Press Articles on Refrigerants, Naturally! in 2009

February

Environmental Investigation Agency: Press Release: 01 February 2009

CHILLING FACTS: SUPERMARKETS SLAMMED IN NEW EIA GLOBAL WARMING & REFRIGERATION SURVEY

BUDGET supermarket Iceland has come bottom in a new EIA survey examining the global warming impact of supermarket in-store fridges and freezers.

The Chilling Facts survey, carried out by the Environmental Investigation Agency (EIA) asked supermarkets about the global warming impacts of their refrigeration.

Marks & Spencer came top of the league table, mainly for efforts to improve. But overall, none of the 10 major supermarkets fared well in the EIA survey.

Tesco came second largely because of their investment in climate-friendly refrigeration – but they were also the supermarket with the largest carbon footprint from their cooling because they have the most stores.

Worst of all was negative-scoring Iceland, closely followed by the other budget stores, Aldi and Lidl who all refused to provide any information about what they were doing. Waitrose scored worst amongst the major players. Their responses were vague and uninformative giving the impression that they were apathetic and didn't take the issue seriously. Morrisons also seemed to be lagging because they refused to participate in the survey.

Asda and Co-op scored points for energy-efficiency targets but had problems with leakages of the highly potent greenhouse gases. Sainsbury also had good energy efficiency targets but overall, carbon dioxide equivalent emissions are still rising.

Slow to shift

The HFC gases (hydrochlorofluorocarbons) used in supermarket fridges and freezers have a far greater global warming impact than carbon dioxide – commonly over 4,000 times as much. Furthermore, supermarkets are the UK's biggest source of HFC emissions. But there are viable alternatives that can be used. These climate-friendly alternatives have been adopted in countries like Germany and Denmark and by major multinationals like McDonalds and Coca Cola. But UK supermarkets are being slow to make the shift.

Fionnuala Walravens of EIA said: "Our survey results are hugely disappointing. Even though supermarkets know that their refrigeration chemicals are a major contributor to climate change, they're not yet doing anything much about it."

Carrier bags

EIA's Chilling Facts campaign is supported by Julia Hailes, a sustainability consultant and author of The New Green Consumer Guide. She said: "As much as 30% of the climate change impact of supermarkets can come from refrigeration cooling gases. If we can get them to switch to climate-friendly alternatives it would be vastly more significant than cutting back on carrier bags."

One of the main findings of the survey was uncovering a shortage of engineers qualified to work with climate-friendly refrigeration.

EIA is now calling for supermarkets to commit to all new refrigeration being climate-friendly by the end of 2009 and all equipment by 2012. They should also require all refrigeration engineers used to be trained to work with climate-friendly gases. And join Refrigerants Naturally initiative, which is helping big companies to ditch climate-unfriendly gases.

Notes for Journalists:

• The Environmental Investigation Agency is an independent campaigning organisation committed to bringing about change that protects the natural world from environmental crime and abuse.

• The Chilling Facts Campaign has been set up by EIA to highlight the global warming impacts of refrigeration and air conditioning gases and promote climate-friendly alternatives.

• The Chilling Facts survey was conducted in the Summer of 2008 by sending a out a questionnaire asking supermarkets about their refrigeration in-store, behind the scenes and for transport – as well as about leakages, energy-efficiency, training of refrigeration engineers and future plans.

• The Chilling Facts Campaign Steering Group reviewed the information from the survey and awarded points. Its members were: Fionnuala Walravens from EIA; refrigeration expert, Nick Cox from Earthcare Products; and sustainability consultant, Julia Hailes.

• Leaking refrigerants accounts for about a quarter of a supermarket's direct climate change emissions. In 2005 the global warming impact of these emissions were equivalent to producing 10 billion plastic carrier bags, taking 2 billion car trips to the supermarket or flying from London to New York over 2.5 million times.

• Emissions from HFCs (used in refrigeration and air conditioning) are predicted to triple by 2015, which means that their impact on climate change would be more than double that of CO2 (using 2006 CO2 levels).

• Refrigerants, Naturally! is a global initiative of companies committed to combat climate change and ozone layer depletion by substituting harmful fluorinated gases ("F-gases", such as CFCs, HCFCs and HFCs) with natural refrigerants and with a focus on their point-of-sale cooling applications. Refrigerants, Naturally! is supported by Greenpeace and the United Nations Environment Programme and recognised as a "Partnership for Sustainable Development" by the UN Commission on Sustainable Development.

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Supermarkets fingered for refrigeration greenhouse gases

A chilling wake-up call has been issued about the global warming potential of hydrofluorocarbons

Here's a retro environmental panic: refrigeration. In the 1980s, it was difficult to maintain inner peace given anxiety over CFCs depleting the ozone layer. Then they were replaced by HFCs (hydrofluorocarbons) which did not and we could all sleep easy.

Now the issue is back with a chilling wake-up call from the Environmental Investigations Agency (EIA). Its first 'refrigeration and global warming survey' reveals that while HFCs solved the ozone problem, no one thought to take into account their global warming potential, which is 10,000 times greater than carbon dioxide.

The EIA looked at UK supermarkets, which own the most fridges in the country and are responsible for the largest share of HFCs. The refrigeration and air conditioning equipment of supermarkets containing HFCs produces the equivalent of two million tonnes of CO2 every year, equal to flying from London to New York more then 2.5 million times (and yes, carbon geeks, this estimate includes a conservative estimate of radiative forcing).

You may be wondering how these HFCs find their way into the atmosphere: cooling systems are, after all, sealed. The problem is leakage: supermarkets are particularly prone to this because many use lengthy pipes - which are especially vulnerable - that connect behind-the-scenes chiller units to the cabinets we buy our milk from. HFCs can also escape when fridges are disposed of.

It needn't be this way. A Refrigerants Naturally programme set up by the UN and Greenpeace has already seen Unilever, Coca-Cola and McDonalds "deploying greener refrigeration".

Which begs the question: what are our big supermarkets doing about it? The EIA's conclusions, garnered through a detailed questionaire sent out to 11 UK supermarkets, are pretty disappointing.

Despite the fact that, in 2007, M&S, Asda, Tesco, Somerfield, Waitrose and Sainsbury's announced intentions to move away from HFCs, there appears to have been a very tardy trudge in the right direction.

M&S tops the table for energy-saving efforts, followed by Tesco. Both had supplier training programmes in place and M&S also had a target to use climate-friendly refrigerants in 10 stores. Waitrose came bottom of the majors because its answers were deemed vague. Lidl, Aldi and Iceland came bottom because they didn't return any answers.

Perhaps we should give Waitrose, Lidl, Aldi and Iceland the benefit of the doubt – perhaps they are ditching climate-unfriendly fridges secretly but, given the hoo-ha all supermarkets tend to make about any supposed planet-saving innovations such as limiting plastic bags, I'd guess this is unlikely.

As Julia Hailes, an environmental author who analysed the survey results, says: as much as 20% of the climate change impact of supermarkets can come from refrigeration cooling gases. If we get them to switch to climate-friendly alternatives it would be vastly more significant than cutting back on carrier bags.

March

PepsiCo uses hydrocarbons in 5,000 vending machines

2009-03-31 - *hydrocarbons21.com*

Amid efforts to green its identity, PepsiCo has now thousands of greener vending machines worldwide, 5,000 of which use hydrocarbons isobutane and propane. In a move that has been acclaimed by environmental NGO Greenpeace, Pepsi's new machines generate considerable lesser amounts of GHG emissions than current ones.

In a press release, issued this Monday, PepsiCo announced it was testing thousands of vending machines around the world that relied on isobutane and propane refrigerants. More specifically an estimated 5,000 Pepsi hydrocarbon vending machines are currently been used globally.

PepsiCo worked with Greenpeace Solutions, an arm of the large environmental organisation, to develop a programme of testing greener vending machines, including hydrocarbon and carbon dioxide machines. "Changing the chemicals in refrigeration is the low hanging fruit of climate change. We can make enormous progress using existing technology much of which is already in use in Europe and Asia, and Pepsi's tremendous improvements in energy savings takes these technologies a step further. It is gratifying and exciting to see PepsiCo take such a strong leadership role," says Amy Larkin, Director of Greenpeace Solutions.

Pepsi greening their refrigeration

As a member of Refrigerants Naturally! since 2006 and in a move to reduce its carbon footprint and green its image, Pepsi is focusing on three main points to reduce its overall carbon footprint and be in line with its strategic targets:

- Energy: Improving the energy efficiency of its machines, as energy use accounts for the vast majority of refrigeration equipment's GHG emissions
- Insulating Foam: Eliminating HFCs from the insulating foam in vending machines, coolers and fountain equipment
- Refrigerants: Using green refrigerants instead of HFCs in its equipment

Through initiatives such as improving the energy efficiency of its vending machines and mandating that the foam used to insulate its vending machines and coolers be free of HFCs PepsiCo maintains to

have reduced greenhouse gas emissions from its refrigeration equipment by 598,000 metric tons, an average of 282,000 metric tons/year.

Background

PepsiCo currently has about 4 million to 5 million vending machines and coolers around the world. It is a member of Refrigerants Naturally!, the global initiative focused on addressing climate change and ozone layer depletion caused by hydrofluorocarbon (HFC) gases.

The New Pepsi Challenge: Greening the Soft Drink Industry : The Inspired Economist

http://inspiredeconomist.com/2009/03/31/the-new-pepsi-challenge/ 14.07.2009 16:32:52

The Inspired Economist

The New Pepsi Challenge: Greening the Soft Drink Industry
(http://inspiredeconomist.com/2009/03/31/the-new-pepsi-challenge/)

PepsiCo, the makers of Pepsi , Mountain Dew, and Aquafina, have begun field-testing 30 green vending machines. The machines feature a redesigned Pepsi logo and are prominently marked as green technology. Apparently, the cola wars (http://inspiredeconomist.com/2009/02/13/cow-urine-to-drink-anyone/) spilled over into the green tech sector a few years ago. Coca Cola has placed vending machines that use Hydrofluorocarbon (HFC) alternatives at the Olympic Games (http://www. greenbiz.com/news/2009/03/30/pepsi-efficient-vendingmachines) since 2004 as well as at several other international events. Not to be outdone, along with the machines Pepsi is testing in the nation's capital, they are testing a few thousand other machines around the world that use other green refrigerant alternatives to HFCs (http:/ /inspiredeconomist.com/2008/12/23/co2-vsfluorocarbons-the-battle -for-the-automotive-air-conditioning-market-rages-on/) . Moreover, the older models these green machines are set to replace are themselves improvements over models from 2003. Both companies have also joined with Greenpeace and several other corporations to form the Refrigerants, Naturally! (http://www.refrigerantsnaturally.com/) coalition, a group determined to reduce the environmental impact of HFC refrigerants.

The new Pepsi vending machines in D.C. have dispensed with HFCs in favor of carbon dioxide as a coolant, emitting at least 12% less greenhouse gas than earlier models. They also consume 15% less energy — 5.08 kilowatt-hours (kWh) as opposed to 6 kWh. (And these current machines already consume 44% less energy than those from six years ago.) The test machines in other parts of the world are using other refrigerant alternatives, including isobutane and propane.

While these machines cost more to manufacture, they cost less to operate due to the savings on electric bills. But PepsiCo (http://www.pepsico.com/Purpose/ Sustainability/Sustainability - Report/Environmental-Sustainability .aspx) is currently more concerned with promoting an environmentally friendly image, especially given criticisms over the industry's conspicuous consumption of both plastic and water. In fact, they have pledged to reduce both water (http://inspiredeconomist.com/2008/03/25/world-water-day-global-water-challenge-and-ashokas - changemakers-tap-local-solutions-to-the -water-crisis/) and electricity consumption by 20% and fuel consumption by 25% by 2015.

Robert Lewis (http:/ /www.ausfoodnews.com.au/2009/03/31/pepsi-testing-new-environmentally-friendly-vending-machines.html) , PepsiCo's vice president of packaging and equipment development, said that the company has high hopes for their test, stating, "We're constantly looking for ways to make our business more efficient and environmentally sustainable. This field-test will help us evaluate the performance and reliability of these new machines in a real-world environment."

Written by Lisa Wojnovich

Published on March 31st, 2009 in Conservation, Sustainable Business

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R744.com - Your Market Place for CO_2 Technology, News & Policy

http://www.r744.com/article.print.php?Id=911 23.04.2009 10:50:15

PepsiCo pilot project to green drinks with CO vending machines

R744.com - 2009-03-31

PepsiCo announced i t was launching a pilot program in US capital Washington DC to test most climate-friendly vending machines ever in the US . 30 such vending machines will be placed in high consumer traffic places in a bid to test the new CO refrigerant systems.

As a member of Refrigerants Naturally! since 2006 and in a move to reduce its carbon footprint and green its image, Pepsi proudly announced its pilot project this week. Featuring its new logo and an environmental sticker on each bottle, the 30 new R744 dispensers will be tested over a period of 18 months in the capital with the aim of rolling them out globally over the next few years.

"We're constantly looking for ways to make our business more efficient and environmentally sustainable. This field test will help us evaluate the performance and reliability of these new machines in a real-world environment. We hope to get a sneak preview of what sustainable refrigeration could look like on a larger scale," explained Robert Lewis, vice president of packaging and equipment development for PepsiCo.

More efficient machines

In a move that has been acclaimed by environmental NGO Greenpeace, Pepsi 's new machines will generate 12% less Green House Gas (GHG) emissions than current ones and will use 5.08 kilowatt-hours of energy per day. The CO vending machines will be the first of their type to be introduced in the US. The current machines already use 44 percent less energy on average than the machines used than in 2002.

"Many people don 't realize that the largest part of a vending machine's GHG emissions - about 95 percent, in fact - come from the energy required to run i t. The insulating foam and refrigerant gases are responsible for the rest, and we're committed to reducing all parts of the equation," added Lewis.

In a threefold strategy to reduce the overall environmental impact of the machines, Pepsi is committed to:

- Improving the energy efficiency of its machines
- Eliminating HFCs from the insulating foam in vending machines, coolers and fountain equipment
- Using green refrigerants instead of HFCs

Background

Refrigerants Naturally! is a global initiative focused on addressing climate change and ozone layer depletion caused by hydrofluorocarbon (HFC) gases.

PepsiCo is one of the world's largest food and beverage companies, with 2008 annual revenues of more than $ 43 billion. The company employs approximately 198 ,000 people worldwide , and its products are sold in approximately 200 countries.

June

Technology

HFCs: Ozone-saving gas targeted for climate effect

12 Jun 2009 | Author: Emma Clarke | Print version | Send to a friend

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The use of Hydrofluorocarbons in cooling systems may save the ozone layer - but it will harm the climate

The Montreal Protocol, set in action in 1987, forced the phase-out of ozone-depleting gases chlorofluorocarbons (CFCs) and later hydrochlorofluorocarbons (HCFCs). But the hydrofluorocarbons (HFC) that are replacing them could have an equally negative impact on climate change.

HFCs are used as refrigerants and foam-blowing agents and emitted as leakage from air conditioning and refrigeration systems. They have a global warming potential similar to that of HCFCs and hundreds to thousands of times greater than carbon dioxide.

Unless action is taken, the Intergovernmental Panel on Climate Change (IPCC) predicted that emissions of HFCs will triple from 0.4 billion tons carbon dioxide equivalence in 2002, to 1.2 billion tons in 2015. The Environmental Investigation Agency (EIA) expects HFC emissions to be considerably higher in light of the accelerated phase-out of HCFCs agreed by the Montreal Protocol in September 2007.

The biggest emitters of HFCs are mobile air conditioning (MAC) systems in cars (66% of all HFC emissions according to 2002 data from US EPA and ADEME); followed by commercial refrigeration, and particularly supermarket refrigeration (23%); and finally stationery air conditioning systems (6%) such as found in retail units and offices.

Cooling cars

In 2006, the European Unions MAC Directive banned the use of mobile air conditioning refrigerants with a GWP over 150 in new model cars by 2011 and in all cars by 2017. Since then, there has been a flurry of activity by manufacturers looking for alternatives.

The two contenders are the chemical HFO-1234yf and carbon dioxide, known as R744 as a refrigerant. According to the Alliance for CO2 Solutions, a grouping of organisations that support the use of CO2 Technology in car air conditioning, there is an estimated $14.5 billion global market for car air conditioning to fight for.

On one side are chemical giants DuPont and Honeywell, that have jointly developed HFO-1234yf. Its selling point to car manufactures is that it is a near drop-in replacement to HFC-134a and doesnt require a complete MAC system redesign.

CO_2, on the other hand, operates at higher pressure so requires a new system with new components and tooling. New technology will spell unwanted costs and hassle for car makers.

But costs will come down once mass volumes are achieved, say CO_2 manufacturers. Frank Wolf, CEO of Obrist Engineering that develops R744/ CO_2 technology for MAC systems, says a R744 MAC system will add just 20 euros to the cost of a car on a run of one million. CO_2 itself is cheap and readily available.

R744 manufacturers also argue that, unlike HFO-1234yf, CO_2 is proven, safe, natural and sustainable. In a letter to German OEMs in May, Greenpeace Germany raises concerns over the chemicals flammability, stating that the claim that 1234yf will be an alternative is not only wrong but also life threatening; the legal consequences not calculable.

HFO-1234yf is mildly flammable, says Taner Eryilmaz, DuPont global marketing manager, but adds that all risk assessments undertaken by the Society of Automotive Engineers (SAE) International Cooperative Research Program, and additional tests by OEMs, have concluded that 1234yf is safe in

mobile air conditioning. They have gone to extreme, unrealistic conditions just to see what it takes to ignite 1234yf and their conclusion remains the same, he says (opponents question the independence of tests.)

As the debate rumbles on, car manufacturers are not placing orders. As a result, it is looking increasingly likely the 2011 deadline for the MAC directive will be delayed.

Without the politics to battle with, the commercial refrigeration industry is making faster progress towards climate-friendly alternatives.

Fridges

Refrigerants, Naturally! is a corporate alliance of Coca-Cola, McDonalds, Unilever, Carlsberg, Ikea, and the PepsiCo, with support from Greenpeace and the United Nations Environment Programme, to replace HFC technology in favour of natural refrigerants.

Coca Cola plans to install 100,000 cold drink coolers and vending machines using CO_2 as refrigerant by the end of 2010. (Coca Cola has 10 million coolers in operation.) CO_2 works. It's more efficient, and importantly, it is safe. It is the future, and now we are taking steps to making it a reality Neville Isdell, Coca-Cola chairman and CEO at a speech in Beijing last year.

By early 2009, Unilever had 400,000 hydrocarbon freezer cabinets in use, and plans to double this figure by 2010 to generate 80,000 tonnes GHG emissions savings per year, according to calculations from Refrigerants, Naturally!

US restrictions against the use of hydrocarbon (which is flammable) in the US are holding back progress. But in 2008, Ben & Jerry's, part of Unilever, received federal permission to install and test the first hydrocarbon-based freezers in the United States.

Drink coolers are just the beginning. Much greater emissions savings can be achieved by switching supermarket fridges and freezers over to climate-friendly alternatives. Research from EIA has revealed that supermarkets are the biggest source of HFC emissions in the UK. And refrigerants account for around a quarter of a supermarkets GHG emissions (20% in the case of Tesco for 2008/09).

But supermarkets are lagging. In a survey carried out by EIA in summer 2008, it found that none of the UKs seven largest supermarket chains had more than four stores using HFC alternatives.

But there are signs of progress. From 2010, Marks & Spencer has pledged to only install climate-friendly CO_2 systems. It is also trialling a new HFC with lower global warming impact that, if successful, will replace all existing HFC systems by 2012.

Cool air

The move to climate-friendly alternatives in stationery air conditioning has been slower. Hydrocarbon and ammonia systems exist, but only in dozens of buildings in the UK, says Nick Cox, MD of environmentally-friendly air conditioning supplier Earthcare Products. But there is enough out there to prove the technology, he adds.

Earthcares hydrocarbon systems are being used by companies and government departments that implement their environmental policies rather than ignore them, he says. Enquiries are also coming in from supermarkets that are already using natural refrigerants in fridges.

But Cox says it will take regulation to prompt a wholesale move away from HFCs in stationery air conditioning.

A credible goal?

Cost is the major barrier. Most companies are only using HFC-free solutions in new equipment rather than replace existing. But the cost of doing this is still high.

The cost of the natural refrigerants themselves is low, sometimes lower than HFC. But because the technology is newer, the costs tends to be higher, says Daniel Colbourne from the Refrigerants, Naturally! Secretariat. He estimates that a CO_2 point-of-sale chiller could cost around twice as much as an HFC equivalent.

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Cost is not the only factor. The whole industry needs to change, says Bob Arthur, refrigeration technology specialist at Marks & Spencer. The refrigeration industry needs to be able to support the alternative fluids in terms of equipment availability, quality trained operatives, and understanding of the alternatives application.

Regulatory horizon

Challenging or not, this isnt something companies dare ignore with global regulation for HFCs on the horizon. EIA is calling for a global HFC phase out that would cover all sectors. It believes the Montreal Protocol is a good mechanism to co-ordinate this.

With the Obama administration recently expressing support for a clamp down on HFCs, and with HFCs being formally discussed at the climate meeting in Bonn this week, Fionnuala Walravens, EIA global environment campaigner, thinks a global phase could be on the cards. So much has happened in the last six months that it looks like it could become a political reality. Some sort of agreement on HFCs would be a positive outcome at Copenhagen.

Natural refrigerants

- Carbon dioxide (R744) used as a refrigerant before the discovery of CFCs. Global warming potential (GWP) of 1, non-ozone depleting, non-toxic, non-flammable. CO_2 operates at a higher pressure than HFCs, which means it requires new system design and components.
- Hydrocarbon (isobutane (R600a) and propane (R290)) negligible GWP, non-ozone depleting, non-toxic, flammable. US and Canada places restrictions on the use this flammable gas. But it is used in over 300 million household fridges across Europe, Japan, Russia and China. Unlikely to be appropriate for use in large applications such as supermarket fridges as a result of its flammability.
- Ammonia No GWP and non-ozone depleting. It is a hazardous substance, but used safely around the world in large-scale industrial cooling systems such as food processing and building air conditioning.

Fluorocarbons (F-gases)

- CFCs and HCFCs - Chloroflourocarbons and hydrochlorofluorocarbons are ozone layer-depleting substances (as well as potent greenhouse gases) regulated by the Montreal Protocol.
- HFCs Hydroflourocarbons are non ozone-depleting and were developed as replacements for CFCs. But they are strong greenhouse gases and are regulated by the Kyoto Protocol. HFC-134a , that accounts for the bulk of HFCs used, has a GWP of 1,430 over a 100-year lifetime.

Source: http://www.afeas.org/greenhouse_gases.html

Respond:

Write to the Editor at zara@climatechangecorp.com.

Article: http://www.climatechangecorp.com/content.asp?contentid=6183 (June 2009)

HFCs: Ozone-saving gas targeted for climate effect

The use of hydrofluorocarbons in cooling systems may save the ozone layer – but it will harm the climate. From ClimateChangeCorp, part of the Guardian Environment Network

From ClimateChangeCorp, part of the Guardian Environment Network guardian.co.uk, Monday 15 June 2009 14.52 BST

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With the Obama administration recently expressing support for a clamp down on HFCs, and with HFCs being formally discussed at the climate meeting in Bonn this week, Fionnuala Walravens, EIA global environment campaigner, thinks a global phase could be on the cards. "So much has happened in the last six months that it looks like it could become a political reality. Some sort of agreement on HFCs would be a positive outcome at Copenhagen."

Natural refrigerants

* Carbon dioxide (R744) – used as a refrigerant before the discovery of CFCs. Global warming potential (GWP) of 1, non-ozone depleting, non-toxic, non-flammable. CO2 operates at a higher pressure than HFCs, which means it requires new system design and components.

* Hydrocarbon (isobutane (R600a) and propane (R290)) – negligible GWP, non-ozone depleting, non-toxic, flammable. US and Canada places restrictions on the use this flammable gas. But it is used in over 300 million household fridges across Europe, Japan, Russia and China. Unlikely to be appropriate for use in large applications such as supermarket fridges as a result of its flammability.

* Ammonia – No GWP and non-ozone depleting. It is a hazardous substance, but used safely around the world in large-scale industrial cooling systems such as food processing and building air conditioning.

Fluorocarbons (F-gases)

* CFCs and HCFCs - Chloroflourocarbons and hydrochlorofluorocarbons are ozone layer-depleting substances (as well as potent greenhouse gases) regulated by the Montreal Protocol.

* HFCs – Hydroflourocarbons are non ozone-depleting and were developed as replacements for CFCs. But they are strong greenhouse gases and are regulated by the Kyoto Protocol. HFC-134a , that accounts for the bulk of HFCs used, has a GWP of 1,430 over a 100-year lifetime.

• *This article was shared by our content partner ClimateChangeCorp, a member of the Guardian Environment Network.*

New Science Confirms Refrigerant Gases Pose Grave Warming Threat

Posted on: June 22, 2009 6:07 PM, by coby

This press release was forwarded to me:

WASHINGTON-- A new study published today in the Proceedings of the National Academy of Sciences (PNAS) shows that refrigerant chemicals, so called F-gases, are a more dangerous global warming threat than previously predicted. The study was authored by scientists from the Netherlands Environmental Assessment Agency, United States government agencies NOAA and EPA, along with a scientist from the chemical company Dupont.

The paper projects that HFC (hydrofluorocarbon) emissions will rise rapidly in coming years and decades, threatening to effectively cancel out some of the hard fought greenhouse gas reductions made through energy efficiency and clean energy deployment. Scientists have projected that we need to cap greenhouse gas emissions now and rapidly reduce emissions by mid century to stabilize the atmosphere and avoid dangerous climate change.

Uncontrolled HFC consumption and emissions growth would make it more difficult to reach those goals.

The rest is quoted in full below and offered on an FYI basis. I have not seen the study discussed. I also find it a little frustrating that there are very few numbers in there, but oh well...

"We must aggressively phase out HFCs to effectively combat climate change. This new science confirms Greenpeace's longstanding warning of the significant global warming threat posed by these super greenhouse gases," says Kert Davies, Greenpeace US Research Director. "The Obama administration should use every means necessary to prevent the emissions of F-gases so that efforts to clean up the energy sector aren't undermined. There are simple, market-ready solutions waiting to be deployed provided adequate incentives are provided."

To phase out HFCs, current bans and phase outs underway in Europe and elsewhere must be expanded upon to include o all developed and developing countries quickly. The new science also highlights the need for a redoubled cooperative effort between the UN climate treaty (Kyoto Protocol, upcoming Copenhagen talks) and the UN ozone layer treaty (Montreal Protocol).

HFCs (hydrofluorocarbons) and similar gases are used in refrigerators and air conditioning units in buildings and homes, cars, trucks, and trains. The gases are also used as foam blowing agents. The new PNAS study attributes the growth in HFC consumption to the rapid growth of Asian markets for refrigeration, automobile air-conditioning, and commercial air conditioning and refrigeration, along with the accelerated phase out of HCFC (ozone-depleting refrigerants) under the Montreal Protocol and subsequent replacement of those chemicals with HFCs.

In 1992, Greenpeace coordinated commercial development of a climate-friendly refrigeration technology known as "Greenfreeze" and open-sourced the intellectual property. In 1997, the United Nations awarded Greenpeace its Ozone Protection Award for this work. There are now an estimated 300 million Greenfreeze-type refrigerators in use worldwide (except in the United States and Canada), sold by major corporations including Bosch-Siemens, Haier, Whirlpool, Panasonic, LG, Samsung, Miele and Electrolux. The deployment of this alternative technology has eliminated the use of approximately 43,000 pounds of HFCs - equivalent to a reduction of about 61 million tons of carbon dioxide or the annual pollution from approximately 10 million cars. Greenpeace is working to make these refrigerators available in the United States where they are currently not certified by the EPA.

Last September, Ben & Jerry's, working with Greenpeace, launched a pilot program to test 2,000 of their Greenfreeze freezers in ice cream shops and stores in the United States. Greenpeace also supports Refrigerants, Naturally, a global initiative dedicated to phasing out the use of HFCs working with UNEP, CocaCola, PepsiCo, Unilever and other companies.

http://scienceblogs.com/illconsidered/2009/06/new_science_confirms_refrigera.php

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Greenfreeze Could Spell the Deep Freeze for Global Warming Refrigerators | Reuters

http://www.reuters.com/articlePrint?articleId=US302941606220090623

Tue Jun 23, 2009 9:41am EDT

By Tina Casey

Hydrocarbon (HC) refrigerants are a "natural" cooler widely used in domestic and commercial refrigerators all over the world, except in the U.S. and Canada. HC refrigerants produce less greenhouse gasses than hydrofluorocarbon (HFC) technology, but they aren't approved for the U.S. market - yet.

Now Greenfreeze, the Greenpeace-developed HC refrigerant, is poised to enter the U.S. thanks to a boost from an unlikely pair of companies, Ben & Jerry's and General Electric. It's not a moment too soon: a new study has fingered HFC refrigerants and other so-called F-gasses as a rapidly growing source of emissions responsible for global warming.

Oh, SNAP - What's Holding Up Greenfreeze?

SNAP is the U.S. EPA's Significant New Alternatives Policy Program, which regulates substitutes for CFC's (chlorofluorocarbons) and other ozonedepleting substances that were phased out under the Clean Air Act. So far, Greenfreeze and other HC-based refrigerants have not made the grade. A big part of the problem is the high risk of flammability in two HC substitutes, isobutane (think cigarette lighters) and propane (think barbecue grills).

Ben & Jerry Give Greenfreeze a Try

Last fall, green-hearted Ben & Jerry successfully petitioned the EPA to allow a test run of Greenfreeze regrigerators at stores in Washington, DC and Boston. There are also several in Vermont (you can find them through the Greenfreeze locator).

General Electric Gets into the HC Act

Around the same time, General Electric announced that it had applied to the U.S. EPA for approval of isobutane as the refrigerant for its new Monogram brand refrigerators. GE expects to roll Monogram out in the U.S. in 2010, so let's hope that its optimism is rewarded with a thumbs-up from the EPA. Given the "Kafkaesque" SNAP process, that could take a while.

Why Shift from HFC's to HC's?

When CFC's were being phased out, HFC's were the first-generation answer to the problem of ozone depletion. However, Greenpeace points out that HFC's are a substantial and growing problem in termsof greenhouse gas emissions, as described by a new study of HFC's published in the Proceedings of the National Academy of Sciences. The rapid adoption of HFC refrigerators in Asian markets is partly responsible for the uptick; so is the reluctance of the U.S. and Canada to shift away from HFC technology.

The Final Nail in the Coffin for HFC's

GE is just one global company putting its toe in the HC waters. Refrigerants Naturally is a corporate initiative to reduce the use of HFC's and other "F-gasses," supported by such luminaries as IKEA, Pepsico, McDonald's, Unilever, Carlsberg, and Coca-Cola as well as Greenpeace and the United Nations Environmental Programme. With Pepsico and Coca-Cola on the same page, it seems like the final curtain is ready to close on HFC's.

August 2009

hydrocarbons21.com - everything natural

http://www.hydrocarbons21.com/article.print.php?Id=910 01.09.2009 11:04:41

A call for China to switch directly to natural refrigerants

2009-08-31 - *hydrocarbons 21.com*

A paper that became available last week calls for China to switch from HCFCs directly to natural refrigerants and provides information regarding the substantial share of refrigerators in China using hydrocarbon technology. Meanwhile, the trend for AC products encompasses increasing shares for inverter technology.

In her paper that recently became available, Greenpeace China campaigner Liping Fan argues that, in times when the 19 th MOP to the Montreal Protocol has accelerated the HCFC phase-out by ten years , it would be beneficial for China to switch directly to natural refrigerants . More specifically, Fan argues that natural refrigerants can help China:

- avoid mid - to long-term legislative
- risks that refrigerants with higher GWP are expected to face
- fulfill requirements for the Montreal Protocol and Kyoto Protocols ,
- meet the national energy conservation and greenhouse gas emissions reduction goals
- improve Chinese corporations ' domestic /international profile on climate change
- increase global competitiveness of the Chinese RAC industry

75% of China's domestic refrigeration industry uses R600a

"In 1995, with Greenpeace and GTZ Proklima's help, a joint venture between Haier and German company Liebherr was established to produce the first refrigerators using hydrocarbon technology in China. Subsequently, many other joint ventures between Chinese and European companies were formed. I t is estimated that as of late 2007 about 75 % of China's domestic refrigeration industry uses hydrocarbon (R600a) technology", explains Fan. Referring to the Refrigerants, Naturally! initiative, Fan explains how Unilever is currently in the process of phasing out HFCs in all its new ice-cream cabinets in China by 2010.

AC trends in China

While the trend in the Chinese household refrigerator industry is to increasingly use hydrocarbon refrigerants , resembling the picture in Europe, the focus in the Chinese Air- Conditioning industry is on inverter technology. A recent article published by Japan Air Conditioning, Heating & Refrigeration News (JARN) reports that almost all air conditioning manufacturers in China have started producing inverter air conditioners , as the Chinese government is to introduce new energy-efficiency standards for non-inverter products while manufacturers have been successfully working hard to enhance the popularity of such products as comfortable and energy -saving. A s a result, "[…] the market share of inverter air conditioners in Shanghai [for example] has increased from 4.35 % in 2005 to 14.67 % in 2008, and 18.86 % in the first 4 months in 2009. From last October, domestic giants Gree and Midea entered the inverter air conditioner market with amazing speed. Currently, about 30% of Midea's products and more than 15 % of Gree's products are utilizing inverter technology".

Furthermore, Refrigerants, Naturally! had been mentioned in several Greenpeace publications