See online

Volume XIX | 28 February 2019

In this issue:

Global

1. OzonAction second global inter-regional meeting, ‘Join the Experts’ sessions and parallel network meetings for national ozone officers

UN Environment Programme (UNEP) OzonAction organized the Second OzonAction Global Inter-Regional and Parallel Networks Meeting for National Ozone Officers from 17-20 February 2019 on the premises of UNESCO headquarters in Paris, France. These events were organised by the OzonAction Compliance Assistance Programme (CAP) as part of UNEP’s work programme as an Implementing Agency of the Multilateral Fund for the Implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer.

This event was designed to help National Ozone Officers from Article 5 (developing) countries address emerging needs under the Protocol’s hydrochlorofluorocarbon (HCFC) phase out and to prepare for the ratification and initial implementation phase of the Kigali Amendment, which entered into force on 1 January 2019. The meetings reviewed the progress made in the regions and facilitated the sharing of experiences with regards to the implementation of the Montreal Protocol. It was designed around the following themes:

- Preparing countries to meet the 35% HCFC phase out target and compliance monitoring
- Exploring the link between the ongoing HCFC phase out and the hydrofluorocarbon (HFC) phase down
- Considering data reporting requirements, data collection strategies and “data monitoring”
- Reviewing legislation, licensing and quota systems to address Kigali Amendment requirements
- Strengthening enforcement strategies to control trade in HCFCs/HFCs and combatting illegal trade
- Reviewing the needs and options in the refrigeration servicing sector
- Understanding technology markets, barriers and opportunities.

The 315 participants included National Ozone Officers from 129 Article 5 countries, representatives from four countries with economies in transition, representatives from ten non-Article 5 countries/bilateral agencies and the European Union, experts from 13 international organsiations, non-governmental organisations, industry associations, and professional associations, members of the Technology and Economic Assessment Panel and the Refrigeration Technical Options Committee, the Multilateral Fund Secretariat, the Ozone Secretariat, Implementing Agencies (UNDP, UNIDO, World Bank), UNEP, and observers.

UN Environment, OzonAction February 2019

2. Ms. Inger Andersen of Denmark - Executive Director of the United Nations Environment Programme (UNEP)

Following her nomination by United Nations Secretary-General António Guterres, the General Assembly today elected Inger Andersen of Denmark to a four-year term as Executive Director of the United Nations Environment Programme (UNEP).

Serving as Director General of the International Union for Conservation of Nature since 2015, Ms. Andersen brings a passion for conservation and sustainable development with more than 30 years of experience in international development economics, environmental sustainability and policy-making, as well as in designing and implementing projects and generating on-the-ground impact from working with a small Non-Governmental Organization in Sudan to multilateral and international settings with a constant focus on poverty eradication.

Ms. Andersen has held various leadership positions at the World Bank and United Nations, most recently as Vice President of the Middle East and North Africa Region at the World Bank (2011-2015) and Vice President for Sustainable Development and Head of the Consultative Group of International Agricultural Research Fund Council (2010-2011).

Throughout her 15-year career at the World Bank, her managerial roles focused on water, environment, and sustainable development with special emphasis on Africa and the Middle East. She further worked at the United Nations for 15 years, starting in the United Nations Sudano-Sahelian Office (UNSO) working on drought and desertification issues, and was then appointed United Nations Development Programme (UNDP) Global Environment Facility Coordinator for the Arab Region.

Ms. Andersen's educational background includes a BA from London Metropolitan University North and a MA degree from the School of Oriental and African Studies at the University of London with specialisation in development economics.

The Secretary-General wishes to extend his appreciation and gratitude to the Deputy Executive Director of UNEP, Joyce Msuya of Tanzania, for her service as Acting Executive Director.

United Nations Secretary-General, 20 February 2019

3. 2018 Quadrennial Assessments by EEAP and TOCs

The UN Environment, Ozone Secretariat recently informed that the Montreal Protocol's Environmental Effects Assessment Panel (EEAP) and the Technical Options Committees (TOCs) of the Technology and Economic Assessment Panel have released their quadrennial reports for 2018.

The EEAP report is available on the Secretariat's website. The assessment reports on key findings on the environment and health since the last full assessment of 2014, paying attention to the interactions between ozone depletion and climate change. It highlights the contribution of the Montreal Protocol to environmental sustainability, human health and well-being, and the alignment with many of the UN Sustainable Development Goals.

The TOCs' assessment reports They are reports by the Refrigeration, Air Conditioning and Heat Pumps Technical Options Committee (RTOC), Methyl Bromide Technical Options Committee (MBTOC), Rigid and Flexible Foams Technical Options Committee (FTOC), Halons Technical Options Committee (HTOC) and Medical and Chemicals Technical Options Committee (MCTOC).

The assessment reports are also posted on the meeting portal as background documents for the 41st Meeting of the Open-ended Working Group of the Parties to the Montreal Protocol to be held in Bangkok, Thailand, from 1 to 5 July 2019.

UN Environment, Ozone Secretariat, February 2019

4. UN Environment-OzonAction Joins World Refrigeration Day Partnership

The United Nations Environment Programme (UNEP) OzonAction has joined the growing coalition of partners around the world that are supporting World Refrigeration Day (WRD), a newly established annual celebration of the refrigeration, air conditioning and heat-pump sector's myriad contributions to societal goals – including environmental protection.

The first celebration, "WRD-2019," will take place this 26 June and thereafter on the same day each year. OzonAction became a WRD supporter given the extremely important role that this sector plays in ensuring the continued success of the Montreal Protocol on Substances that Deplete the Ozone Layer.

The announcement was made jointly on 18 February by Dr. Shamila Nair-Bedouelle, Head of OzonAction, and Stephen Gill, WRD Secretariat, during the plenary session of the Second Global Inter-Regional and Parallel Networks Meeting for National Ozone Officers recently in Paris. Organized by OzonAction, that meeting addressed national Montreal Protocol obligations and included current priority topics such as promotion of low-global warming potential refrigerants in developing countries and encouraging best practices in the refrigeration servicing sector.

WRD-2019 offers an excellent opportunity to raise awareness of how refrigeration, air conditioning, and heat pump technology and science contribute to modern life and the protection of human health and the environment.

The establishment of WRD is an initiative of industry trade associations and professional bodies that represent many of the millions of women, men, and enterprises who work in this key sector across the world. The supporters include organisations from Africa, Australia, Europe, India, the Middle East, New Zealand, Pakistan, Philippines, Thailand, and the United States. OzonAction is the first United Nations body to join this coalition, which have all united in establishing June 26th as World Refrigeration Day.

The term 'refrigeration' is used by WRD in its widest sense as the process of achieving and maintaining a required temperature below that of its surroundings. An example of refrigeration is the preservation and distribution of perishable food products. Refrigeration systems are also used extensively for providing thermal comfort to human beings by means of air-conditioning. Similarly, heat-pumps are devices that take heat from one source and move it to another location.

Ayman Eltalouny, OzonAction's Coordinator of International Partnerships, said: "We fully commend the idea of World Refrigeration Day for its creative novelty and its contribution to bringing attention to the refrigeration and air conditioning industry and its involvement in our daily life. UNEP OzonAction is very interested in cooperating with international partners and is delighted to see that WRD is endorsed by many heating, ventilation, air conditioning and refrigeration associations around the globe, which will help to further promote it across developing countries."

Stephen Gill of the WRD Secretariat said: "We are delighted to be partnering with UNEP OzonAction to promote WRD using the themes 'Sound Management of Refrigerants' and 'Diversity'. Refrigeration connects many of the UN Sustainable Development Goals, so WRD is an opportunity to raise awareness of it."

All of the supporting organisations have indicated that they will be celebrating the day as an annual event. For its part, OzonAction will encourage all National Ozone Units in developing countries to join in the celebrations, and it will work with the WRD Secretariat to jointly develop tools to help with the national celebrations. This will include seminars and workshops, on-site training campaigns, skills competitions, special events for consultants, contractors and end-users, technical brochures and promotional material.

A website is currently under construction but nearing completion and should be live very soon. Until then, events and updates may be found through twitter @worldrefday

Any organisation or individual wishing to support World Refrigeration Day can contact Steve Gill.

5. ASHRAE/UNEP Lower-GWP Refrigeration and Air Conditioning Innovation Award

What Is Lower-GWP Refrigeration and Air-Conditioning Innovation Award?

The award promotes innovative design, research and practice by recognizing people who have developed or implemented innovative technological concepts applied in developing countries to minimize global warming potential (GWP) through refrigeration and air-conditioning management.

Who Are the Awarding Organizations?
Award recipients will be recognized by ASHRAE and UN Environment.

How Often Is the Award Issued/Awarded?
Annually

What Are the Award Categories?
First Place and Honorable Citation awards are made in two categories:

- Residential Applications
- Commercial/Industrial Facilities

What Are the Entry Criteria?
The award promotes innovative design, research and practice by recognizing people who have developed or implemented innovative technological concepts applied in developing countries to minimize global warming potential (GWP) Refrigerants.

How Do I Enter for the Award
ENTER FOR THE AWARD

The submission form requires descriptive responses to each of the following:

- Description of innovation in field of lower-GWP refrigerants
-Project/Applicant details (description must include confirmation project has been implemented and date of implementation)
- Extent of need.
- Description and goal of the research, design, practice or project
- Naming of low GWP refrigerants used and description of associated refrigerant management practices associated with the lower GWP refrigerants
- Environmental impact achieved including specific reference to the GWP chemicals' contribution
- Further application of project
- Financial feasibility in developing countries and economic impact of the research, design or practice
- Photographs illustrating the project and tables, figures or charts that present statistical data demonstrating the project's successful performance or experimental findings are encouraged to be provided with the application.

When Does the Entry Period Begin and End?

Submission of entries for 2019 awards will be accepted between January 2019 and May 15, 2019.

How are the Winners Selected?
The winners in each category will be selected based on innovative solutions for designs, practice or research using lower-GWP technologies. The selection will take into account the following criteria:

- Extent of need (25%);
- Innovative aspects in transforming conventional practices (25%);
- Technical replicability to developing countries (25%); and
- Economy feasibility to developing countries (25%).

What Happens to the Winning Projects

Winning projects will be publicized by both organizations, and the First Place recipients will receive a stipend to receive their award at a UN Environment event. UN Environment, represented by the Law Division (OzonAction), and ASHRAE have a Memorandum of Understanding to establish technical cooperation and mutual coordination toward providing professional technical services to the refrigeration and air-conditioning stakeholders (governmental, private, and public). The organizations work to ensure that up-to-date related technical information and standards are properly introduced and promoted. ASHRAE is a worldwide technical society of more than 57,000 individual members.

Lower-GWP Refrigeration and Air-Conditioning Innovation Award flyer

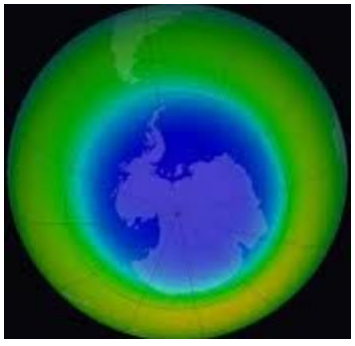
Contact:

Ayman Eltalouny, International Partnerships Coordinator OzonAction-UNEP

W. Stephen Comstock, Manager of Business Development EMEA, ASHRAE

Africa

6. Zimbabwean scientists discover ‘ozone hole’ over South Africa



A team of Zimbabwean researchers has discovered an “ozone hole” over South Africa that is centred over the Free State Province during spring, which impacts on temperature and rainfall levels, according to findings published in the Journal of Frontiers in Earth Science.

Lead author, Professor Desmond Manatsa, a climate science expert at Bindura University of Science Education (BUSE) and his colleague, Professor Geoffrey Mukwada from Free State University made these stunning

revelations whilst working under the “Afromontane Research Unit Project” that is based at the Free State University of South Africa.

Ozone (O3) is an “allotrope” of oxygen — a form of oxygen that is different to O2, the gas that makes up 21% of the atmosphere.

Ozone is formed from oxygen in a reversible reaction.

The ozone layer is the part of the upper atmosphere where ozone is found in the highest concentrations.

The ozone there absorbs ultraviolet radiation, preventing most of it from reaching the ground. This is important because ultraviolet radiation can lead to skin cancer.

In simple terms, it is a shield high in the sky protecting us from potentially lethal solar radiation.

Prof Manatsa and Prof Mukwada found that when the ozone hole develops in certain spring seasons, the temperatures are observed to rise significantly and while drying the region especially the Free State Province.

But when the “ozone hole” fills up considerably, the sub-region becomes cooler and wetter. These novel findings constitute the strongest evidence yet that ozone has a significant direct impact on the climate of South Africa.

South Africa’s “Ozone Hole,” ever to be discovered over any continent outside the polar regions represents a discovery that is “at the frontier of science” and has recently been published in the Journal of Frontiers in Earth Science.

“This research was prompted by the steep contrast on the heat from the sun that was rather ‘scorching’ during my spring season visit to Free State University in 2015 compared to the subsequent same period visit in 2017 when the sun appeared cooler,” said Prof Manatsa, a gold medal recipient of the Japanese Society for the Promotion of Science (JSPS) award for Ozone Impact Research on Southern Africa

“What puzzled me is that this unexplained sun’s heating difference between the two periods could easily be distinguished on one’s skin especially in October under similar clear sky and calm.

“That is when it occurred to us that there should be something within the clear skies that was allowing the sun’s heat to significantly filter through in 2015 while considerably eating up the heat from the sun in 2017. We then reasoned that the most likely gas with such propensity to alter the energy coming from the sun under clear sky and calm conditions should be ozone.”

The ozone layer resides in the stratosphere (upper part of the atmosphere) which surrounds the entire Earth. This layer considerably absorbs the ultraviolet (UV-B) radiation from the Sun.

As a result, the amount of UV-B reaching Earth’s surface is greatly reduced, hence basically the ozone layer acts as a shield to protect the Earth.

However, Prof Manatsa said, when depleted more UV-B filters in to heat the lower atmosphere and the surface where it has been found in this research to have a direct impact on the climate of South Africa.

On the other hand, ozone’s depletion in the ozone layer may have dire consequences on the well being of the community as it allows more UVB to reach the surface of the earth. It has been known that human exposure to relatively large amount of UV-B increases the risk of skin cancer, cataracts, and a suppressed immune system and can also damage terrestrial plant life and aquatic ecosystems.

“Ozone depletion has always been a global issue needing urgent attention. For example, just over 30 years ago, when scientists discovered an environmental crisis that was attributed to the ozone hole over the Antarctica (South Pole), policies were quickly put in place to ban the offending chemicals popularly known as the ozone depleting substances under the auspices of the Montreal Protocol of 1987 and its subsequent amendments,” said Prof Manatsa.

This protocol has since been ratified by 196 states and the European Union, making it the first treaty in United Nations history to be universally adopted. As a result there is now growing evidence indicating that the Montreal Protocol is working as intended.

“Now it appears that as the ozone hole has taken a backseat in the minds of the public, a fresh crisis appear to have arisen, adding a new dimension to the already known perils of climate change over South Africa,” the Zimbabwean climate expert said.

“The ozone hole is not technically a “hole” where there is virtually no ozone, but is actually a region of exceptionally depleted ozone in the upper part of the atmosphere (stratosphere). Unlike to the causes for the development of the ‘ozone hole’ over the Antarctic where the depletion is caused by chemical reactions that are enhanced by the ozone depleting substances, that over South Africa has been linked to the Brewer Dobson circulation.”

This circulation, he noted, is more pronounced during Southern Hemisphere spring (August–October) where it transports ozone in the stratosphere from the tropics to the subtropics, the region of South Africa’s location.

The “ozone hole” that is centred over Free State of South Africa, develops when this circulation is enhanced in some years thereby rapidly transporting more ozone diluted air, as what has occurred more often after 1997 due to global warming.

Prior to 1997, he said, the “ozone hole” was not that apparent since the transported air had predominantly adequate ozone concentrations.

“As such, as long as global warming intensifies, so does the ozone hole over South Africa. This means that the ozone depletion cannot yet be ticked off the country’s environmental watch list,” Prof Manatsa said.

“Unlike the chemical ozone depletion which is being reduced through limiting the emissions of ozone depleting substances under the Montreal Protocol, climate change is also confounding the way this environmental issue can be scientifically tackled as it is the global warming which appears to deepen the ozone hole over South Africa by enhancing the Brewer Dobson circulation.

“This makes it unrealistic to expect the spring ozone layer over South Africa to ever return to its pre-depletion state (pre 1997) without solving global issues related to restricting global warming.”

While the South African government works itself into frenzy about environmental issues, this demonstrated evidence entails that they should not ignore the situation above the country’s clouds.

“When you see such local discoveries, you don’t have to start debating statistics. It appears in this work the scientists have demonstrated their case very clearly.

“As such we must do the needful by probing deeper rather than brush it aside as just one of those usual research findings’, said one of the experts familiar with this work.

“We now hope that we can find yet additional impacts of the ‘ozone hole’ on the health of society, agriculture and ecosystems during the period, that outside what we demonstrated on the impacts on temperature and rainfall”, said co-author Prof Mukwada.

The Southern Times Africa, 25 February 2019

Original Research Article:
Spring Ozone's Connection to South Africa's Temperature and Rainfall

7. Ban of the use of Methyl Bromide as a fumigant for pests control in crops (Nigeria)


NATIONAL AGENCY FOR FOOD AND DRUG ADMINISTRATION AND CONTROL
NAFDAC
Home Food Drugs & Medical Devices Herbals & Cosmetics Vaccines & Biologics Chemicals

Ban Of The Use Of Methyl Bromide As A Fumigant For Control Of Pests In Crops

February 20, 2019,

The National Agency for Food and Drug Administration and Control wishes to draw the attention of the general public and in particular the agro dealers on **ban of use of Methyl Bromide as a fumigant** in pest control.

Methyl bromide is colourless, odourless, noncorrosive and non-flammable, highly toxic to a broad spectrum of insects from egg to the adult stage. It was primarily used as a fumigant in stored product pest management.

Methyl bromide is a Class I Ozone Depleting Substance (ODS). It depletes the Ozone layer due to release of bromine atom upon the break down of the molecule. Methyl Bromide is a scheduled chemical under the Montreal Protocol for Substances that Depletes the Ozone Layer and was placed on a Phase-out Procedure from 2001. Nigeria effected the phase out of Methyl Bromide by January 2015 and since then the product has not been permitted for importation into the country.

Methyl Bromide is an extremely toxic vapour. In humans, Methyl Bromide is readily absorbed through the lungs. Most problems occur as a result of inhalation. Methyl Bromide is a dangerous cumulative poison. First symptoms often are due to damage to the nervous system, and may be delayed from 48 hours to as long as several months after exposure. This delay, combined with methyl bromide's lack of odour, means that the victim may not realize that exposure is occurring until much time has passed.

Information is available to the Agency that some unscrupulous individuals have been illegally importing Methyl Bromide for use as pesticide in Nigeria. NAFDAC is currently carrying out surveillance to identifying such illegal importers and they would be severely sanctioned in line with our extant laws.

Farmers, exporters of Agricultural produce and Agro input dealers are hereby advised to desist from using Methyl Bromide as a pesticide. Safer alternatives are available. Contact nearest NAFDAC office for advice on safer alternatives.

Anybody in possession of Methyl Bromide should submit it to the nearest NAFDAC office.

DG NAFDAC

NAFDAC:.....Safeguarding the health of the Nation!!!

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The National Agency for Food and Drug Administration and Control (NAFDAC), 20 February 2019

Latin America and Caribbean

8. Piden no usar espumas con R-22 por daño a la salud (Bolivia)

Estudiantes, durante las fiestas de Carnaval del año pasado. Fotos: José Lavayén-archivo

Según el comunicado 04/2019 de la Intendencia Municipal de La Paz, está prohibida la comercialización de espumas con HCFC o R-22 para evitar efectos negativos en la salud humana, que incluso llegan hasta el cáncer en la piel.

Las espumas ilegales pueden contener R-22 o hidroclorofluorocarbono (HCFC), un químico que causa manchas y alergias en la piel, además de irritación en los ojos y daños respiratorios, advierten expertos. En La Paz hay 10 marcas autorizadas.

Defensa del Consumidor de la Alcaldía de La Paz alertó de que en la ciudad circulan espumas ilegales que ponen en riesgo la salud de las personas. Nelson Quispe, técnico de la unidad, especificó que los productos con el compuesto R-22 gastan la capa de ozono y provocan irritación en la piel.

Según el comunicado 04/2019 de la Intendencia Municipal de La Paz, está prohibida la comercialización de espumas con HCFC o R-22 para evitar efectos negativos en la salud humana, que incluso llegan hasta el cáncer en la piel.

Por ello, la intendenta municipal, Velma Vargas, recomendó a la población verificar si la marca tiene registro sanitario y si es parte de las 10 autorizadas para la ciudad, las cuales obtuvieron el permiso de venta luego de aprobar las pruebas dermatológicas.

Dichos exámenes se hicieron mediante laboratorio y consistieron en descartar la presencia de hidroclorofluorocarbono. Las pruebas se realizaron a las marcas que cuentan con el registro sanitario del Servicio Nacional de Sanidad Agropecuaria e Inocuidad Alimentaria (Senasag).

Entre las marcas legales para su comercialización están Rey Momo, Reina Mora, Alegría Carnavalera y Soy tu espuma de Carnaval (ver listado).

En 2018, el Ministerio de Salud instó a los servicios departamentales de Salud (Sedes) a intensificar los controles de este producto para sacar del mercado aquellos que ponen en riesgo la salud “por ser un propulsor de aerosol que destruye la capa de ozono en la atmósfera y afecta la salud humana”.

El contacto con el líquido de esa espuma provoca varios efectos. Si la persona inhala los compuestos químicos, puede sentir somnolencia y confusión mental.

La Intendencia también recomendó que al momento de utilizar las espumas, en las fiestas de carnaval, se evite su alcance en la boca, los ojos, la nariz y los oídos.Quispe señaló que una vez usado el producto, éste debe ser desechado, porque se corre el riesgo de que sea envasado con una espuma “trucha”, que puede contener el compuesto R-22.

La Alcaldía de La Paz, a través de una ordenanza, también prohibió la comercialización de máscaras que no cumplan con los cinco orificios mínimos de respiración, por seguridad para el usuario. Éstas no deben desprender pintura al interior y exterior.

De igual forma está vetada la venta de maquillaje de rostro y cuerpo, así como pintura para el cabello sin registro sanitario.

El Ministerio de Salud advirtió que también existe el riesgo de químicos en estos productos, que puedan dañar la piel.

Para realizar las denuncias en caso de venta de espumas o pinturas sin registro sanitario, o máscaras sin medidas mínimas de seguridad, durante las fiestas de Carnaval, la Intendencia habilitó la línea gratuita 800 14 0218.

La Razón, 26 February 2019, By: Aleja Cuevas

North America

9. R-22 leaks cost fisheries giant $24 million (USA)

Seattle based fisheries giant Trident Seafoods Corporation has agreed to reduce emissions of ozone-depleting substances from refrigeration equipment on its vessels, under a proposed settlement with the U.S. Environmental Protection Agency and U.S. Department of Justice to resolve alleged violations of the Clean Air Act.

Under the settlement, Trident will spend up to $23 million to reduce coolant leaks from refrigerators and other equipment, use alternative refrigerants, and improve company-wide compliance. The company will also pay a $900,000 civil penalty.

Trident and its subsidiaries Royal Viking Inc and Golden Dawn LLC own and operate four factory processor vessels, one freighter vessel, nearly 30 catcher and tender vessels, and 10 land-based facilities in Alaska and the Pacific Northwest. In most of these vessels and facilities, according to EPA, Trident uses ozone-depleting HCFCs in its refrigeration appliances in sizes ranging from less than 50 pounds of refrigerant to greater than 5,000 pounds of refrigerant.

“As a result of today’s settlement, Trident Seafoods will implement common-sense methods to reduce releases of ozone depleting refrigerants into the atmosphere,” said EPA Pacific Northwest Regional Administrator Chris Hladick. “With millions of pounds of refrigerants still in circulation in the U.S., it’s imperative that companies properly maintain and repair their appliances to ensure these don’t leak out and harm the ozone layer.”

EPA alleged that Trident violated the Clean Air Act by failing to promptly repair leaks of the refrigerant R-22, an ozone-depleting hydrochlorofluorocarbon (HCFC). EPA says that Trident’s failures allowed its appliances to leak refrigerant at high rates for thousands of days, causing over 200,000 pounds of harmful refrigerant to be released into the atmosphere.

Trident will retrofit or retire 23 refrigeration appliances used on 14 marine vessels to use an alternative refrigerant that does not harm the ozone layer compared to typical refrigerants. Trident agreed to retrofit nine of these appliances as part of a Supplemental Environmental Project. According to EPA, because of these retrofits, nearly 100,000 pounds of harmful refrigerant will be removed from use, and future leaks will not damage the ozone layer.

As part of the settlement, Trident will also conduct routine leak inspections of all appliances, promptly repair leaks, install leak detectors to monitor appliances for leaks, add fluorescent dye into appliances to assist staff in detecting leaks, compile information to assist in identifying common failure points on appliances, and train employees to properly manage the appliances.

In addition, the settlement sets a corporate-wide refrigerant leak cap and requires Trident to retain a third-party auditor to review the company's compliance with the consent decree and regulations.

The total estimated emission reductions from this settlement are equal to the amount from over 143,000 passenger vehicles driven in one year, the CO_2 emissions from 734 million pounds of coal burned, or the carbon sequestered by over 790,000 acres of forests in one year.

The Clean Air Act's National Recycling and Emission Reduction Program governs the management of ozone-depleting substances and implements the United States' mandates under the 1991 Montreal Protocol on Substances that Deplete the Ozone Layer. EPA regulations require that owners or operators of industrial refrigeration equipment that contains over 50 pounds of ozone-depleting refrigerants repair leaks within 30 days, verify and document leak repairs and servicing. The regulations also prohibit appliances from being opened by people other than specially trained certified technicians and require the use of certified refrigerant recovery devices when appliances are opened.

Between 2009 and 2016, says EPA, Trident violated these regulations on numerous occasions. In addition to its failures to repair leaking appliances, Trident also failed to create adequate servicing and compliance records on at least 289 occasions. Trident also, at times, used uncertified technicians to perform work on refrigerant equipment and used inadequate refrigerant recovery equipment.

The proposed settlement was lodged in the U.S. District Court for Alaska on February 15 and is subject to a 30-day public comment period and court approval. View the settlement here

MarineLog, 20 February 2019, By Nick Blenkey

10. CFC Certification Course via CARS OnDemand


INDIE/GARAGE

CFC Certification Course via CARS OnDemand

by Andrew Ross | Feb 26, 2019 | Featured, General News, Indie Garage | 0 comments

"Canada's Ozone Layer Protection Awareness Program" Training April 2 & 9 or April 3 & 10, 2019

Course registrations are due by March 15, 2019

Recently, the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) in conjunction with Environment Canada, has updated the "CFC/HCFC/HFC Control in the Refrigeration and Air Conditioning Industry" Training Program.

The Code of Practice which the course is based on has been revised, resulting in this updated course.

The new course, titled "Canada's Ozone Layer Protection Awareness Program," still provides the same certification required to purchase and handle refrigerants across Canada, frequently knows as ODS (Ozone Depletion Substances) or ODP (Ozone Depletion Prevention) certificates.

CARS presents this newly updated "Canada's Ozone Layer Protection Awareness Program" training via CARS OnDemand. CARS OnDemand will be hosting two groups of this two-part course; April 2/9 at 12 p.m. Eastern or April 3/10 at 5pm Eastern. CARS OnDemand subscribers have the ability to register for this live broadcast training series.

This certification course delivered via CARS OnDemand is hosted by a live instructor at scheduled sessions, allowing participants to phone in with questions during the broadcast. Students receive training over two modules of lessons to write the government's certification exams directly after the second module.

Participating in Certification Training via CARS OnDemand allows you to take the training in your own shop, without the need to travel to a traditional classroom setting.

Group 1:
Tuesday, April 2, 2019 – 12pm to 3:30pm (Lesson 1)
Tuesday, April 9, 2019 – 12pm to 3:30pm (Lesson 2)

Group 2:
Wednesday, April 3, 2019 – 5pm to 8:30pm (Lesson 1)
Wednesday, April 10, 2019 – 5pm to 8:30pm (Lesson 2)

Students must attend both modules in either group. Times listed are Eastern. CARS OnDemand students must pre-register for this special course.

Recently, the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) in conjunction with Environment Canada, has updated the "CFC/HCFC/HFC Control in the Refrigeration and Air Conditioning Industry" Training Program.

The Code of Practice which the course is based on has been revised, resulting in this updated course.

The new course, titled "Canada's Ozone Layer Protection Awareness Program," still provides the same certification required to purchase and handle refrigerants across Canada, frequently knows as ODS (Ozone Depletion Substances) or ODP (Ozone Depletion Prevention) certificates.

CARS presents this newly updated "Canada's Ozone Layer Protection Awareness Program" training via CARS OnDemand. CARS OnDemand will be hosting two groups of this two-part course; April 2/9 at 12 p.m. Eastern or April 3/10 at 5pm Eastern. CARS OnDemand subscribers have the ability to register for this live broadcast training series.

This certification course delivered via CARS OnDemand is hosted by a live instructor at scheduled sessions, allowing participants to phone in with questions during the broadcast. Students receive training over two modules of lessons to write the government's certification exams directly after the second module.

Participating in Certification Training via CARS OnDemand allows you to take the training in your own shop, without the need to travel to a traditional classroom setting. [...]

Course registrations are due by March 15, 2019
Learn more/Register

Indie Garage, 26 February 2019, By: Andrew Ross

Asia Pacific

11. Restricted refrigerant gas seized (Papua New Guinea)

The Conservation and Environment Protection Authority (Cepa) has confiscated about 36 bottles of refrigerant gas R-22 from a shop in Port Moresby. It said the gas was brought in illegally.

The authority is looking for the directors of Pacific Coast Corporation Ltd (PCCL), [...]

According to Cepa, the refrigerant hydrochlorofluorocarbons-22 (HCFC-22) or commonly known as R-22, is an Ozone-depleting substance and its import and use in PNG was regulated under the Environment Act 2000.

“Cepa is currently administering a system requiring an Environment Permit and Prior Consent Notice for R-22 refrigerants be issued before they are imported,” Cepa said in the statement.
“And permit holders who applied to import and issued permits annually are given certain quota to import and they cannot go beyond that.

“If they go beyond, it will incur serious legal implications.”
Cepa managing director Gunther Joku said the target was to eliminate the use of R-22 in PNG by 2025 as stated under the regulated import reduction schedule and approved retailers are observing it.

According to internal investigation done by Cepa, PCCL illegally imported about 1152 cylinders of R-22 valued at K75,505 into the country in September.

“Our officers have done their own investigation by going to the shops that have sold the R-22 and enquired for the supplier which then linked them to PCCL.”

The 36 15kg bottles of R-22 refrigerant were all confiscated from a hardware store that had bought them from PCCL to resell.

Offenders will have to pay a fine of K100,000 or face imprisonment of not more than five years.

The National, 15 February 2019, By: Luke Kama

12. More to be done for environment (Fiji)

While Fiji continues to phase out hydrochlorofluorocarbons (HCFCs), more needs to be done to counter efforts in protecting the environment and the ozone layer, Minister for Environment Hon. Dr Mahedra Reddy said today. [26 February 2019].

He made the comments while addressing a Stakeholder Meeting on Fiji’s Roadmap to hydrochlorofluorocarbons (HCFC) Phase-out and Transition to Low GWP (Global Warming in Nadi.

“We have phased out CFCs, carbon tetrachloride, pure halons and put a restriction on non- quarantine use of Methyl bromide and HCFCs while the Fijian Government over the years, has worked together with UN

Environment, the Multilateral Fund and UNDP in the implementation of the Montreal Protocol at the national level. Phasing out ODS as scheduled under the Montreal Protocol has been a national priority and will continue to be a priority for Ministry of Waterways and Environment," he said.

"Fiji continues to be committed in the phasing out of hydrochlorofluorocarbons (HCFCs) by 2030."

Attended by stakeholders from the various sectors who deal with such products, Minister Reddy reaffirmed the collaboration to better inform and raise awareness on the current work done in the management of refrigerants, and be updated on plans and policies in place for a smoother transition to alternatives low GWP when HCFC is phased out.

"Not all is over yet. More needs to be done and events like this mark the continuous effort we are putting in place to safeguard the ozone layer and environment as a whole. Over the last decade, we have seen an effective introduction of environmentally friendly alternatives," Minister Reddy added.

The Ministry, he says, appreciated the efforts of the stakeholders for their readiness to make the transition to Low GWP (Global Warming Potential) alternatives as per the targets under Montreal Protocol.

"While such undertaking is often impeded by technological challenges, your support in working together with the Ministry in its work manage ozone-depleting substances (ODS) has ensured that the transition to ozone-friendly and low-GWP technologies are achieved."

Fiji Times, 26 February 2019

West Asia

13. Technical education teachers are trained to obtain an environmental license in refrigeration (Bahrain)

معلمو التعليم الفني يتدربون للحصول على الرخصة البيئية في التبريد

جانب من البرنامج التدريبي "الرخصة البيئية في التبريد".

تعاونت وزارة التربية والتعليم مع كل من المجلس الأعلى للبيئة وجمعية المهندسين البحرينية في تنفيذ مشروع الرخصة البيئية في التبريد، من خلال مشاركة معلمي أقسام التبريد والتكييف بمدارس التعليم الفني والمهني في البرنامج التدريبي المؤهل للحصول على هذه الرخصة، وذلك في إطار التزام مملكة البحرين بالمعاهدة الدولية التي تنص على تخفيض نسبة استخدام وسائط التبريد الحالية، بسبب تأثيرها على طبقة الأوزون ودورها في تكوين مشكلة الاحتباس الحراري.

ويهدف المشروع إلى نشر الوعي البيئي بمخاطر استخدام وسائط التبريد لدى العاملين في مجال التبريد والتكييف، وإلزامهم بالتقيد بالتشريعات والقوانين ذات العلاقة، وتدريبهم على الممارسات العملية السليمة، والتعريف بالتكنولوجيا الجديدة والوسائط البديلة الصديقة للبيئة.

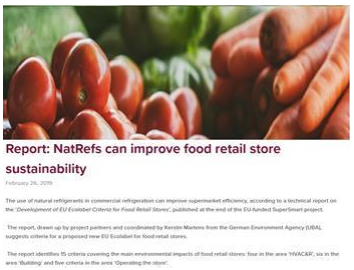
وقد تعرف المشاركون خلال تطبيق الجانب النظري من البرنامج على معايير الأمن والسلامة، وأساسيات التبريد والتكييف، والتأثيرات البيئية للغازات الحالية على طبقة الأوزون ومساهمتها في مشكلة الاحتباس الحراري، كما تعرفوا خلال الجزء العملي على عملية اللحام وفق التوجهات الحديثة، وحساب الأحمال الحرارية في دوائر التبريد، وعمليتي التفريغ والشحن، إضافةً الى عملية سحب الغازات من المكيفات.

هذا ويعتبر مركز التميز للتعليم الفني والمهني بوزارة التربية والتعليم هو الجهة المسؤولة عن توفير المدربين المؤهلين ذوي الكفاءة لقيادة هذا البرنامج، والقاعات المجهزة والمناسبة لتنفيذ المشروع. ويأتي تدريب معلمي التكييف والتبريد بالتعاون مع معهد جاليليو الإيطالي، وتحت اشراف خبراء دوليين، ليكونوا النواة الأولى للمدربين المحترفين على المستوى المحلي والإقليمي، ليتم تكليفهم لاحقًا بتدريب جميع العاملين في المملكة.

Gulf News, 28 February 2019

Europe & Central Asia

14. NatRefs can improve food retail store sustainability



The use of natural refrigerants in commercial refrigeration can improve supermarket efficiency, according to a technical report on the 'Development of EU Ecolabel Criteria for Food Retail Stores', published at the end of the EU-funded SuperSmart project.

The report, drawn up by project partners and coordinated by Kerstin Martens from the German Environment Agency (UBA), suggests criteria for a proposed new EU Ecolabel for food retail stores.

The report identifies 15 criteria covering the main environmental impacts of food retail stores: four in the area 'HVAC&R', six in the area 'Building' and five criteria in the area 'Operating the store'.

The criteria cover the most important environmental and/or social hotspots of food retail stores identified by life cycle assessment and further analysis as described in preliminary reports published in 2016 and 2017.

Thus the impact of techniques for heating, ventilation, air conditioning and refrigeration (HVAC&R) installed in a store as well as store construction and operations were taken into account. Besides energy-efficient and environmentally friendly techniques, the issues include product range, waste generation, water consumption, and management systems.

Each criterion contains mandatory requirements and point score requirements to ensure that only the 10-20 % best performing European food retail stores can be awarded with the label. For example, specific criteria attribute points only to stores that use natural refrigerants and that have a heat recovery system in place.

The EU Ecolabel is designed to encourage supermarket stakeholders to implement environmentally friendly and eco-efficient technologies and thus reduce the environmental impact of food retail stores. In Europe, according to several regional studies, the whole food sector from agriculture to retail and waste can account for up to 30% of overall greenhouse gas (GHG) emissions.

The SuperSmart project ran from February 2016 to January 2019 and was funded by the European Union's Horizon 2020 Research and Innovation Programme (Grant Agreement N. 696076). It sought to demonstrate the environmental benefits of implementing efficient heating and cooling solutions, as well as the economic benefits of reducing energy use in supermarkets across Europe.

The report is available here

Supersmart, 26 February 2019

15. Kyrgyz lawmakers eyeing adoption of protocol to agreement on movement of substances that deplete ozone layer

Parliament committee for economic and fiscal policy considered the protocol on the accession of the Kyrgyz Republic to the Agreement on Movement of Substances that Deplete the Ozone Layer and accounting ozone-depleting substances in mutual trade of the Eurasian Economic Union member states dated May 29, 2015, signed on August 12, 2016 in Sochi, Russia.

The agreement was signed by heads of government of Armenia, Belarus, Kazakhstan and Russia in Borovoye, Kazakhstan on 29 May 2015. The deal regulates transactions related to movement of ozone-depleting substances in the customs territory of the Union.

The adoption of the protocol will allow to conduct accounting of the ozone-depleting substances in mutual trade between the member states of the union.

The countries will exchange information, tighten control over the movement of ozone-depleting substances, and meet the commitments of the EAEU under the Montreal Protocol to reduce the consumption of ozone-depleting substances.

AKI Press, 26 February 2019

16. The REAL Alternatives 4 LIFE's training and assessment now available in Spain

Confederación Nacional de Instaladores (CNI), the REAL Alternatives 4 LIFE National Lead for Spain, has approved the first three Spanish Training Centres for the assessment and certification of technicians under this blended learning programme.

The three training centres, DON BOSCO in Errenteria, SENFOASTUR in Oviedo and TIERRA de BARROS in Badajoz, are now ready to start offering REAL Alternatives courses. In order to gain approval the trainers at these centres had undergo six hours of training and pass a theoretical and practical assessment about R744 and flammables in line with Spanish National legislation.

The first REAL Alternatives technician certificate covering both flammables and carbon dioxide (*theory and practice*) was achieved recently by Miren Josune Zabala, a female engineer, and professor from the Don Bosco Training Centre.

To find out more about how you can become a REAL Alternatives 4 LIFE licenced Training Provider the project is offering regular information webinars.

The next webinar will take place on 25 March with Walter Reulens from UC Limburg, Belgium, expert in carbon dioxide.

Details of the programme and a link to register for the next webinar can be found here

REAL Alternatives 4 LIFE, February 2019

Featured

OZONE SECRETARIAT

• 62nd Meeting of the Implementation Committee under the Non-Compliance Procedure of the Montreal Protocol, 29 June 2019, Bangkok, Thailand
• 41st Meeting of the Open-Ended Working Group of the Parties to the Montreal Protocol,1 - 5 July 2019, Bangkok, Thailand
• 63rd Meeting of the Implementation Committee under the Non-Compliance Procedure of the Montreal Protocol,

2 November 2019, Rome, Italy
• Bureau Meeting of the 30th Meeting of the Parties to the Montreal Protocol, 3 November 2019, Rome, Italy
• 31st Meeting of the Parties to the Montreal Protocol, 4 - 8 November 2019, Rome, Italy

Click here for Montreal Protocol upcoming Meetings Dates and Venues

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

The UN Environment Assessment Panels

The Assessment Panels have been vital components of ozone protection since the Montreal Protocol was first established. They support parties with scientific, technological and financial information in order to reach decisions about ozone layer protection and they play a critical role in ensuring the Protocol achieves its mandate.

The Assessment Panels were first agreed in 1988 to assess various direct and indirect impacts on the ozone layer. The original three panels are:

The Technology and Economic Assessment Panel

The Scientific Assessment Panel

The Environmental Effects Assessment Panel

In the past there were 4 main panels. The Panels for Technology and Economic Assessments were merged in 1990 into one Panel, now called the Technology and Economic Assessment Panel.

Why are the three current panels important to ozone layer protection? Each carries out assessment in its respective field. Every four years, the key findings of all panels are consolidated in a synthesis report.

THE MULTILATERAL FUND FOR THE IMPLEMENTATION OF THE MONTREAL PROTOCOL

• 83rd meeting of the Executive Committee, 27-31 May 2019, Montreal, Canada
• 82nd meeting of the Executive Committee, 3-7 December 2018, Montreal, Canada
• Adjusted Prorated 2018-2020 business plan of the Multilateral Fund (16 August 2018)
• 81st meeting of the Executive Committee, 18-22 June 2018, Montreal, Canada
• Reports of projects demonstrating alternatives to HCFC technologies (updated 81st meeting)
• 2018 Executive Committee Primer

Learn more

OZONACTION

OzonAction smartphone application: Good Servicing: Flammable Refrigerants Quick Guide

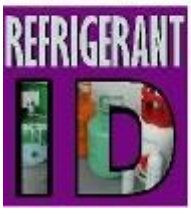
An interactive Quick Guide on Good Practices for Flammable Refrigerants.

This is the electronic and interactive version of the UN Environment OzonAction Quick Guide on Good Servicing Practices for Flammable Refrigerants.

It offers easy reference to the key safety classification and technical properties of flammable refrigerants that are available in the market. It also provides important safety guidance for the installation and servicing of room air-conditioners designed to use flammable refrigerants.

This interactive guide allows you to scroll and browse the text, jump to specific chapters or use the comprehensive dynamic index to locate specific keywords, figures and tables. The application also includes a refrigerant charge size calculator and a room size calculator for flammable refrigerants.

Available for free on the Google play store (Apple version coming soon) - Search for “UNEP Quick guide” or use the QR code.



OzonAction smartphone application: Refrigerant Identifier Video Series

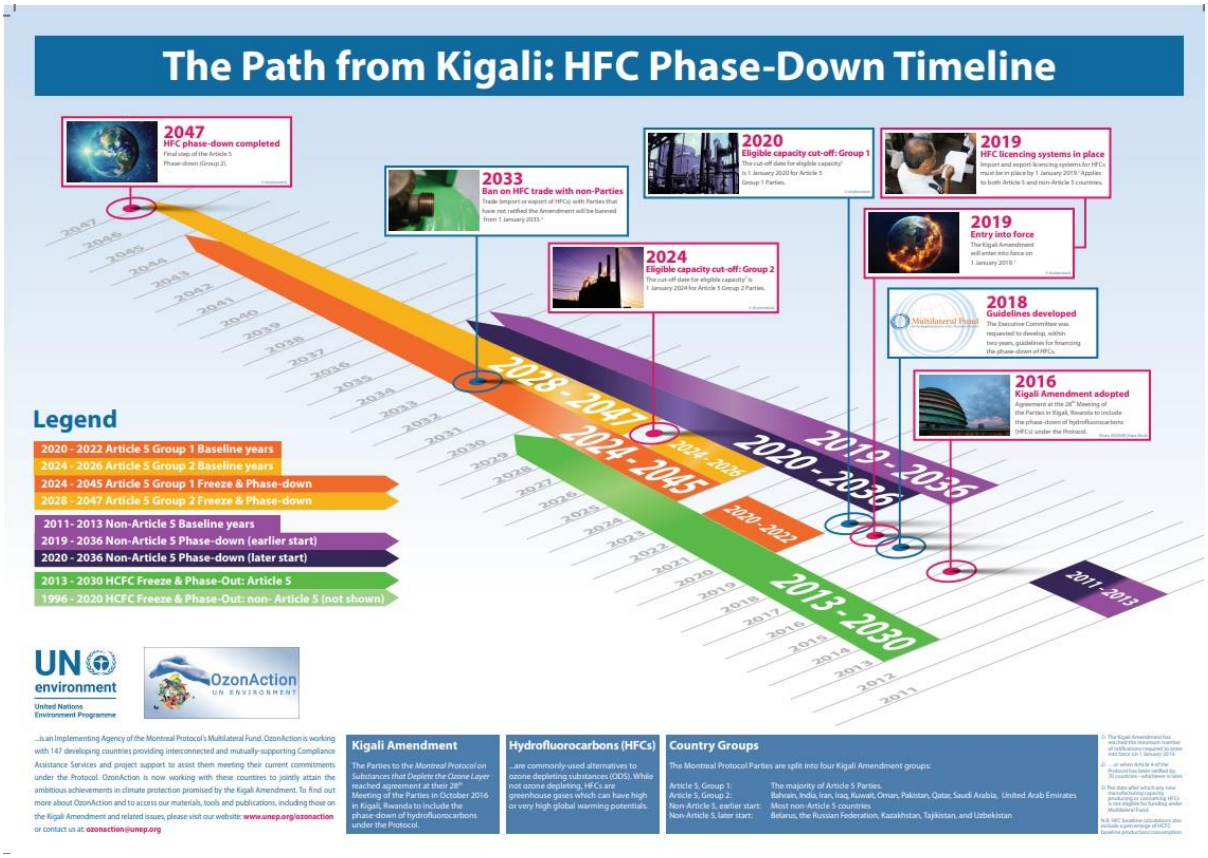
Guidance on how to identify refrigerants using a refrigerant identifier.

This new OzonAction video series consists of short instructional videos showing how to use and maintain a refrigerant identifier.

The videos provide useful guidance on safety and best practice, understanding the difference between different identifier units, testing procedures and identification of results.

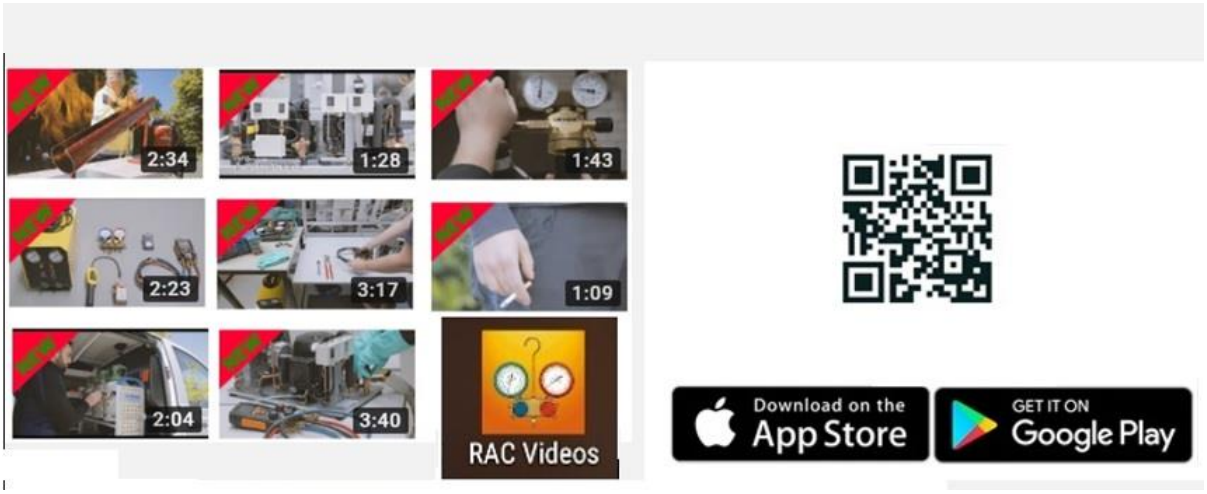
It is intended for use by Montreal Protocol National Ozone Officers, Customs and Enforcement Officers as well as technicians involved in the servicing and maintenance of refrigeration and air-conditioning systems.

Available for free on the Google play store (Apple version coming soon) Search for “UNEP Refrigerant ID” or use the QR code.



The Path from Kigali: HFC Phase-Down Timeline - This timeline, produced by OzonAction, highlights key hydrofluorocarbons (HFCs) phase-down dates.

Click here to download the timeline



New videos available on the OzonAction RAC video application

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

50,000 downloads and counting!

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

GWP-ODP Calculator Smartphone Application

The application allow you to easily convert ODP, CO_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

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

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

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

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

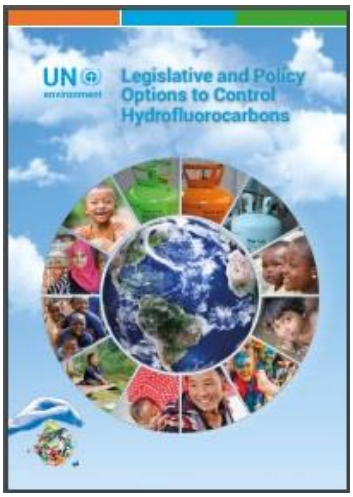
Please share with your RAC associations, technicians and other interested stakeholders…

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)

Publications

Centro Studi Galileo - Industria & Formazione. La rivista per il tecnico della refrigerazione e della climatizzazione, N. 424, 2019



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

2019

• 2019 IIAR Natural Refrigeration Conference and Expo, 3-6 March 2019, Phoenix, AZ, USA

• 22nd European Cold Chain Conference, 20-22 March 2019, Brussels, Belgium.

• 15th Cryogenics 2019 Conference, 7-11 April 2019, Prague, Czech Republic

• China Refrigeration 2019, 9-11 April 2019, Shanghai New International Expo Center, China

• 8th Conference on Ammonia and CO_2 Refrigeration Technologies, 11-13 April 2019, Ohrid, Macedonia (FYROM)

• 25th IIR International Congress of Refrigeration - 24-30 August 2019, Montreal, Canada

Click here for more information / International Institute of Refrigeration

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.

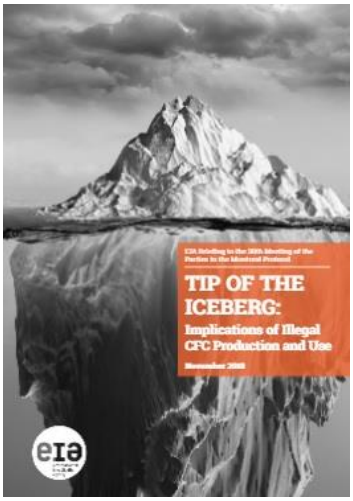
The IIR International Dictionary of Refrigeration **Available in 11 languages**, the complete version of the International Institute of Refrigeration (IIR) International Dictionary of Refrigeration is now freely accessible online. The IIR International Dictionary of Refrigeration offers researchers,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

Access the International Dictionary of Refrigeration on the IIR website

Impact of Standards on Hydrocarbon Refrigerants in Europe – Market research report. The market research report was realised for the EU-funded LIFE FRONT project. Amongst the main result of the market research:

• Current charge limits set in standards both restrict and obstruct the development of hydrocarbon technology
• Over 50% survey respondents already work with hydrocarbons to some extent
• Most of those planning to start working with hydrocarbons in the future will do that in 2019-2020 timeframe - revision of standards could have a major impact on the scale of this shift
• Large proportion of respondents indicated they manufacture equipment using multiple refrigeration circuits - allowing higher hydrocarbon charge limits per single refrigeration circuit would have a profound impact on cost and availability of larger units.



Tip of the Iceberg: Implications of Illegal CFC Production and Use. The Environmental Investigation Agency (EIA) recently released report urges Parties to the Montreal Protocol to address a number of remaining unanswered questions, in particular the absence of comprehensive data regarding the size of current banks of CFC-11 in PU foam and other products or equipment.

Cold Hard Facts 3 - Review of the Refrigeration and Air Conditioning Industry in Australia - The refrigeration and air conditioning industry is the largest user of synthetic greenhouse gases and ozone depleting substances in Australia. Cold Hard Facts 3 provides an economic and technological assessment of the refrigeration and air conditioning industry in Australia in 2016. The report includes an analysis of the size and economic value of the industry, the equipment and refrigerant gas bank, trends in gas imports and equipment, and direct and indirect emissions in this sector. [...] This study provides a broad view of the composition, size and value of the industry, and projections for its future. This will assist industry and policy makers with management of ozone depleting substances as they are phased out, and synthetic greenhouse gases, including hydrofluorocarbons (HFCs) which are being phased down from January 2018.

Miscellaneous

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

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

We are pleased to invite you to submit your nomination*, and/or nominate Ozone Layer Champion(s). **The short profile should reflect the nominee's valuable work related to the Montreal Protocol and ozone layer protection.**

Please notify and nominate worthy candidates through the **on-line form**

We look forward to receiving your nomination(s), and please feel free to contact our team for any further assistance concerning your nomination.

Take this opportunity to raise the profile of women and men who made an important contribution to the Montreal Protocol success and ozone layer protection.

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

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

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

New *International Journal of Refrigeration* service for IIR members - Access the complete archives of the International Journal of Refrigeration (IJR) online. Designed with IIR members in mind, this new and practical electronic subscription gives members substantial advantages:
- Immediate and permanent access to the latest research and to IJR archive
- Access the latest articles as soon as they become available online.
- Browse, search and read each one of the nearly 4,500 papers since Volume 1, Issue 1.
- Unlimited access to seminal contributions to the field of refrigeration dating back to 1978.
- Keep up-to-date with subscriptions to customized e-alerts on New Volumes, Topics and saved Searches.

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

To access this new service, click "activate my e-IJR subscription now" and follow the instructions.

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

The International Institute of Refrigeration supports World Refrigeration Day - As the only independent intergovernmental organisation in the field of refrigeration, the International Institute of Refrigeration (IIR) joins associations and companies worldwide to support the initiative of an official World Refrigeration Day on 26 June every year. The annual World Refrigeration Day, to be launched on 26 June 2019, aims to raise awareness among the wider public about the importance of refrigeration technologies in everyday life.

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

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

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

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