electricity infrastructure to meet rising demand.

Making cooling more efficient would also yield multiple benefits, making it more affordable, more secure, and more sustainable, and saving as much as USD 2.9 trillion in investment, fuel and operating costs.

The rise in cooling demand will be particularly important in the hotter regions of the world.

Today, less than a third of global households own an air conditioner. In countries such as the United States and Japan, more than 90% of households have air conditioning, compared to just 8% of the 2.8 billion people living in the hottest parts of the world.

The issue is particularly sensitive in the fastest-growing nations, with the biggest increase happening in hot countries like India – where the share of AC in peak electricity load could reach 45% in 2050, up from 10% today without action. This will require large investments in new power plants to meet peak power demand at night, which cannot be met with solar PV technology.

"Setting higher efficiency standards for cooling is one of the easiest steps governments can take to reduce the need for new power plants, and allow them at the same time to cut emissions and reduce costs," said Dr Birol.

"The Future of Cooling" is the second IEA report that focuses on "blind spots" of the global energy system, following the "The Future of Trucks," which was released in July 2017. The next one in this series – "The Future of Petro-Chemicals" – will examine ways to build a more sustainable petrochemical industry. It will be released in September.

International Energy Agency (IEA), 15 May 2018

5. The secret behind Mali's early Kigali ratification

It all dates back to the history of Mali, a desert and land-locked country where climate change plays a huge role.

After the adoption of the Kigali Amendment in October 2016, the Malian delegation was at the Marrakech Climate Change conference where the Paris Agreement entered into force. One recommendation of the Marrakech conference was to ratify the Kigali Amendment. All responsible politicians of the Government of Mali were in Marrakech; the Head of State, as Head of the African group of climate change negotiations, the Foreign Minister, the Minister of Agriculture, the Minister of Energy, the Minister of Economy and eleven parliamentarians, representatives of the Council of local collectivities.

The call of the two conventions on climate was heard! The National Ozone Unit (NOU) wrote a technical note on the Kigali Amendment with recommendations to the Minister of Foreign Affairs who presented it to the Council of Ministers who in turn agreed on it in February 2017. So the fastest way was selected: acceptance. On 24 March 2017, Mali's Foreign Affairs sent the Permanent Representative of Mali to the UN in New York the instrument of acceptance, to forward to the UN Secretary General. On 31 March 2017, it was announced that Mali was the first country in the world to ratify the Kigali Amendment. Subsequently other countries requested assistance from Mali in their ratification process and the NOU provided guidance.

A good political synergy between the government and legislature is the key to success, as parliamentarians are included in all important environmental meetings. They are involved in every step of the process. There is always an Environmental Commission in Parliament which must be involved.

The success of the ratification of the Kigali Amendment is an action for the fight against climate change. It promotes the success of the Paris Agreement as the Kigali Amendment is in line with it.

The NOUs should involve the government as success is obtained through cooperation.

UN environment, OzonAction, May 2018

Latin America and Caribbean

6. Kigali enabling activities workshop for Latin America and Caribbean countries

UNDP held a workshop in Panama City, Panama, from May 9 to 11, 2018 to discuss the implementation of Enabling Activities under the Kigali Amendment in Latin America and the Caribbean which received the funding from the Multilateral Fund for the Implementation of the Montreal Protocol. The workshop was attended by 36 participants from countries within the LAC region.

The purpose of the workshop was to discuss the Kigali Amendment, information requirements, work with customs, the situation with alternative technologies, etc. The Workshop also provided possibilities for bilateral discussion with the technical experts who are supporting UNDP in the implementation of these projects.

The workshop proved to be an excellent opportunity for discussion among the countries that are developing these activities, that ideas and lines of action will emerge, which will allow the countries to be in the best position to face the challenges and take advantage of the opportunities that the implementation of the Kigali amendment.

The participants suggested that additional workshops should take place in order to discuss further about the implications of the implementation of the Kigali Amendment within the LAC region.

Workshop's Agenda

Contact: Ajiniyaz Reimov, UNDP, Montreal Protocol

7. Grenada stores promote natural refrigerants on refrigerator stickers

The Caribbean island of Grenada's National Ozone Unit (NOU) – whose slogan is, "Protect the Ozone Layer, it protects you!" – announced that two local appliance stores are affixing NOU-provided magnetic stickers to every refrigerator declaring the use of natural refrigerants.

The natural refrigerant in question is isobutane (R600a), the hydrocarbon refrigerant widely used outside of the U.S. (where the charge limit of 57 g limits its use).

"This appliance uses Natural Refrigerants," the green, blue and white stickers states, adding, "Naturally Cool, Climate Friendly, Energy Efficient."

Two local appliance stores in St. George's, Grenada – Courts grenada Limited (UNICOMER) and L A Purcel – have aligned with a natural refrigerant promotion program organized by NOU and the Cool Contributions fighting Climate Change (C4) Project. The C4 Project includes the countries of Grenada, Costa Rica, Philippines, Vietnam, and Iran.

"This initiative is part of the NOU's trust to replace the high global warming refrigerants (such as R-134a) that [are] used in these appliances with alternatives that are environmentally friendly and at the same time more energy efficient," said the NOU in a statement on its website.

R600a, the statement said, "has very good thermodynamic properties and very good cooling capacity."

Other advantages, the statement said, include energy efficiency, low cost, less refrigerant charge, operation at lower temperatures (extending the life of compressors) and quieter operation.

hydrocarbons21, 25 May 2018, By: Michael Garry

8. Gov't approves national guidelines for AC, refrigeration sector [Trinidad and Tobago]

The Government [Trinidad and Tobago] has approved national guidelines for the air conditioning and refrigeration sector.

This was revealed by Planning Minister Camille Robinson-Regis via a statement issued on Friday.

According to the release, these guidelines are in keeping with the Government's goal of 'Placing the environment at the centre of social and economic development' as stated in the National Development Strategy, Vision 2030.

"The Government has given priority to these Guidelines because protection of the ozone layer and climate change have been identified as global environmental problems since the early nineteen eighties and is recognized as some of the most crucial environmental issues of the 21st century."

Ozone layer depletion is caused primarily by gases used in the air conditioning and refrigeration industry, which underpins many important sectors which contribute to the national economy namely the food, fishing, health, tourism and industrial sectors.

The main gas or refrigerant used is known as hydrochlorofluorocarbons (HCFCs) which not only cause depletion of the ozone layer, a natural ultraviolet filter found in the atmosphere but is also a potent greenhouse gas that contributes to the warming of the earth.

The National Guidelines for Good Refrigeration Practices has been developed by the National Ozone Unit (NOU), Environmental Policy and Planning Division, Ministry of Planning and Development and supports the regulatory framework for the total phase-out of Ozone Depleting Substances (ODS) in Trinidad and Tobago by recommending technological options and best practices to reduce the demand for ODSs.

These National guidelines are designed to:

1. Define minimum standards of good practices for servicing refrigeration and air conditioning systems,

2. Act as a resource document in technicians training and the development of training materials,

3. Help to initiate communication between relevant stakeholders, including service companies from the informal sector,

4. Reduce ODS consumption in a cost-effective manner,

5. Help ensure a smooth transition from ODS to non-ODS refrigeration technology by allowing existing refrigeration systems to run until the end of their useful life, thereby avoiding premature replacement, and

6. Improve safety quality.

It is intended that the guidelines be used as a reference resource for the reduction of refrigerant hydrochlorofluorocarbons (HCFC) and hydrofluorocarbons (HFC) emissions into the atmosphere.

It applies to the industrial/commercial, residential domestic appliances, marine refrigeration and air conditioning, mobile refrigeration and mobile air conditioning sectors.

In developing the guidelines, direction was sought from the Guidebook for Implementation of Guidelines of Good Practice – Refrigeration Sector, developed by UNEP and the Multilateral Fund for the Implementation of the Montreal Protocol, and other guidelines of practice developed and in use by other countries in the Region.

The majority of good practices recommended in those publications have been included in Trinidad and Tobago's Guidelines.

In addition, consultations were held with representatives of the Trinidad and Tobago National Ozone Unit (NOU), refrigeration and air conditioning technicians, relevant stakeholder sector groups and other Government Agencies including the Trinidad and Tobago Bureau of Standards, Customs and Excise Division and the Trade Licensing Unit.

A total of 71 refrigeration and air conditioning company representatives and technicians, other relevant stakeholder sector groups, and 19 government agencies attended these stakeholder engagement sessions or provided written comments which aided in the development of the final document.

There was the general consensus that the guidelines are beneficial and will enhance the quality of the air conditioning and refrigeration industry.

Loop News, 25 May 2018

North America

9. UF/IFAS researchers may use fungi to control deadly crop disease

GARY VALLAD INSPECTING TOMATOES AT THE GULF COAST REC IN BALM FLORIDA.
UF/IFAS PHOTO: TYLER JONES

A group of fungi might fight a disease that's dangerous to tomatoes and specialty crops. University of Florida scientists hope to develop this biological strategy as they add to growers' tools to help control Fusarium wilt.

Tomatoes are the number one vegetable crop in Florida. In 2017, approximately 28,000 acres of tomatoes were commercially harvested, with a production value of $262 million, UF/IFAS economists say.

Using a $770,000, three-year grant from the USDA, Gary Vallad, associate professor of plant pathology, hopes to harness the advantages of fungi known as trichoderma to fight Fusarium wilt.

Vallad will work on the project with Seogchan Kang, Beth Gugino and Terrence Bell from the department of plant pathology and environmental microbiology at Pennsylvania State University and Priscila Chaverri from the department of plant science and landscape architecture at the University of Maryland.

Scientists hope to use trichoderma to supplement various pest-management methods to help control Fusarium wilt, Vallad said.

Trichoderma are ubiquitous fungi in soil and on plants, and they have been used in agriculture as biological control agents, he said.

UF/IFAS researchers have used trichoderma to try to control pathogens, but with little to no success. With this new round of research, they hope to understand what factors limit the fungus' benefits as a biological control agent, Vallad said. That way, they hope to develop ways to increase its ability to control Fusarium wilt.

Growers began using other fumigants as methyl bromide was gradually phased out from 2005 until it was completely phased out of use in 2012, Vallad said. As growers tried various ways to control diseases, including alternative fumigants, they saw a re-emergence in soil-borne pathogens and pests on many specialty crops, including tomatoes, peppers, eggplant, watermelon, cantaloupes and strawberries, Vallad said.

When the project starts July 1, UF/IFAS researchers will do most of their experiments on trichoderma at the GCREC, but they'll also use crops from commercial farmers during the project.

Vallad emphasizes that their research goes beyond Florida's borders. Studies in Pennsylvania and Maryland will likely focus on small to medium-sized farm operations.

"We are focusing on tomato production Florida, Maryland and Pennsylvania," he said. "We hope that our findings will help improve management of Fusarium wilt with trichoderma-based biological control agents."

AG Net, 23 May 2018, By: Brad Buck, University of Florida Institute of Food and Agricultural Sciences

10. HVAC&R firms urge Trump to refer Kigali Amendment to Senate

Letter to president signed by Hillphoenix, Danfoss North America, Emerson, Johnson Controls, Lennox International and Structural Concepts and 26 others.

In a letter on May 18 to President Donald Trump – and copied to Secretary of State Mike Pompeo – 32 top executives of HVAC&R companies urged that he submit the Kigali Amendment to the Montreal Protocol to the U.S. Senate for ratification.

The Kigali Amendment, which calls for a global phase-down of HFCs, has so far been ratified by 35 of 197 signatory nations, and will go into effect for ratified nations on January 1, 2019.

The companies represented in the letter include Hillphoenix, Danfoss North America, Emerson, Johnson Controls, Lennox International and Structural Concepts.

"We believe this action will help secure a position of strength for American companies in a highly competitive global market for next generation air conditioning, refrigeration, thermal insulation, aerosols, medical uses, fire suppression, semiconductors and other technologies that utilize fluorocarbons," said the letter, signed by member manufacturers of the Alliance for Responsible Atmospheric Policy and Air-Conditioning, Heating, and Refrigeration Institute (AHRI).

"With Senate ratification," it continued, "comes American technological leadership, and a head-start for American industry in the global race to provide the world with state-of-the-art products."

The letter pointed out the original Montreal Protocol was ratified unanimously in 1987 during the Reagan Administration.

It also noted studies showing that ratification of the Kigali amendment will increase U.S. manufacturing jobs by 33,000, increase exports by $5 billion, and improve the overall balance of trade for these products. It said 589,000 Americans are currently employed in HVAC&R industries.

"On the other hand," the letter added, "failure to ratify the Kigali Amendment could transfer the current competitive advantage from America to other countries, like China."

Other companies represented in the letter include Fujitsu General America, Modine Manufacturing, Beckett Gas, Desert Aire, Goodman Global Group, Trolex Corp., RenewAire, Morrison Products, Marvair and ICE Divisions of Airxcel, Rheem Manufacturing, Ingersoll Rand, A-Gas, Arkema, Daikin Applied Americas, SMARDT Chillers, Daikin America, Chemours, Nortek Global, Sanhua, Dynatemp International, UTC Climate, Falcon Safety Products, National Refrigerants, Dow Chemical, Honeywell and Hudson Technologies.

r744 29 May 29 2018, By Michael Garry

West Asia

11. Euro trainers behind Bahrain F-gas move

Two top European training companies have helped Bahrain to establish an F-gas certification scheme and have assessed the teachers who will be the assessors of the future.

Twenty-two teachers and assessors from multiple nationalities and different languages working in this small island in the middle of the Arabian Gulf completed a five-day workshop at the end of April

It was organised by Italian training centre Centro Studi Galileo (CSG) in association with Business Edge, the UK-based training provider. Business Edge has been working with CSG since 2011, certifying nearly 1000 Italian contractors ahead of Italy's implementation of the certification system.

The United Nations Environment Programme, the Bahrain Supreme Council for Environment, the Bahrain Society of Engineers and Bahrain Excellent Center in Ministry of Education were partners of the project which seeks to build a training course programme and certification scheme based on the European F-gas regulations.

All the participants came from different regions, Arabic countries, India, Pakistan and the Philippines. The candidates successfully passed their theoretical test to a high standard. On this occasion the theoretical test followed the Italian certification scheme and was applied in a way to follow the proposed constituted Bahraini law on refrigerant management.

CSG reports that the candidates also performed well during the practical tests but a few best practices needed some improvement. In particular this related to tighter and stricter leakage control and tightness of the system, while performing good brazing and refrigerant recovery techniques.

Global training
In an ongoing global training project, Centro Studi Galileo training director Dr Marco Buoni is working alongside UNEP, local and state governments and environmental agencies to develop and expand a programme for training in the Gulf Region.

Dr Buoni recently met with colleagues from UNEP and representatives from Tunisia, Bahrain, Kuwait and Qatar with the aim of creating the first blueprints for official national certification schemes for each of these countries. The adoption of such a scheme is intended to promote the uptake of training for the refrigeration, air conditioning, energy efficiency sector and the safe management of equipment containing greenhouse gases in the Gulf Region.

As well as authorities from Bahrain, Dr Buoni also met with collaborators in Kuwait and Qatar, where he discussed plans and recommendations on moving forward with the national certification schemes.

CoolingPost, 15 May 2018

Europe & Central Asia

12. Stop using R404A – now on video

The leading European contractor and manufacturers' groups campaigning to stop the use of high GWP refrigerants R404A and R507 have now produced a video.

Following on from its multi-lingual publication with the stark message "If you want to stay in business, you have to stop installing R404A/R507A – now!", the group has now produced a short video on the same theme.

The video by industry group partners EPEE, AREA, EFCTC and ASERCOM complements the brochure and serves as an additional medium to communicate important messages to the installers across Europe.

Just like the brochure, the video has been developed in a number of languages – Dutch, English, French, Italian, Romanian and Spanish.

All these versions are available on the AREA Youtube channel.

CoolingPost, 22 may 2018

Featured

OZONE SECRETARIAT

Ozone Secretariat congratulates Susan Solomon for Crafoord Prize

Photo: Vicki McKenna

The Ozone Secretariat today congratulated long-term collaborator Dr. Susan Solomon for her 2018 Crafoord Prize in Geosciences, awarded "for fundamental contributions to understanding the role of atmospheric trace gases in Earth's climate system".

Sharing the award – and 6 million kronor, equivalent to about $690,000 – is Princeton University senior meteorologist Syukuro Manabe.

Dr. Solomon's work in the 1980s on proving chlorofluorocarbons (CFCs) and other ozone-depleting substances were depleting the ozone layer and allowing dangerous ultraviolet radiation to leak through contributed to the creation of the Montreal Protocol.

Dr. Solomon – the Lee and Geraldine Martin Professor of Environmental Studies at MIT – has in the three decades since supported ozone action and led research showing the phase down of CFCs under the Protocol is allowing the ozone layer to heal. [...]

• 40th Meeting of the Open-ended Working Group of the Parties to the Montreal Protocol, 11-14 July 2018, Vienna, Austria
• 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

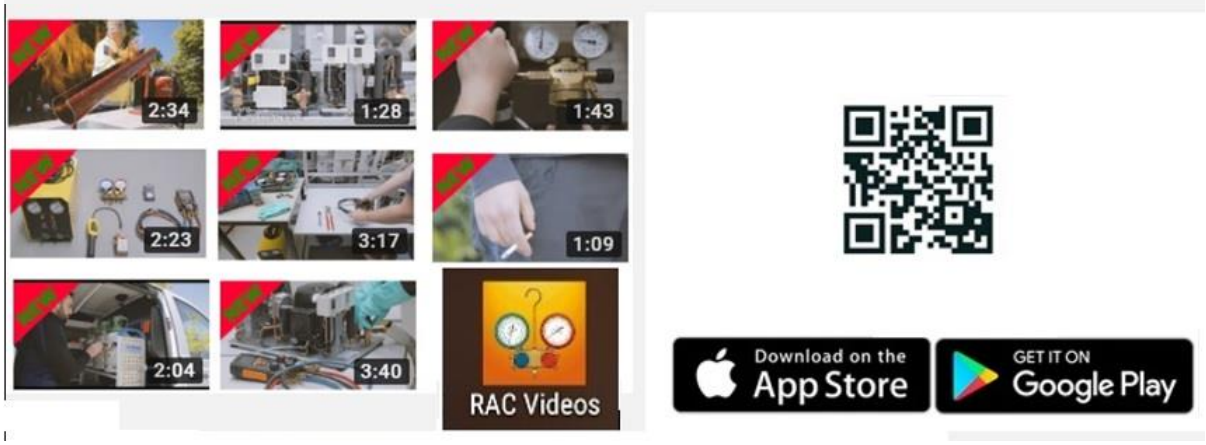
Assessment Panels List of Meetings

THE MULTILATERAL FUND FOR THE IMPLEMENTATION OF THE MONTREAL PROTOCOL

- 2018 Executive Committee Primer
- 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



New videos available on the OzonAction RAC video application

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

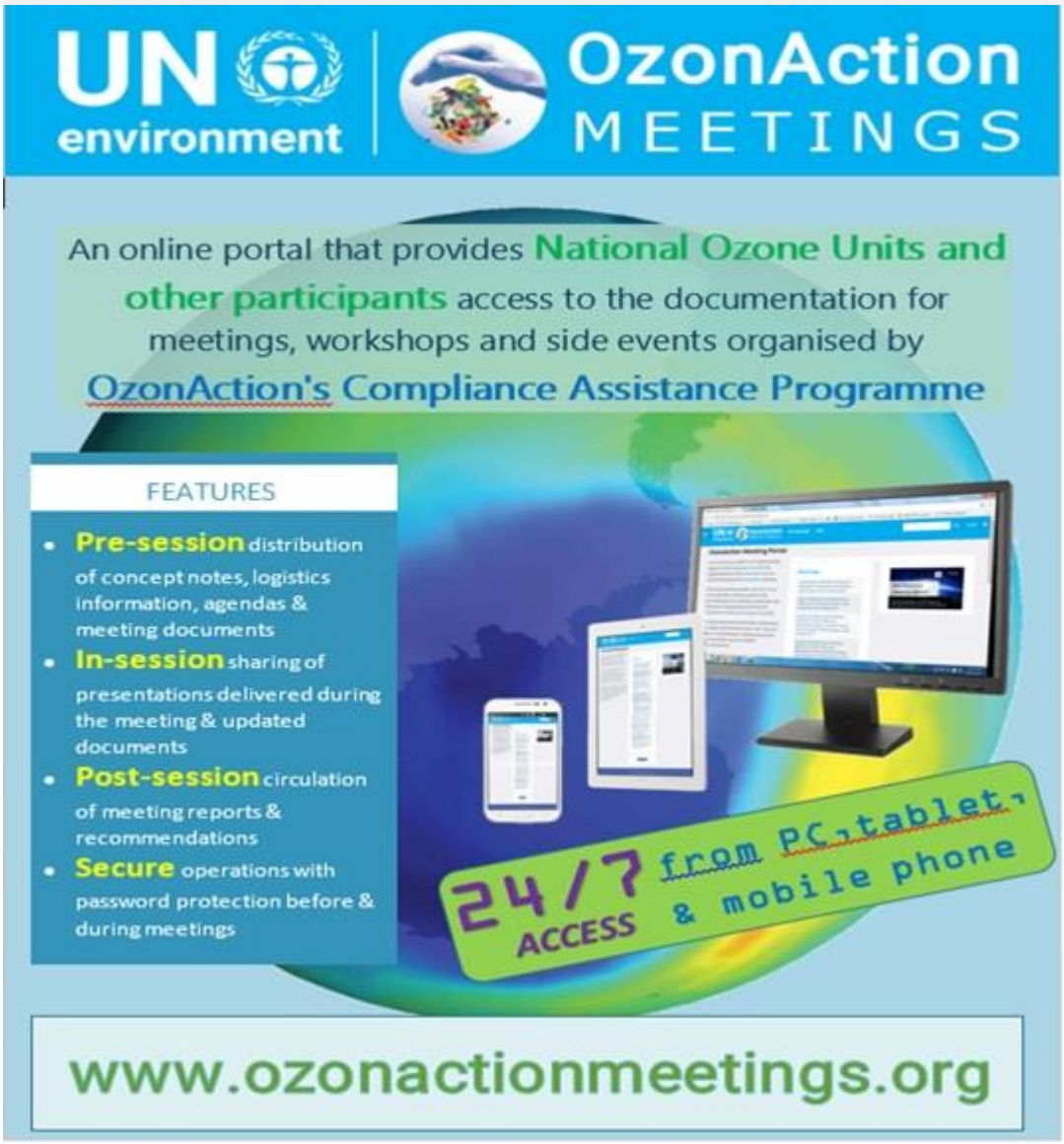
50,000 downloads and counting!

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

OzonAction launches initiative to highlight 'Women in the refrigeration and air-conditioning sector'

OzonAction, in cooperation with UN Women, is seeking to collect experiences and short ‘stories’ from women working in the refrigeration and air-conditioning (RAC) sector. From female service technicians to installers, from designers to trainers, from manufactures to RAC associations, UN Environment OzonAction are looking to highlight your experience...
"Women in the RAC Sector" flyer | Submission Form

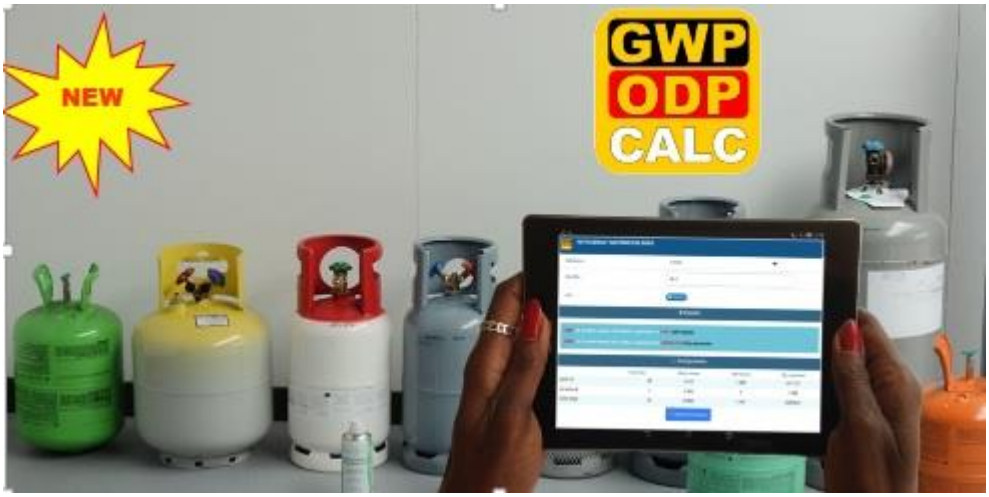
Learn more UN Environment, OzonAction, March 2018



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

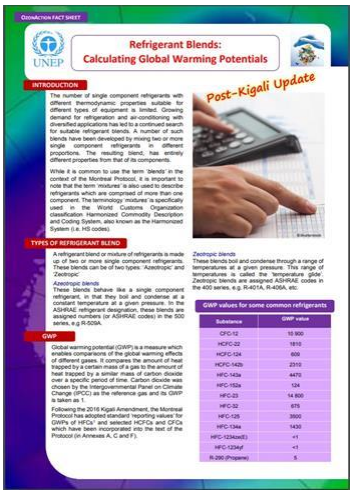
OzonAction Factsheets

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 - 50,000 download to date - OzonAction has launched an exciting new application which hosts series of short instructional videos on techniques, safety and best practice for refrigeration and air-conditioning technicians.

This application, consisting of short instructional videos on techniques, safety and best practice, serves as a complementary training tool for refrigeration and air-conditioning (RAC) sector servicing technicians to help them revise and retain the skills they have acquired during hands-on training.

New videos on flammable refrigerants just added!

Please share with your RAC associations, technicians and other interested stakeholders…

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

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

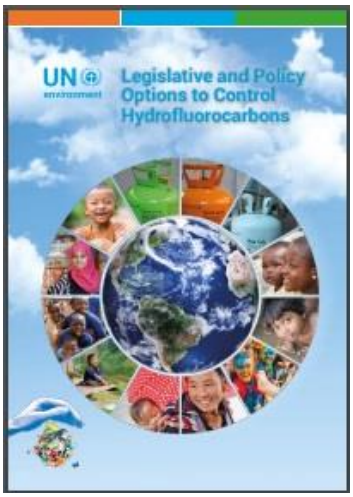
OzonApp eDocs+ launched in Android Play Store and Apple Store.

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

Twinning of National Ozone Officers and Energy Policymakers - Under the Kigali Cooling Efficiency Program (K-CEP), UN Environment is implementing a two-year "twinning" project to build the capacity of National Ozone Officers and national energy policymakers for linking energy efficiency and Montreal Protocol objectives in support of the Kigali Amendment.



Legislative and Policy Options to Control Hydrofluorocarbons

In order to follow and facilitate the HFC phase-down schedules contained in the Kigali Amendment, the Parties, including both developed and developing countries, will have to implement certain measures.

This booklet contains a recommended set of legislative and policy options which the developing (Article 5) countries may wish to consider for implementation. It is intended to be a guide/tool for countries.

Events

2018

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

• 9th Ibero-American Congress of Refrigeration Science and Technology, 19-21 June 2018, Valencia, Spain

• 24th International Compressor Engineering Conference at Purdue
• 17th International Refrigeration and Air Conditioning Conference at Purdue
• 5th International High-Performance & Green Buildings Conference at Purdue
9-12 July 2018, West Lafayette, Indiana, USA

• International Conference on Emerging Technologies for Sustainable and Intelligent HVAC&R Systems, 27-28 July 2018, Kolkata, West Bengal, India

• Solar Heating and Cooling Forum, 9 August 2018, Brisbane, Qld, Australia

• 25th International Congress of Refrigeration, 24-30 August 2018, Montreal, Canada

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

• The Future of HVAC Conference 2018, 12–13 September, Melbourne, Australia.

• 3rd IIR Conference on Cold Application in Life Sciences 2018, 12-14 September 2018, St. Petersburg, Russia

• 3rd IIR Conference on Cold Application in Life Sciences 2018, 12-14 September 2018, St. Petersburg, Russia

• 8th International Conference on Magnetic Refrigeration at Room Temperature (Thermag VIII), 16-20 September 2018, Darmstadt, Germany

• Healthcare ColDays, 15 November 2018, Lyon, France,

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 CO_2-eq by 2050, and avoid up to 0.5°C of warming by 2100.

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

The IIR International Dictionary of Refrigeration **Available in 11 languages**, the complete version of the International Institute of Refrigeration (IIR) International Dictionary of Refrigeration is now freely accessible online.

The IIR International Dictionary of Refrigeration offers researchers, industrialist or administrations the practical resources required to produce content related to refrigeration technologies in multiple languages.
This online tool allows you to find definitions, in English and French, of scientific and technical terms, as well as identify terms in the language of your choice and find corresponding translations in the 10 other languages.
The dictionary provides term searches in Arabic, Chinese, Dutch, English, French, German, Italian, Japanese, Norwegian, Russian and Spanish.

The dictionary in numbers:
− more than 4,300 terms in English and French, including 800 synonyms,
− around 3,500 definitions in English and French,
− approximately 7,800 terms, synonyms and definitions
− content in 11 languages.

This international tool is the result of the work of nearly 200 experts, members of the IIR network, from around 30 countries throughout the world.

The dictionary's content covers all areas of refrigeration such as:
− basic principles (thermodynamics, transfer of heat and mass …)
− production of refrigeration (refrigerated systems, refrigerants…)
− refrigerated installations
− methods of chilling, refrigeration and freezing
− storage, transport and distribution
− refrigeration applications for perishable products and the agro-food industry
− air conditioning
− heat pumps
− cryogenics
− environment

Access the International Dictionary of Refrigeration on the IIR website

Refrigerants: There is still no vision for sustainable solutions
by Risto Ciconkov
Letter to the Editor, International Journal of Refrigeration
Abstract and highlights

University of Birmingham."Draining peatlands gives global rise to greenhouse laughing-gas emissions." ScienceDaily, 28 March 2018.

Miscellaneous

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

The United Nations Environment, OzonAction, in collaboration with Marco Gonzalez and Stephen O. Andersen are updating and expanding the "Montreal Protocol Who's Who" 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.

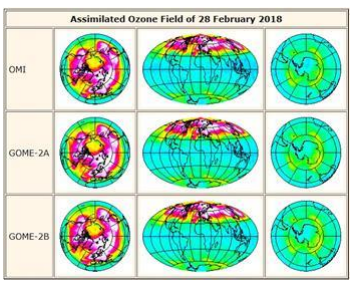
• View the «Montreal Protocol Who's Who» **introductory video**

• Contact : Samira Korban-de Gobert, UN Environment, OzonAction

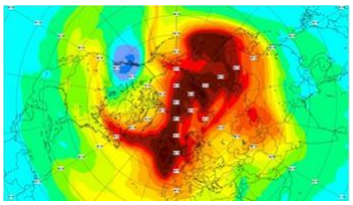
** If you are already nominated, no need to resubmit your profile*

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



TEMIS -- Near-real time global ozone field. The in near-real time delivered total ozone columns, derived from satellite observations, are input to a data assimilation program which provides global ozone fields for today and a forecast for the coming days.



Copernicus Atmosphere Monitoring Service. Since 7 February, CAMS has predicted the appearance of an ozone mini-hole over western Canada around 12-13 February. The 5-day forecast from the ECMWF Copernicus Atmosphere Monitoring Service (CAMS) showed the location of this ozone mini-hole and predicted its shape and size. This prediction was broadly consistent with other leading global atmospheric composition forecasting centres. Satellite observations acquired on 12 and 13 February data assimilation actually confirmed these predictions. "It is a nice way for us to show that our models really work and can accurately predict these kinds of events," says Mark Parrington, senior scientist for CAMS...

CLIMATE & CLEAN AIR COALITION TO REDUCE SHORT-LIVED CLIMATE POLLUTANTS

CLIMATE & CLEAN AIR AWARDS

The 2018 Climate & Clean Air Awards are now open for nominations! For the 2nd consecutive year, we are calling on the SLCP community to recognise the projects and policies making an impact on climate change and air pollution.

AIRAH Awards 2018 nominations now open! The AIRAH Awards recognise the individuals, companies, research projects and products across the diverse specialist fields that make up the HVAC&R industry. Open to individuals, companies, corporate bodies, institutions and government authorities, the 2018 Awards will recognise work carried out during 2016/2017.

Current and previous OzoNews Issues, are available from OzonAction website

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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
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UN environment

Multilateral Fund for the Implementation of the Montreal Protocol

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