OzoNews

15 June 2014

Vol. XIV

In this issue

1. Report of the Seventy-second Meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol, Montreal, Canada, 12-16 May 2014

2. G7 Backs HFC Alternatives

3. Three New Ozone-depleting Gases Discovered in Atmosphere

4. UNEP Promotes Safe Refrigeration and Air-conditioning Practices for Increased Co-benefits to Ozone layer and Climate Change in Africa

5. Refrigeration Technology Students of TTI Schooled on Hydrocarbon Refrigerants

6. Maldives to Ban HCFC Products Next Year

7. Sky Meets the Ocean: Stars of South Asian Ozone Network Gather in the Pearl of the Indian Ocean

8. China Sets Target to Cut HFC's

9. New Zealand Looks to Improve Refrigerant Recovery

10. How Natural Refrigerants Will Shape the Future

11. MOI's and FCS's Officers Received International Awards for Closing Large ODS Smuggling Path

12. HFC : les solutions alternatives cartographiées

13. CDL Launches Youtube Video Training for Air Conditioning Installers

14. Bolivia disminuye emisión de sustancias que afectan la capa de ozono

15. Replacement/Conversion of Canadian CFC Chiller Stock Shows Further Decrease from 2012 to 2013

UNEP

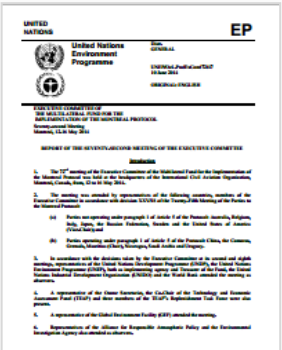
Multilateral Fund for the Implementation of the Montreal Protocol

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

GLOBAL

1. Report of the Seventy-second Meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol, Montreal, Canada, 12-16 May 2014

The 72nd meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol was held at the headquarters of the International Civil Aviation Organization, Montreal, Canada, from, 12 to 16 May 2014.


UNITED NATIONS EP

United Nations Environment Programme

The meeting was attended by representatives of the following countries, members of the Executive Committee in accordance with decision XXV/18 of the Twenty-Fifth Meeting of the Parties to the Montreal Protocol:

(a) Parties not operating under paragraph 1 of Article 5 of the Protocol: Australia, Belgium, Italy, Japan, the Russian Federation, Sweden and the United States of America (Vice-Chair); and

(b) Parties operating under paragraph 1 of Article 5 of the Protocol: China, the Comoros, Grenada, Mauritius (Chair), Nicaragua, Saudi Arabia and Uruguay.

In accordance with the decisions taken by the Executive Committee at its second and eighth meetings, representatives of the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), both as implementing agency and Treasurer of the Fund, the United Nations Industrial Development Organization (UNIDO) and the World Bank attended the meeting as observers.

A representative of the Ozone Secretariat, the Co-Chair of the Technology and Economic Assessment Panel (TEAP) and three members of the TEAP's Replenishment Task Force were also present.

A representative of the Global Environment Facility (GEF) attended the meeting.

Representatives of the Alliance for Responsible Atmospheric Policy and the Environmental Investigation Agency also attended as observers.

Read/Download the Report

- The Multilateral Fund for the Implementation of the Montreal Protocol, 10 June 2014

2. G7 Backs HFC Alternatives

BRUSSELS: Leaders at the G7 Summit have promised to push for a phase-down of HFCs and to promote the public procurement of HFC alternatives.

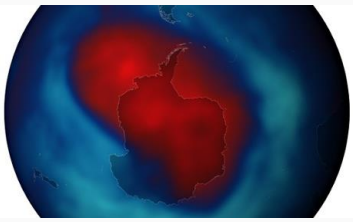
Backing calls for concrete action to reduce emissions at the Climate Summit in September, the G7 leaders of Canada, France, Germany, Italy, Japan, the UK and USA, pledged to promote the use of renewable energies, nuclear power and carbon capture and storage. Parties to the Summit agreed that urgent and concrete action was needed to address climate change and limit the increase in global temperature to less than 2°C above pre-industrial levels. […]

The G7 leaders also pledged to work together to promote the phase down of HFCs under the Montreal Protocol. "We will also continue to take action to promote the rapid deployment of climate-friendly and safe alternatives in motor vehicle air-conditioning and we will promote public procurement of climate-friendly HFC alternatives" they said.

- CoolingPost, 7 June 2014

3. Three *New* Ozone-depleting Gases Discovered in Atmosphere

Researchers say two CFCs and one HCFC are likely to be man-made but are at concentrations unlikely to threaten ozone layer.



The ozone hole reached its biggest extent for the year on 26 September, 2013 Photograph: NOAA

More ozone-depleting gases have been identified in the atmosphere by scientists. Researchers at the University of East Anglia (UEA) have found two new types of chlorofluorocarbons (CFCs) and one new hydrochlorofluorocarbon (HCFC).

The latest discovery comes after the UEA researchers identified four new man-made gases which contribute to destruction of the ozone layer in March, bringing the total number of newly discovered CFCs and HCFCs to seven.

Research published in the journal Atmosphere shows the scientists discovered the latest gases by comparing today's air samples with air collected between 1978 and 2012 in unpolluted Tasmania and samples taken during aircraft flights.

The gases which have been identified in the latest research are at much lower concentrations than those found earlier this year, and are unlikely to pose a threat to the ozone layer, the scientists said.

But the researchers said it supported their argument that there were many more gases out there, which could have a cumulative impact.

Dr Johannes Laube, from UEA's School of Environmental Sciences, said: "Two of the gases that we found earlier in the year were particularly worrying because they were still accumulating significantly up until 2012. We have now identified another two CFCs and one HCFC, although these have much lower concentrations than the previous ones."

Corinna Kloss, of the Julich Research Centre in Germany who undertook the research while at UEA, said: "All seven gases were only around in the atmosphere in very small amounts before the 1980s, with four not present at all before the 1960s, which suggests they are man-made. Where these new gases are coming from should be investigated. Possible sources include industrial solvents, feedstock chemicals and refrigerants."

Controls on CFCs to preserve ozone in the stratosphere that protects life on Earth by absorbing harmful ultraviolet radiation from the sun came into force under the Montreal Protocol in 1989, with a total global ban implemented by 2010.

- Theguardian.com, 4 June 2014

  See also >>> Blue and Green Tomorrow, 4 June 2014, By Ilaria Bertini

  and related story from March 2014

AFRICA

4. UNEP Promotes Safe Refrigeration and Air-conditioning Practices for Increased Co-benefits to Ozone Layer and Climate Change in Africa

Workshop on the Establishment and Operation of Certification Schemes and National/Regional RAC Associations

Kigali, 10 June 2014 – Ozone Officers from 28 African English and Portuguese speaking countries are gathering in Kigali, Rwanda from 11-13 June for a capacity building workshop that will also bring together regional refrigeration and air-conditioning experts, European Refrigeration Association (AREA) and resource persons at the initiative of UNEP Compliance Assistance Programme in Africa in collaboration with the Government of Rwanda, and supported by Multilateral Fund Secretariat.

The workshop, the first of its kind in English-speaking Africa, aims to train technicians in the field of refrigeration and air-conditioning (RAC) to ensure a safe handling and servicing of refrigeration and air-conditioning equipment as part of the alternatives to hydrochlorofluorocarbon (HCFCs), with the view to promoting sound management of these substances and assisting countries in meeting the target of 10% phase-down of HCFC by 2015 as set by the Montreal Protocol.

The workshop is also intended to help the technicians to set up national associations that would guide and assist the operations in the refrigeration and air-conditioning sectors as a way of ensuring that both formal and informal business operations are certified and follow the agreed international standards.

The meeting will provide a platform to share experiences and knowledge on HCFC phase-out technologies and help the sector in controlling HCFCs as ozone depleting substances. The RAC experts will receive training from the European Refrigeration Association on safe refrigeration practices, based on their knowledge and experience on establishment and operationalization of refrigeration and air- conditioning associations as well as on identifying new techniques for the adoption of HCFC alternative technologies and develop strategies for addressing any barriers that may arise.

The achievements of the Montreal Protocol over its 27 year history in phasing out the production and consumption of ozone depleting substances (ODS) have positioned the ozone story as the most successful environmental story as most countries have already phased-out most of the ODS.

It is important to note that in addition to depleting the ozone layer, ozone depleting substances controlled by the Montreal Protocol have also powerful global warming gases. As such, activities under the Montreal Protocol have not only contributed to reversing the damage done to the ozone layer but also resulted in greenhouse gas reductions equivalent to several billion tons of CO_2-equivalent, making the Montreal Protocol a key contributor to the global fight against climate change.

This workshop comes ahead of 1 January 2015 target to meet a ten percent step down from the freeze level of HCFCs phase-out set by the Montreal Protocol on ODS. Under the Montreal Protocol on ODS, countries are taking specific time-targeted actions to reduce and eliminate the production and consumption of man-made chemicals that destroy the stratospheric ozone layer.

Therefore, this training comes at an opportune time, in the wake of alternative technologies being considered in the phase-out of HCFCs which may raise concerns on safety, flammability, toxicity and low operating pressures which need to be considered when handling such alternatives.

- Rwanda Environment Management Authority (REMA), 10 June 2014

5. Refrigeration Technology Students of TTI Schooled on Hydrocarbon Refrigerants

Ghana is working hard to reduce her use of Hydrochlorofluorocarbon (HCFC) refrigerants by 10 per cent by 2015 as required by the Montreal Protocol on substances that deplete the ozone layer, Dr. Lawrence Akoto, Principal Programme Officer of the Environmental Protection Agency (EPA), said on Wednesday [4th June].

Speaking at a one-day sensitization programme for students of refrigeration technology at the the Takoradi Technical Institute (TTI) at Takoradi, Dr Akoto said Ghana and other developing countries who are party to the Montreal Protocol are supposed to reduce their consumption of HCFC by 10 per cent by 2015.

He said the country is on course to achieving this target of the protocol, which seeks to control and eventually phase out the production and consumption of ozone depletion substances (OPS). Dr. Akoto said the Montreal Protocol also requires the country to achieve further reduction in consumption of HCFC by 35 per cent in 2020, 65 per cent by 2025, 97 point 5 per cent by 2030 and a total phase out by 2040.

He said non-compliance with these reduction targets has its implications, including sanctions and trade restrictions by the international community in the supply of these HCFC refrigerants into the country. Dr. Akoto said the Customs Division of the Ghana Revenue Authority has been empowered last year through training and provision of refrigerant identifiers, to step up their monitoring role in tracking down illegal importation of HCFCs and other ozone depleting substances into the country.

Mr. Samuel Osae-Quansah, Director of the Ozone and Climate Change Department of the EPA, said the department has carried out a number of programmes aimed at phasing out OPSs in the country. The programmes included public awareness creation and training of technicians and engineers in good refrigeration practices such as recovery and recycling of refrigerants, he said. Mr. Osae-Quansah welcomed the introduction of Hydrocarbon refrigerant as a substitute for HCFC because it has zero Ozone Depleting Potentiial and

negligible Global Warming Potential, but because of its flammable nature, it calls for extra care during servicing and maintenance.

He said the programme was to introduce refrigeration technician students to hydrocarbon refrigerants and give them hands-on training on how to convert HCFC based refrigerants to hydrocarbon to avoid accidents and premature decommission of HCFC.

- Ghana News Agency, 6 June 2014

ASIA PACIFIC

6. Maldives to Ban HCFC Products Next Year

The director at the environment ministry Mirza Mohamed speaks at the workshop in Customs Building on Monday: UNDP attended the workshop. PHOTO/ ENVIRONMENT MINISTRY

The Maldives government announced on Monday 3rd June its plan to ban the import of any products that contain Hydrochlorofluorocarbons (HCFC) from 2015. Speaking to reporters at a workshop held at the Customs Building, the director at the environment ministry Mirza Mohamed said that the ban on import of any HCFC releasing products would result in a 20 percent reduction in HCFC emission in Maldives.

"We have begun the process of phasing out HCFC in the Maldives since 2011. We shall reduce it by 20 percent from next year onwards. We will also begin banning related equipment afterwards," she said.

The main products in the Maldives that emit HCFC are air conditioners and refrigerators. HCFC is a harmful gas that destroys the ozone layer, contributing to global warming. Mirza said that the ministry's target was to completely stop the use of any HCFC emitting product in the Maldives by 2020. But the biggest challenge is the unavailability of an alternative energy source, she said. "The most readily available gas in the market is HFC currently. Though this gas does not directly harm the ozone layer, it contributes on a greater scale to global warming," she said.

The workshop conducted in the Customs Building was to discuss with the relevant authorities the use of HFC. Apart from several government and international agencies, the workshop was also attended by individuals and companies involved in the servicing of air conditioners and other related equipment. Maldives is the first country in the world that is striving to completely stop the use of HCFC.

- Haveeru Online, 3 June 2014, By: Azuhaar Abdul Azeez

7. Sky Meets the Ocean: Stars of South Asian Ozone Network Gather in the Pearl of the Indian Ocean

Colombo, 30 April 2014 - With the theme "*Only 219 days to 1.1.2015!!*," officials and experts from 13 countries in the South Asia region gathered in the beautiful capital city of Sri Lanka from 27-30 May 2014 for the Regional Ozone Network Meeting for South Asia, organized by UNEP and the Government of Sri Lanka, through Ministry of Environment and Renewable Energy. This forum is part of a global programme to enable National Ozone Units (NOUs) to meet their countries' commitments under the Montreal Protocol on Substances that Deplete the Ozone Layer.

This multilateral environmental agreement includes time-bound and measurable deadlines to phase-out ozone depleting substances. The theme refers specifically to the 1 January 2015 target for hydrochlorofluorocarbons (HCFCs), ozone depleting gases that are used widely in South Asia in air conditioners and foam manufacturing. All countries in the region must reduce their consumption of these gases by 10% by that date. It also includes 100 percent phase out of another gas, Methyl Bromide, used in agriculture and fumigation.

The inauguration ceremony was held at the Grand Oriental Hotel with a welcome procession performed by Kandyan dancers and a lighting of a traditional oil lamp. Honorable Anura Priyadharshana Yapa, Minister of Petroleum Industries, and the Minister of Environment and Renewable Energy, Honorable Alhaj A.R.M Abdul Cadar, welcomed the participants to the country and opened the meeting.

The South Asia network includes 13 countries: Afghanistan, Bangladesh, Bhutan, China, India, Iran, Democratic Republic of Korea, Republic of Korea, Maldives, Mongolia, Nepal, Pakistan and Sri Lanka. Japan is the developed country partner of the network. The network is managed by UNEP's Compliance Assistance Programme (CAP) with financial support from the Multilateral Fund for the Implementation of the Montreal Protocol. The European Commission, the Multilateral Fund Secretariat, UNDP, UNIDO and World Bank participated in this week's meeting.

Refrigeration and air conditioning accounts for the majority of HCFC consumption both globally and in the region, therefore the involvement of this sector, is critical for the success of the Montreal Protocol. Accordingly, the Network meeting featured a one day thematic seminar on the establishment of refrigeration associations and technician certification programmes. The seminar shared the experiences of technical experts from the Air conditioning and Refrigeration European Association (AREA) and the Refrigeration and Air Conditioning Contractors' Association Australia (RACCA), as well as case studies from the Former Yugoslav Republic of Macedonia, Indonesia, and China. The European Commission provided details of new European regulations designed to control and reduce hydrofluorocarbons (HFCs), alternatives to HCFCs but many of which are high global warming potential.

The discussions reaffirmed the critical importance of strategic partnerships between the government and the private sector, as well as representatives of civil society, in order for a country to reach its HCFC phase out milestones, while mindful of other matters of national concerns such as climate change and energy efficiency. The Environmental Investigation Agency (EIA) organized a side-event on "Business opportunities and Energy-efficient co-benefits from transitioning to low-GWP refrigerants in refrigeration and air-conditioning sector" attracting much interest among participating countries. The Ceylon Tea Board hosted a tea ceremony featuring the world-renowned Sri Lankan tea that has been produced without methyl bromide fumigants, thanks to a project supported by the Multilateral Fund and implemented by UNDP.

Ozone Officers were offered also opportunities to witness the on-going phase-out efforts of the host country through a field visit to Sri Lanka Customs and to the Regnis company, which successfully converted its foam to non-ozone depleting alternatives with Multilateral Fund assistance. UNEP took the opportunity of the meeting to organize a special set of training sessions for new ozone officers, to complement the detailed technical knowledge gained during the main meeting.

- Sri Lanka National Ozone Unit | UNEP OzonAction Branch

8. China Sets Target to Cut HFC's

CHINA: China has stated that it will cut emissions of hydrofluorocarbon refrigerants by 280 million tonnes of carbon dioxide equivalent (CO_2e) – similar to the annual carbon footprint of Spain.

"This sends a strong signal to HFC producers and consumers around the world to speed up their efforts to get out of HFCs and into climate friendly alternatives," said Durwood Zaelke of the US-based Institute for Governance & Sustainable Development, which monitors efforts to phase out the climate-changing chemicals.

The announcement from China has been welcomed around the world after China's chemicals industry – the world's biggest producer of HFCs – has for the past decade lobbied against curbs after making huge profits.

It has also come at a time when it has also been reported that without action to cut back HFCs, by 2050, emissions from the gases could be equivalent to 12% of annual CO_2 emissions under a business-as-usual scenario, and up to 75% of annual greenhouse gas emissions if countries make big cuts to energy-related CO_2.

Natasha Hurley, a campaigner with the Environmental Investigation Agency, said, "There doesn't appear to be too much information about longer term targets on cutting emissions from HFCs, but I'd expect the reductions to be deeper over time."

Campaigners have said up to 200 billion tonnes of CO_2e could be prevented from being pumped into the atmosphere if a fast phase down of HFCs by 2020 under the 1987 Montreal Protocol was undertaken

China's target to cut CO_2 emissions from the HFC production follows a deal signed between President Obama and President Xi Jinping last year, including a formal agreement to use the Montreal Protocol, rather than the Kyoto Protocol, to cut the production and use of the chemicals.

At the G7 summit in Brussels on Thursday, leaders reaffirmed their support for global efforts to cut emissions from HFCs.

"We will also continue to take action to promote the rapid deployment of climate-friendly and safe alternatives in motor vehicle air-conditioning and we will promote public procurement of climate-friendly HFC alternatives," G7 leaders said in a joint statement.

China's government has also secured international funding to help domestic chemical makers switch to less carbon-intensive compounds, such as HFOs.

Yet green groups warn that HFOs generate toxic by-products, urging manufacturers of fridges and air conditioning units to use 'natural' refrigerant chemicals instead, such as ammonia or carbon dioxide.

- FridgeHub, June 2014

9. New Zealand Looks to Improve Refrigerant Recovery

In an effort to improve on a refrigerant recovery rate of just 5%, New Zealand has released a discussion document on options to improve waste management.

Environment minister Amy Adams has named refrigerants and other synthetic greenhouse gases as one of four product waste streams where the Government is considering intervention. The other product areas are electrical and electronic equipment, tyres, agrichemicals and farm plastics.

"While the focus in New Zealand has been on voluntary schemes, in my view, the time has come to seriously consider appropriate mandatory approaches for selected priority waste streams," Amy Adams has said.

The voluntary accredited Refrigerants Recovery scheme in place in New Zealand has lead to only an estimated 5% of available eligible refrigerants being collected for safe disposal.

Recovery programmes are mandated in Japan, Australia, USA and Europe where much higher recovery rates are being achieved. By comparison, Norway, Japan and Australia boast recovery rates of 40%, 56%, and 61% respectively.

The industry has been pushing for change and approached the Government in late 2012 seeking regulatory support to reduce free-riders and fund effective recovery.

This would involve, for example, priority product declaration and a participation requirement for refrigerant importers and installers. Estimated prices per product passed onto consumers would vary by gas content. Preliminary estimates suggest a cost range of $2 per domestic refrigerator to $133 per refrigerated truck (about 0.3 to 0.5% price increase).

The Ozone Protection Company was established by wholesale refrigerant importers in late 1993, which evolved into the Refrigerants Recovery scheme which was accredited under the WMA as a voluntary product stewardship scheme in 2010. It is based on a voluntary product levy on imported bulk refrigerants and now covers the six major importers.

Importers of smaller bulk amounts or pre-charged gas canisters, or downstream installers and refillers, have not joined and are not covered, although some do bring refrigerants in to the scheme to be destroyed.

The scheme actively promotes an industry code of good practice to reduce risks of harm from refrigerants, but has found poor uptake and low levels of training in the industry.

During the review of the NZ Emissions Trading Scheme (ETS) in 2012, a submission from New Zealand's Institute of Refrigeration Heating and Air Conditioning Engineers requested a mandatory levy on greenhouse gases to cover costs of safe collection and disposal.

The SGG levy came into effect on 1 July 2013 and provides a cost-effective method for SGG importers to participate in the NZ Emissions Trading Scheme. The SGG levy goes into the consolidated fund, and thus is not directly available to fund collection and destruction of waste refrigerants.

New Zealand emission trading units are available to the Refrigerant Recovery scheme for their destruction of the gases, and they are registered to collect these. However, with low market prices for carbon, this is not sufficient to cover costs. Future allocation of the SGG levy for funding for safe SGG disposal is a potential option for consideration.

- Cooling Post, 4 June 2014

10. How Natural Refrigerants Will Shape the Future

Australian Refrigeration Association (ARA) president Tim Edwards outlines the role of natural refrigerant-based technology (NRBT) in the development of the HVACR industry in Australia and worldwide. The natural refrigerants are ammonia, carbon dioxide, hydrocarbons, air and water. The first three are more energy efficient than fluorocarbon refrigerants. They have far lower global warming potential (GWP) and cost much less to buy and use.

Here's why the ARA believes NRBT will play a leading role in the industry. First, it is critically important to Australia's economic performance. There are over 45 million individual HVACR installations that cost over $26 billion per annum to buy and operate.

These installations consume over 22 per cent of electricity produced per annum in Australia ($14 billion). Energy prices have increased dramatically and will continue to increase.

This is why HVACR energy efficiency really matters. Our industry is responsible for at least 12 per cent of national Greenhouse Gas (GHG) emissions. In fact, it is closer to 15 per cent with everything taken into account. GHG emissions will be an increasing consideration for HVACR operations for the foreseeable future as the world works to reduce global warming.

Currently, the industry is dominated by fluorocarbon refrigerant-based technology (FRBT), especially in the high volume HVACR sectors - commercial, residential refrigeration and air conditioning, MVAC and transport refrigeration.

FRBT is a significant source of GHG Emissions because fluorocarbon refrigerants have a high GWP in the 1300 to 23000 range and they leak or are emitted at a high rate (four to five per cent of national emissions).

Fluorocarbon refrigerant prices have increased dramatically in part because of rising raw material costs.

Even if the synthetic greenhouse gas (SGG) levy is removed, fluorocarbon prices will remain high relative to natural refrigerants.

There is an ongoing commercial confrontation between FRBTs and NRBTs. We need to recognise this and deal with it in a forthright way rather than the ongoing obfuscation and misrepresentation that only serves to confuse. We need to consider the economic, environmental and safety considerations of NRBTs and FRBTs in a balanced appraisal by application and with greater attention to the needs of end users. HCFC refrigerants (ozone depleting) are being phased out. They will be in very short supply in Australia post 2015 and therefore very expensive.

Europe has passed legislation that will phase down high GWP HFC refrigerants progressively to, and dramatically, by 2030.

The G20 supports this principle. It is likely that the Montreal Protocol (with 197 countries) will adopt a similar solution soon. For all intents and purposes, HCFC and high GWP HFC refrigerants are history. NRBTs are being adopted worldwide because they are more cost effective. Manufacturers have demonstrated that they can supply NRBTs that are safe. The world's leading food retailers and suppliers for instance have committed to adopt NRBT worldwide (the Consumer Goods Forum). HVACR equipment manufacturers are now offering the full range of HVACR applications using NRBT solutions. New low GWP fluorocarbon refrigerants (HFOs) may make a contribution albeit they are not available in Australia and their performance, safety, and price characteristics are not yet known and are contentious.

There is a myth that FRBTs are safer than NRBTs. This is a common assertion from the proponents of FRBT. It is not true. All refrigerants are dangerous if not used properly by a competent person. Both fluorocarbon and natural refrigerants can be both toxic and flammable under conditions that are endemic to the industry. This is particularly true for new fluorocarbon refrigerants like R32 and HFOs. Engineering solutions can mitigate the

safety risk for all refrigerants when used in association with reliable maintenance systems. The frequency of safety events in HVACR is very low and can be further reduced. The environmental impact of fluorocarbon refrigerants is not considered in the assessment of refrigerant safety risk despite increasing evidence of the cost and mortality caused by climate change. The premise that FRBTs are safer than NRBTs is simply not valid. NRBTs deliver climate change "safety" that is at least as important as local safety, arguably more important. NRBTs deliver on both fronts. The confrontation between FRBTs and NRBTs matters because Australia needs to reduce the cost of its HVACR industry. To remain internationally competitive in many important industries like the built environment, food production and distribution and health care, Australia will need to embrace the economic advantages of NRBTs. There are a range of important cost advantages. NRBTs are more energy efficient than FRBTs by 20 to 60 per cent. The GWP of natural refrigerants is far lower than fluorocarbon refrigerants, ammonia (0) and hydrocarbons (3), and therefore are not subject to GWP based levies being applied in some countries, Natural refrigerants are much lower cost to buy and use than fluorocarbon refrigerants. They will remain inexpensive because they are produced as a by-product of far larger industrial production activities. The refrigerant charge required to deliver a given HVACR performance is far less for hydrocarbon refrigerants as compared to fluorocarbon refrigerants (50 to 60 per cent less).These sources of cost savings can be significant over the life of many HVACR applications, making NRBTs far more cost effective for all of us. NRBTs can be used safely and can make a major contribution to HVACR cost reduction because:

1) New NRBT serving a wide range of applications deliver energy and refrigerant efficiencies that provide superior overall economic value. The cost savings available through the use of NRBTs deliver a sufficient efficiency advantage to warrant the capital cost of replacing FRBTs.

2) Suitably qualified suppliers can convert a large proportion of existing FRBT equipment to NRBT, delivering important cost savings. For instance, split system AC and MVAC.

3) NRBT engineering has produced a complete range of safety solutions including leak sensors and alarms, solenoid valves and extract fans that virtually eliminate safety risks when properly employed. The cost saving available through the use of NRBTs in Australia over the next decade is many billions of dollars per annum. As a country, we spend about $14 billion each year on electricity to run HVACR and about $600 million on refrigerants. Replacing or converting existing HVACR equipment to NRBTs and investing in new NRBT infrastructure has the potential to reduce this cost by six to seven billion dollars per annum.

The long run value is enormous. The result will be major HVACR cost savings for industrial, commercial and residential users. NRBT use will reduce imports and potentially increased exports as Australia provides HVACR leadership throughout the Asia Pacific region. The result will be the economic competitive advantage that we desperately need. Australia has the ability and responsibility to demonstrate that making the transition to low emissions is good economic and environmental policy. To achieve this outcome, Australia needs to: Recognise that HVACR is a major potential source of energy efficiency and GHG emissions efficiency, Develop policy solutions that give rise to greater understanding of and investments in HVACR energy efficiency, Make end users aware of the benefits of NRBT, Train a large proportion of the HVACR industry workforce in the use of natural refrigerants Adjust HVACR safety standards and licensing systems so they are based on current technology and fully embrace natural refrigerants. We should also keep in mind that there will continue to be safety incidents involving the misuse of refrigerants. It is important that this inevitability not give rise to inappropriate media coverage and policy reactions that undermine the professionalism of the industry or any given sector. It is important that anecdotal incidents not continue to be used to draw industrywide conclusions. The best approach is ongoing professional development using rapidly evolving technology solutions. Greater design skill and greater training should be a high priority for the industry as we manage the transition to the use of natural refrigerant-based technology.

- CCN Australia, ARA interview, 3 June 2014

11. MOI's and FCS's Officers Received International Awards for Closing Large ODS Smuggling Path

An award ceremony for officers of the Main Office for Combating Economic and Corruption Crimes of the Ministry of the Interior and FCS of the Russian Federation took place in Sarajevo, Bosnia and Herzegovina, on May 21, and in the UN Information Center in Moscow, Russia, on June 3, 2014.

The prestigious award was instituted by UNEP OzonAction especially for customs and enforcement officers for successful interdicting illegal traffic of substances, equipment, and products covered by the Montreal Protocol. The awarding with international medals and certificates confirms the importance of contribution the Russian law enforcement and customs bodies made to interdict illegal traffic and trade in ozone-depleting substances.

The 3rd edition of the international award took place on May 21, 2014, during the Regional Customs Cooperation Meeting in Sarajevo, Bosnia & Herzegovina.

At the organizers' initiative, it was decided to award the officials who could not be present at the award ceremony in regional UN offices.

Vladimir Moshkalo, head of the Moscow UNEP office, presented awards to MOI's officers at the UN Informational Center, Moscow.

The ceremony of awarding MOI's officers held in the Moscow UN Center was attended by heads of the Russian UNEP office, the project management unit of the UNIDO project for HCFC phase out, and officials of other Russia-based UN units.

We congratulate MOI's and FCS's officers with prestigious international awards and with them further gains!

- The project for HCFC phase out in the Russian Federation, 4 June 2014

Additional information:

In January 2014, the Main Office for Combating Economic and Corruption Crimes and Investigative Department of the Russia's Ministry of the Interior executed a major operation for detention and arrest of organizers and perpetrators of a large-scale smuggling scheme for ozone-depleting substances illegally entering the territory of Russia. The operation took place in 5 constituent entities of the country and ended with more than 20 searches. Illegally imported refrigerants were poured from original cylinders into Russian ones labelled as containing ozone-safe refrigerants. Illegal refrigerants were mainly bought by pharmaceutical plants which receive official quotas for R-11 and R-12.

The operation resulted in the seizure of 6800 kg of R22, 2040 kg of R113, 4080 kg of R12, 2720 kg of R141b and 18800 kg R11. The shipment papers indicated ethylene-glycol instead of R11 and HFC-134a instead of the other substances. Ethylene-glycol and HFC-134a are not controlled under the Montreal Protocol. The cylinders originated from China,

where transiting Shanghai and supposed to be transported to Moscow by rail and road transport. The operation resulted in the seizure of over 1500 refrigerant cylinders of various size, self-made reclamation and filling equipment, as well as documents, seals and labelling. The contents of the cylinders was analysed by the Forensic Science Centre of the Russian Ministry of Internal Affairs and Russian Research Centre "Applied Chemistry" in Saint Petersburg. The R11, R12, R22 and R141b were seized as evidence for the criminal cases and will be destroyed after completion of the cases. Three organizers have been arrested by court order, and one perpetrator placed under travel restrictions. The other substances were seized on the basis of the administrative proceedings initiated against the responsible persons. They are stored in a Customs warehouse in Saint Petersburg awaiting destruction. The court cases are still ongoing.

12. HFC : les solutions alternatives cartographiées

De gauche à droite : Jean-Paul Ouin, délégué général Uniclima, François Heyndrickx, délégué général AFCE, Frédéric Pignard, président du comité froid climatisation d'Uniclima et Laurent Guégan, vice-président de l'AFCE.

Destinée à donner de la visibilité aux acteurs quant aux solutions alternatives aux HFC à fort GWP, l'étude de l'AFCE, d'Uniclima et de l'Ademe est disponible dans une version enrichie. Une aide précieuse alors que vient de paraître la F-Gas.

Diffusée par l'AFCE, Uniclima et l'Ademe, l'étude intitulée« Alternatives aux HFC à fort GWP dans les applications de réfrigération et de climatisation » est à présent accessible dans sa version mise à jour. Les trois instances souhaitent, à travers ce rapport, proposer une cartographie des solutions alternatives aux HFC actuels. « Des solutions existent sur le marché, elles ne sont pas universelles. Chaque domaine d'application doit être étudié au cas par cas », a indiqué François Heyndrickx, délégué général de l'AFCE, lors de la présentation de l'étude le 11 juin à Paris. Également financée par l'Ademe, l'AFCE et Uniclima, elle a pour objectif d'accompagner le choix d'un fluide. Elle est structurée par domaine d'application et par l'identification de 33 systèmes types. Parmi eux : la climatisation automobile, la climatisation à air, l'industrie agroalimentaire en froid, etc. L'analyse est résumée grâce à un « indicateur radar ». Cet indicateur multicritères prend en compte l'impact environnemental (GWP), la consommation énergétique, le risque sur la sécurité, le coût de la solution (hors maintenance), la disponibilité et la capacité volumétrique. Il permet de comparer les alternatives et de dégager la meilleure solution. L'étude propose ainsi 23 fiches pour une analyse par type d'application. Les solutions alternatives seront différentes pour chacune des applications et se trouvent à différents niveaux de développement et donc d'efficacité opérationnelle. Le facteur temps sera aussi important que le facteur financier. Chaque fiche est constituée de trois parties distinctes : la description du système de référence, les alternatives techniques existantes et les alternatives techniques en cours de développement.

« L'organisation de la filière a heureusement permis d'anticiper la F-Gas, a expliqué François Heyndrickx. En France, un travail a été mené très en amont sur la révision de ce règlement, un accord a été trouvé sur le principe de réduction, le soutien de la part de tous les acteurs a été fort et les contributions nombreuses dans le processus de révision. Tant que le texte n'était pas voté, il y avait des incertitudes sur ce que l'on pouvait faire ou ne pas faire. Maintenant l'industrie est rassurée car la feuille de route est définie. »

Impact des quotas

La mise en place des quotas, au cœur de la réglementation F-Gas, va entraîner une réduction de la mise sur le marché et de l'utilisation de tous les HFC (quotas exprimés en équivalent CO_2). L'attribution des quotas sera faite par la Commission européenne au plus tard le 31 octobre 2014. Elle suscite de vives inquiétudes et des interrogations de la part de la filière quant à l'interprétation et la compréhension. La filière regrette notamment que les exigences de réductions soient plus fortes en début de période et le soient moins à l'approche de l'échéance 2030, où les 79 % devront être atteints.

Dès 2018 en tout cas, seuls 63 % des HFC pourront être mis sur le marché. Les fabricants et utilisateurs devront utiliser des alternatives à plus faible GWP. Les personnels devront se former et les textes réglementaires être adaptés en conséquence. À ce jour, les alternatives existent, mais pas dans toutes les applications, et elles ne sont pas toujours opérationnelles.

L'étude est téléchargeable sur le site d'Uniclima et celui de l'AFCE : www.afce.asso.fr/

- La RPF, 13 juin 2014, Par : Elise Kuntzelmann

13. CDL Launches Youtube Video Training for Air Conditioning Installers

UK: Cool Designs Ltd has launched an online video training programme to help update the skills of air conditioning installers and service engineers.

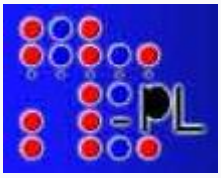
There are over 20 training videos available, covering topics on installation, commissioning, trouble-shooting and servicing of both indoor and outdoor units, in various models across the Toshiba range. Darrel Birkett, managing director of CDL, says: "Air conditioning is obviously very much a hands-on subject, particularly from the engineer's point of view. Video training provides an excellent way of conveying knowledge and showing people how to do things properly. "We have invested in making the films professional, clear and impactful, so that people can benefit and remember information. The great thing about online training is that it is available 24/7, and can be accessed by engineers with a smart phone working on site, exactly when they need it."

View videos here

- FridgeHub, June 2014

LATIN AMERICA AND CARIBBEAN

14. Bolivia disminuye emisión de sustancias que afectan la capa de ozono



La Paz, 4 jun (PL) Bolivia disminuyó considerablemente el año pasado la emisión de las sustancias químicas que afectan la capa de ozono, según un informe de hoy del Instituto Nacional de Estadísticas (INE). El INE, la víspera de las celebraciones por el Día Mundial del Medio Ambiente, informó que el año anterior la emisión de esas sustancias disminuyó de 303,8 toneladas métricas a solo 12,8.

Las sustancias que agotan o dañan la capa de ozono, según los especialistas, son químicos que pueden encontrarse en espumas o elementos utilizados para la refrigeración, los cuales tienen la capacidad de reaccionar con las moléculas de ozono de la estratosfera, y provocar su destrucción.

En los recientes años, el potencial de destrucción de la referida capa se redujo considerablemente en Bolivia y en 2013 llegó a su valor más bajo, 1,1 toneladas métricas de químicos dañinos.

La cifra más alta se registró en 2004, cuando las cantidades de referencia alcanzaron las 46,8 toneladas métricas.

- Prensa Latina, 4 junio 2014

NORTH AMERICA

15. Replacement/Conversion of Canadian CFC Chiller Stock Shows Further Decrease from 2012 to 2013

Mississauga, Ontario – The Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) today released the 2013 update on the Canadian CFC chiller stock study. This update estimates that 83 chillers previously operating on CFC refrigerants were converted or replaced during the year 2013 in Canada.

This shows a decrease from the number of conversions/replacements completed in 2012 (148).

The conversion and replacement numbers for 2012 bring the total number of converted or replaced chillers from 3788 (2012) to 3871 and the rate of conversion/replacements from 86.4% (2012) to 88.3 %. These numbers are based on the new baseline number determined in 2011 which updated the HRAI study, entitled "Determining a Baseline Number of CFC Chillers in Canada", published in July of 2000.

The purpose of the program is to provide an ongoing estimate of the number of chillers in Canada that continue to operate on CFC refrigerants and track the annual rate of conversions and replacements of this chiller stock in future years. The updated estimates of remaining Canadian CFC chiller stock based on the year 2012 numbers submitted are as follows:

Updated estimate of CFC chillers in Canada as of December 31, 1995: 4386

Conversions:	1996 to 1999	600
	2000	84
	2001	50
	2002	85
	2003	122
	2004	169
	2005	126
	2006	64
	2007	57
	2008	49
	2009	57
	2010	51
	2011	58
	2012	41
	2013	17

Replacements:	1996 to 1999	179
	2000	75
	2001	78
	2002	123
	2003	156
	2004	121
	2005	141
	2006	159
	2007	219
	2008	218
	2009	203
	2010	202
	2011	194
	2012	107
	2013	66
Total Conversions and Replacements to-date:		3871
Estimated remaining CFC Chiller stock in Canada		515
Percentage of Baseline Stock converted or replaced (3871/4386)		88.3%

'Chiller' in this context means refrigeration machinery having a centrifugal-type compressor, an evaporator, a water-cooled condenser and having a capacity range of 100 through 1200 tons. The most common application of the chiller is to provide chilled water for air conditioning systems in buildings.

The Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI), established in 1968, is the national trade association of manufacturers, suppliers, wholesalers and contractors in the Canadian heating, ventilation, air conditioning and refrigeration industry who provide the products and services for indoor comfort and essential refrigeration processes. HRAI has three (3) industry sector Divisions which are as follows: HRAI Manufacturers Division; HRAI Wholesalers Division and HRAI Contractors Division.

- The Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI), 29 May 2014

FEATURED

OZONE SECRETARIAT

Highlights: http://ozone.unmfs.org/new_site/en/index.php

The **34th Meeting of the Open-Ended Working Group of the Parties to the Montreal Protocol**, Paris, France, 14 - 18 July 2014. **Pre-session documents and general information**- Now available the Provisional agenda - UNEP/OzL.Pro.WG.1/34/1 - (**A C E F R S**)

- OEWG34: **Annotations to the provisional agenda** - UNEP/OzL.Pro.WG.1/34/1/Add.1 - Advance copy
- OEWG34: Issues for discussion by and information for the attention of the Open-ended Working Group of the Parties to the Montreal Protocol at its thirty-fourth meeting - UNEP/OzL.Pro.WG.1/34/2 - (**A C E F R S**)
- Report of the first meeting of the Bureau of the ninth meeting of the Conference of the Parties to the Vienna Convention for the Protection of the Ozone Layer - UNEP/OzL.Conv.9/Bur.1/3 (**E**)
- 9ORM: **Recommendations** - Advance Copy
- OEWG34: Proposed amendment to the Montreal Protocol submitted by Canada, Mexico and the United States of America - UNEP/OzL.Pro.WG.1/34/4 - (**A C E F R S**)
- OEWG34: Proposed amendment to the Montreal Protocol submitted by the Federated States of Micronesia - UNEP/OzL.Pro.WG.1/34/5 - (**A C E F R S**)

Montreal Protocol Meetings Dates and Venues **2014**

TEAP May 2014 Reports:

- **TEAP May 2014 - Progress Report (vol.1)**
- **TEAP May 2014 - Essential Use Nominations Report (vol. 2)**
- **TEAP May 2014 - Critical Use Nominations Report (vol. 3)**

- **TEAP May2014- Decision XXV/5 Task Force Report: Additional Information to Alternatives on ODS (Draft Report) (vol.4)** - Final version (advance version replaced on 16 June 2014)
- **TEAP May 2014 - Response to Decision XXV/6 (vol. 5)**
- **TEAP May 2014 - Decision XXV/8: Assessment of the Funding Requirement for the Replenishment of the Multilateral Fund for the Period 2015-2017 (vol. 6)** - Final version (advance version replaced on 10 June 2014)

Assessment Panels Meetings - Dates and Venues **2014**

THE MULTILATERAL FUND FOR THE IMPLEMENTATION OF THE MONTREAL PROTOCOL

Documents related to the **72nd Meeting of the Executive Committee** Montreal, Canada, 12 - 16 May 2014, are now available.

OZONACTION

OzonAction "NewsDrops" Shared on YouTube - A series of short video messages highlighting Scientific Fact-Finding on Ozone Layer…

View the videos

Job Opening/Position: Programme Assistant, G6 - Department Office: UNEP, Duty Station: NAIROBI - Posting period: 23 May - 22 June 2014 Click here for more information on how to apply

International Standards in Refrigeration and Air-Conditioning - This guide is intended to provide an introduction to standards and how they can be useful in supporting the adoption of alternatives in the context of the HCFC phase-out in developing countries. It also includes an overview of existing standards related to HCFCs and their alternatives, barriers to alternatives, the process of the adoption of international and regional standards at the national level, barriers to the adoption and how to overcome them. This publication is intended to be a concise guide for National Ozone Units (NOU), as well as for refrigeration associations, government departments, including those working on standardization issues (but perhaps not familiar with the specific requirements of the Montreal Protocol), and other stakeholders in the refrigeration and air-conditioning sector in Article 5 countries...

Informal Prior-Informed Consent (iPIC) - Summary Report - This summary report briefly describes how the iPIC system works as well as its advantages. It provides some information on the results and successes of monitoring and controlling illegal and unwanted trade in ODS through the iPIC mechanism in 2013 and encourages countries which are not yet members to join and to begin to reap the benefits of this initiative…

Phasing-out Methyl Bromide in Developing Countries: A success story and its challenges

This booklet addresses the efforts undertaken to phase-out Methyl Bromide in developing countries, the lessons learned and what is pending to reach final phase-out. It further analyses factors that may impact or put at risk the continuity of the phase-out and possible ways to mitigate them. It aims to promote the south-south and north-south-south cooperation, facilitate information exchange on advanced technologies for materials, varieties, rootstocks, etc. and raise awareness on risk of reversibility of MB uses and encourage policy to avoid it happening...

Third Edition of the Training Manual for Customs and Enforcement Officers is updated to reflect the evolving role of Customs and enforcement officers in implementing their commitments under the Montreal Protocol. It includes additional information on all the substances now controlled under the Montreal Protocol, with a focus on hydrochlorofluorocarbons (HCFCs) which are primarily used as refrigerants and foam blowing agents. HCFCs replaced chlorofluorocarbons (CFCs) which were phased out by 1st January 2010. As most ozone depleting substances are also potent greenhouse gases, the section dealing with linkages between ozone layer depletion and global warming has been extended to include new scientific findings…

See also the updated Poster "Customs Quick Tool for Screening ODS"

"**A Healthy Atmosphere: the Future we Want**" OzonAction Special Issue 2013 (OASI), dedicated to stratospheric ozone and climate change related issues and the implementation of the Montreal Protocol, providing recent information on ozone protection activities from industry, governments, NGOs and international organizations. OASI is devoted to current topics of particular interest to Article 5 countries.

Achievements & Highlights: 10th Anniversary of the Regional Ozone Network for Europe & Central Asia The 10th anniversary brochure of the ECA network reflects a decade of network operation and aims to share major achievements, case studies and highlights to provide inspiration for countries within and outside the region. Government officials, refrigeration and enforcement experts, building planners and academia, Montreal Protocol secretariats, implementing agencies and bilateral partners, private sector companies and trade associations as well international organizations contributed more than 85 exciting articles and quotes to this bilingual English -Russian brochure.

National Ozone Officers Guide. This guide introduces and summarizes the many important issues about the Montreal Protocol on Substances that Deplete the Ozone Layer that Ozone Officers (NOOs) need to know to perform their job effectively. Presented in an easy to understand format, the guide is designed to provide new NOOs and their assistants with the critical knowledge needed to quickly understand the Montreal protocol system and the country's obligations under the Montreal Protocol.

Putting a face to ozone depletion in Africa: HPMP Implementation in Africa, a special case study of Senegal. This guide introduces the implementation of Montreal Protocol in Africa. It describes the HCFC phase-out management plans (HPMPs) in selected African countries, especially in Senegal. It focuses on ozone, climate and energy efficiency aspects.

OzonAction Publications Catalogue 2014. Information on science, policies, and technologies forms the base of technology support and capacity building. Since 1991, the information clearinghouse of UNEP DTIE OzonAction has been helping developing countries to make informed decisions about phase-out by providing quality reviewed, need-based information services. Never before has such a power tool been so badly needed as now, when the Montreal Protocol is entering the second phase and when the climate benefits of its implementation are becoming so clear and evident. Showcased in this catalogue - sector-wise, as well as function-wise - are more than 145 publications, CD ROMS, videos, posters, TV spots, radio spots, DVD and other awareness materials to help National Ozone Units (NOUs) and other stakeholders in industry and governments to build their capacity to implement the Montreal Protocol and at the same time derive climate.

"The Arctic and the Ozone Layer"- background: In 2011, extremely low ozone levels were recorded in the Arctic region. This episode in the North Pole - the Arctic - has triggered concerns on the trend of the ozone layer's recovery, expected to fully happen by mid-century. With the support of the Government of Norway, UNEP is investigating the causes of this depletion and the scientific explanations for such an unexpected episode in the Arctic. This 16-minute documentary reports the impacts on the region's ecosystem and the changes' foreseen risks in the Arctic that may affect human life also in mid-latitudes. This video output is jointly branded by the WMO (World Meteorological organisation) and brings to light some of the so much discussed inter-linkages between the climate and ozone issues on the voices of internationally known scientists. Click here to view video

EVENTS

2014

3rd Annual ATMOsphere America 2014, 18-19 June 2014, The Westin Market Street, San Francisco, The United States

Find all ATMOsphere Summary Reports here

3rd IIR International Conference on Sustainability and the Cold Chain, 23-25 June 2014, St Mary's University College, Twickenham, London, UK

ASHRAE 2014 Annual Conference, 28 June-2 July, Seattle, Washington, US

The Future of HVAC 2014 Conference, July 2014, Sydney, Australia. Abstract / submissions for this conference are open

5th International Biofumigation Symposium, 9-12 September 2014, Harper Adams University, UK

AIRAH **Acoustics Workshop 2014**, Thursday, 18 September 2014, Sydney, Australia.

Intercool, 21-23 September 2014, Düsseldorf, Germany

Énergies Froid, 1-2 octobre 2014, Rennes, France - deux journées dédiées à l'information pour répondre aux questions et aux enjeux de la profession.

Chillventa 2014, 14-16 October 2014, Nuremberg, Germany - the Exhibition for Energy Efficiency, Heat Pumps and Refrigeration, Trends & Innovations from the Refrigeration and Air Conditioning Sector

F-Gas Implementation Conference, 11 November 2014, Carisbrooke Hall, London W1, UK - The new F-Gas Regulation will lead to new significant changes and challenges for the sector. This conference from the joint trade associations and professional institutes will provide clear and reliable information on these changes and how they impact key sectors...

The International Symposium on New Refrigerants and Environmental Technology 2014, organized by The Japan Refrigeration and Air Conditioning Industry Association (JRAIA), 20 - 21 November 2014, International Conference Center Kobe, Main Hall, Kobe, Japan.

4emes journées chaine du froid des produits de santé, organisées par AFF et SFSTP, à ENS Lyon, France, 26 - 27 novembre 2014

2015

ASHRAE Announces Call for Papers for 2015 Winter Conference, 24-28 January 2015, Chicago, Atlanta

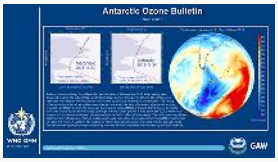
International Conference **IIR Commission B2 with B1 and D1 / Ammonia and CO_2 - Refrigeration Technologies**, 16-18 April 2015, Ohrid, Republic of Macedonia

FRIGAIR Africa 2015 is a go! 3-5 June 2015, Gallaghar Estate, Midrand. South Africa. FRIGAIR 2015 Showcasing the crucial role played by the HEVAC&R industry and the rapidly developing technology in eco-friendly efficiency.

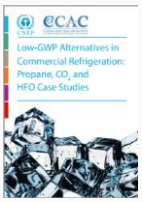
READING

Read / Download this publication for free -

Greenleaf Publishing is pleased to make its book "**Ozone Connections: Expert Networks in Global Environmental Governance**" authored by Penelope Canan and Nancy Reichman, freely available to the UNEP and its National Ozone Units worldwide for one year, beginning on 16 September 2013. Read more

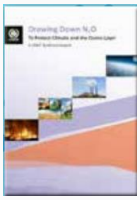


WMO Antarctic Ozone 2013 Bulletins - The World Meteorological Organization Secretariat issues bulletins containing information on the state of the ozone layer in the Antarctic at roughly two week intervals from August to November. The bulletins are based on data provided by WMO Members which operate ozone monitoring stations in the southern hemisphere and satellites to observe ozone globally. WMO Antarctic Ozone Bulletins: 2013

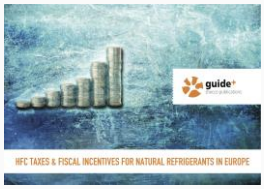


Low-GWP Alternatives in Commercial Refrigeration: Propane, CO_2 and HFO Case Studies The CCAC has launched a transformative initiative (entitled 'The HFC Initiative, Promoting HFC Alternative Technology and Standards') for rapid implementation aimed at promoting HFC alternative technologies and standards to significantly reduce the projected growth in the use and emissions of high-global warming potential (GWP) HFCs in coming decades relative to business-as-usual scenarios. The objectives of the initiative are to mobilise efforts of the private sector, civil society, international organisations, and governments…

Renewables 2014 Global Status Report – See Global Overview - Heating and cooling, page 28.



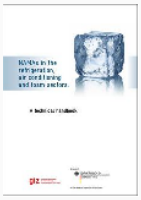
Drawing down N2O to protect climate and the ozone layer A UNEP synthesis report addressing the benefits of drawing down nitrous oxide (N2o) emissions. N2o is now the most significant ozone-depleting substance emission and the third most important greenhouse gas released into the atmosphere. Global anthropogenic N2o emissions are rapidly increasing and are expected to almost double by 2050 unless mitigation action is accelerated. The continued build-up of N2o, in the atmosphere will continue to deplete the stratospheric ozone layer and in so doing will to a degree undermine the achievements of the Montreal Protocol. The build-up of N2owill also make it more difficult to achieve climate targets.



GUIDE+: HFC taxes & fiscal incentives for natural refrigerants in Europe, a comprehensive overview of existing and proposed fiscal measures aimed at reducing the HFCs use and emissions in HVAC&R sectors, while encouraging the switch to climate-friendly technologies, in key Europe countries.

UNIDO & shecco launch first GUIDE on Natural Substances in Developing Countries - The report, summarizing results from the ATMOsphere Technology Summit and global surveys gathering perspectives from emerging economies, is another clear step to strengthen shecco's involvement in international project activities helping developing countries seize additional climate benefits from natural refrigerants and foams.

Primer on Hydrofluorocarbons, Fast action under the Montreal Protocol can limit growth of HFCs, prevent up to 100 billion tonnes of CO_2-eq emissions by 2050, and avoid up to 0.5°C of warming by 2100. IGSD, January 2014, Lead authors: Durwood Zaelke, Nathan Borgford-Parnell, and Danielle Fest Grabiel. Contributing authors: Stephen O. Andersen, Xiaopu Sun, Dennis Clare, Yuzhe Peng Ling, and Alex Milgroom.



A technical handbook by GIZ Proklima on **Nationally Appropriate Mitigation Action (NAMAs) in the refrigeration, air conditioning and foam sectors** (RAC&F) a comprehensive guideline for the preparation and implementation of cost-effective mitigation actions on that particular sector. Produced as part of a global project on NAMAs on RAC&F, financed by the International Climate Initiative of the German Environment Ministry.

"**GHG or not GHG: Accounting for Diverse Mitigation Contributions in the Post-2020 Climate Framework**." published by The Organisation for Economic Co-operation and Development (OECD)/International Energy Agency (IEA) Climate Change Expert Group (CCXG), highlights that the parties to the UNFCCC are working towards a new climate change agreement in 2015 and are likely to put forward a diverse range of intended national mitigation contributions. It notes that these contributions could vary from greenhouse gas (GHG) to non-GHG (such as energy efficiency) goals, using a variety of accounting approaches, which would determine the actual levels of emission reductions.

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

2014 ASHRAE Handbook Focuses on Refrigeration - covers refrigeration equipment and systems for applications other than human comfort. The 51 chapters in this volume include information on cooling, freezing, and storing food; industrial applications of refrigeration; and low-temperature refrigeration.

HCFC Phase Out Gazetted - The Department of Environmental Affairs has issued government notice 351 in the **Government Gazette on 8 May 2014 for 'National Environmental Management: Air Quality Act (39/2004)**: Regulations regarding the phasing-out and management of ozone-depleting substances'. This document was signed by Bomo Molewa, Minister of Water and Environmental Affairs on 8 May and the 16-page document includes sections of the purpose of the regulations; prohibitions, and phase-out schedules; reclamation, discharge, or release of ozone-depleting substances; and information management regarding the importing and exporting of these substances, among others.

Manitoba Ozone Protection Industry Association (MOPIA), Canada,

E-Bulletin, June 2014

"**Green Cooling for a Warming Wold**". A new video by Proklima - explains how cooling technologies are linked to our climate and what it needs to ensure that they are truly environmentally friendly. Together with the Film Academy Ludwigsburg, GIZ Proklima has created a video for the Green Cooling Initiative (GCI). The video shall enhance awareness on the harmful effects of f-gases on the ozone layer and the climate. Exemplarily, our "green cooling-family" discovers various practises of cooling in their life and learns about the use of natural refrigerants as an environmentally-friendly alternative to chemical refrigerants.

Magnets Bring Refrigerators to the Brink of Revolution- The developers of a new magnet-based cooling system claim their invention has brought the refrigeration industry to the "cusp of revolution."

MISCELLANEOUS

UN Set to Target HFCs at Abu Dhabi Climate Meeting - Countries debated reduction in use of potent greenhouse gases under UN's ozone treaty … **Responding to Climate Change (RTCC)**

US EPA GreenChill webinar on: "**Case Door Retrofits - Costs and Benefits**" Date: **Tuesday, 17 June 2014** | Time: 2:00 pm to 3:00 pm (Eastern time) Description: Lance Durr (Stater Bros.) and Rob Arthur (CTA) will provide a presentation on the environmental and economic benefits of retrofitting display case doors, based on the experiences of an ongoing project in Stater Bros. stores. This webinar will provide updated information from an August 2013 presentation. **To join the webinar**:

1. Go tohttps://epa.connectsolutions.com/casedoorwebinar/

2. Select "Enter as a Guest". *It is important that you select the option to enter as a guest.*

3. Enter your name. 4. Click "Enter Room". 5. Click "OK".

For audio

1. Call the toll free call-in number: 1-866-299-3188 (706-758-1822 from outside the U.S.)

2. Use Conference Code: 202 343 9185#

Russian Federation, Belarus and Kazakhstan Adopt Chemical Safety Regulation The Eurasian Economic Commission, which includes Belarus, Kazakhstan and the Russian Federation, has adopted a regulation on the safety of chemical products, which will become legally binding when the three countries agree on implementation details. Implementation issues yet to be resolved include the procedure to establish and maintain a chemicals register, how to notify of new substances, registration deadlines, type of documents to be submitted, rules on confidential business information (CBI) and rights to use the data submitted. Read more …

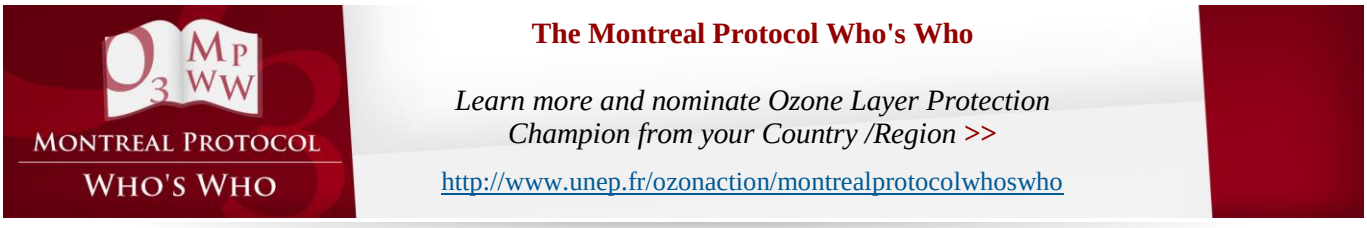
OECD Launches Website on Pesticide Risks to Pollinators - The Organisation for Economic Co-operation and Development (OECD) launched a website on Managing Pesticide Risk to Insect Pollinators. The website is intended to provide a central location for information on regulatory approaches taken by OECD countries to mitigate the risk of pesticides to pollinators. Read more …

E-learning module for law enforcement officers on hazardous chemicals and wastes under the Basel, Rotterdam and Stockholm Conventions, available in Arabic, English, French and Spanish.

AIRAH's Graduate Training Program on Track for 2015 Launch- The training program will cover essential HVAC&R knowledge for engineering graduates – professionals who are employed in consulting or contracting firms, but who have had little or no exposure to the HVAC&R industry before employment.

The pilot subject was "Introduction to HVAC&R – System Types and Applicability", from the Fundamentals subject group.

The program will run for nine months, separated into two semesters. The content will be delivered online, with 100 hours' worth of topics divided into four key areas: Fundamentals; Equipment and Components; Systems; and Practice and Performance…



Follow OzonAction on:

http://www.facebook.com/ozonaction

http://www.slideshare.net/ozonaction

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.

http://twitter.com/ozonaction

http://www.youtube.com/ozonaction

Prepared by: Samira Korban-de Gobert, OzonAction

Reviewed by: Shamila Nair-Bedouelle, Head OzonAction Branch, and Ezra Clark, OzonAction

If you wish to submit articles, invite new subscribers, please contact:

Mrs. Samira Korban-de Gobert, Tel. (+33) 1 44.37.14.52, samira.degobert@unep.org

To unsubscribe, send a blank message to samira.degobert@unep.org with 'unsubscribe OzoNews' as the subject.