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GLOBAL

1- New Report on How to Save the Ozone Layer while Combating Climate Change

Geneva, 11 April 2005 – **After 20 years of protecting the ozone layer with a new generation of chemicals, governments are confronting the fact that these ozone-friendly substitutes for chlorofluorocarbons (CFCs) also happen to be greenhouse gases that contribute to global warming.**

To assess the extent of the problem and the available solutions, the Intergovernmental Panel on Climate Change (IPCC), in collaboration with the Technology and Economic Assessment Panel (TEAP), has produced a Special Report entitled "Safeguarding the ozone layer and the global climate system: issues related to hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs)".

The result of two years of work by 145 experts from 35 countries, the report was finalized at a meeting in Addis Ababa, Ethiopia from 6 - 8 April and is being released today.

Taken together, the various solutions identified by the report could cut the global warming contribution of CFCs and their replacements in half by the year 2015.

The IPCC was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP). The TEAP was set up under the 1987 Montreal Protocol on Substances That Deplete the Ozone Layer and is administered by UNEP.

"Although climate change and ozone destruction are essentially different issues, our use of certain chemicals links them together," said WMO Secretary-General Michel Jarraud. "We must continuously monitor, undertake research and improve how we manage this group of extremely useful substances, which is implicated in not one, but two of the major environmental problems we have ever known."

Under the Montreal Protocol, the world's governments are phasing out CFCs, halons, and other destructive chemicals and replacing them with safer alternatives. However, like CFCs themselves, some of these alternatives, such as hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), are also powerful greenhouse gases.

For this reason, governments included HFCs and PFCs in the 1992 Climate Change Convention and in its 1997 Kyoto Protocol, under which most developed countries are to reduce their emissions from a basket of six greenhouse gases by the period 2008 – 2012.

"There can be no trade-offs between saving the ozone layer and minimizing climate change," said UNEP Executive Director Klaus Toepfer. "This report demonstrates that it is in our power to maintain the Montreal Protocol's momentum while achieving the Kyoto Protocol's targets. It also reveals that many available win-win solutions are cost-competitive when compared with options for reducing carbon dioxide and other greenhouse gases."

According to the report, emissions of CFCs and their replacements can be minimized by:

- improving the containment of chemicals to prevent leaks, evaporation and emissions of unintended by-products;
- reducing the amounts needed in any particular type of equipment;
- promoting more end-of-life recovery, recycling and destruction of substances;
- increasing the use of ammonia and other alternative substances with a lower or zero global warming potential; and
- using various emerging technologies that avoid gases that deplete ozone or contribute to climate change.

The transition to ozone-friendly chemicals

The problem of ozone depletion arose from the wide-scale application of stable, non-flammable chemicals to refrigeration, air conditioning, foams, aerosols, fire protection and solvents starting in the middle of the last century. By the 1980s, scientists had demonstrated that these chemicals drift up into the stratosphere where they help to destroy the ozone molecules (O₃) that protect life on earth from excess solar radiation.

As confirmed by today's report, rapid action by governments to adopt and implement the Montreal Protocol has reduced the global production of ozone-depleting gases and essentially stabilized the ozone layer.

HCFCs were successful in meeting the early CFC phase-out goals but are generally considered undesirable for most new equipment because they do have some ozone-depleting potential; they will eventually be phased out under the Montreal Protocol.

Because HFCs and PFCs contain no chlorine or bromine (the main culprits in ozone depletion), they have been among the substitutes considered for the long-term. Unfortunately, they are also greenhouse gases.

The contribution to global warming

Molecule for molecule, CFCs and many of their replacements are much more powerful greenhouse gases than carbon dioxide, but emission levels are lower. The contribution that CFCs, their replacements and other ozone-depleting substances currently make to global warming is estimated

to be about 10% of the contribution from fossil-fuel-related carbon dioxide emissions, or around 5% of humanity's total greenhouse gas emissions.

Since virtually all ozone-depleting substances and their replacements are now used in closed systems, they are generally not emitted until years or even decades after being produced. For instance, large amounts of CFCs still exist in current refrigeration and air-conditioning equipment and in insulating foams, from which they can leak or evaporate. Later, when the equipment is decommissioned, they are often simply released into the atmosphere.

For CFCs and HCFCs, there are no regulations under the Montreal or Kyoto Protocols to prevent such emissions. Meanwhile, the stored amounts of HFCs and HCFCs continue to increase.

About 65% of today's total emissions from this group of chemicals still come from CFCs, mainly from existing refrigeration and air-conditioning equipment. Consequently, reducing leaks from these sources could substantially reduce greenhouse gas emissions, benefiting both the ozone layer and the climate system.

HCFCs and HFCs are estimated to currently contribute 20% and 15%, respectively, of emissions from this group of chemicals. However, by 2015 as much as 50% may derive from HFCs, with 40% from HCFCs, depending on which substitutes and technologies are used. CFC emissions will likely decline to around 10% due to the phase-out of new uses and reduced releases from stored amounts.

Estimating the costs

Efforts to minimize emissions of CFC replacements will cost money. Estimated costs vary widely and depend on the type and size of a particular piece of equipment and the solution employed. For example, replacing HFCs in a household refrigerator could cost from zero to US\$30, while replacing HFCs in an automobile air-conditioning unit could cost from US\$48 to US\$180.

The costs for bigger equipment, such as large-scale supermarket systems, would be much higher. Incinerators for destroying the HFC byproducts of HCFC manufacture, for example, could involve hundreds or thousands of dollars.

However, when compared to other ways of reducing greenhouse gas emissions, these costs are relatively low. The costs for HFC incineration, for example, are lower than US\$0.2 per tonne of CO₂ equivalent.

In addition, many solutions will also reduce energy use, and thus yearly energy costs and associated carbon dioxide emissions. For example, the cost of reducing emissions from residential and commercial refrigeration, air-conditioning and heating units could be zero to about 170 US\$/ton CO₂ equivalent. If energy efficiency improvements are included, in some cases net savings of 75 US\$/tonne CO₂ equivalent can be achieved.

The Report is being posted in English at <http://www.ipcc.ch>

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Source: The United Nations Environment Programme, <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=431&ArticleID=4769&I=en>

AFRICA

2- National Ozone Office Embarks On Provincial Tour (Gambia)

The National Ozone Unit under the offices of the National Environment Agency (NEA) recently embarked on a five-day provincial tour. The purpose of the tour was **to meet refrigeration technicians in the up-country and prepare them for training on retrofitting and drop-in techniques to enable them convert ozone-depleting substances (ODS) used in refrigerators into a movable acceptable gases that are not harmful to the ozone layer.**

The tour took them to Kerewan, Farafenni, Posteh, Bansang, Janjanbureh, Mansakonko, Soma and Basse. Under the Montreal protocol, The Gambia is obliged to phase out and ban the use of ODS in the country.

The National Ozone Unit was found to take charge of this task, in all Article 5 countries under the Montreal protocol. The **two common gases used in The Gambia**, which depletes the ozone layer, include refrigerant 12 (**R12**) and refrigerant 22 (**R22**) used in fridges and air-conditioning, respectively. The most reconditioned refrigerators coming into The Gambia contain R12. Therefore under the proposed training, **technicians would be taught how to convert such ODS to safer gases like R134a which does not deplete the ozone layer.**

The protection of the ozone layer is vital to environmental health, since without it infections like cataracts, and skin cancer, would be widespread, coupled with the risk of the melting of the ice in the Antarctica and excessive high temperature.

Source: AllAfrica, Quoting: The Independent (Banjul), 4 April 2005, By: Lugman Khan, <http://allafrica.com/stories/200504050293.html>

NORTH AMERICA

3- FDA Sets Deadline for CFC Phase-out (USA)

--- The Food and Drug Administration (FDA) has set the end of 2008 as its deadline for the complete phase-out of albuterol inhalers using ozone-depleting chlorofluorocarbons (CFCs) as propellants, reports Phil Taylor.

But albuterol metered dose inhalers (MDIs) will be the only products affected by the ruling, and MDIs used to deliver other drugs will remain exempt from the prohibition, in stark contrast to Europe where more than 75 per cent of all MDIs have switched to the use of more environmentally friendly hydrofluoroalkanes (HFA) propellants.

CFCs have been used as propellants for various pressurised products including MDI treatments for asthma and chronic obstructive pulmonary disease (COPD), which includes emphysema and chronic bronchitis. Since 1978, the use of CFC-emitting aerosol products in the US has been largely

banned because of increasing evidence that CFCs contribute to the depletion of the earth's protective ozone layer, with a specific prohibition on commercial uses agreed internationally in 1996. But their use in MDIs has been exempt from this ban on the grounds of medical necessity.

Resistance to the switch to HFAs comes from a combination of sources. For manufacturers of asthma drugs the cost of conversion can be enormous, requiring additional clinical trials as the propellant can markedly affect the behaviour of the active pharmaceutical ingredient (API). Supply has been a concern, with only a handful of companies – including Solvay and DuPont - licensed to supply HFAs for pharmaceutical use, and the greater cost of HFAs has raised fears that the cost of these drug products could rise and exclude some patients from receiving treatment.

Now, the US Department of Health and Human Services (HHS) published a notice in the Federal Register on 31 March saying that sufficient supplies of two approved HFA-based albuterol inhalers will exist by 31 December, 2008, and this will allow the phasing out of the less environmentally friendly versions.

Access issue resolved

In a statement, the HHS said it was satisfied that three manufacturers of albuterol inhalers would be able to assure access to HFA-based albuterol MDIs to patients 'for whom price could be a significant barrier to access to this important medicine', in recognition of the fact that HFAs are more expensive than the CFCs they replace, and this increase in cost is reflected in the final price of the MDI product.

Last year, the FDA had said it was concerned that up to a million canisters of albuterol may fail to reach patients after the ban because of price rises. But it now says the companies have committed to a range of access programmes, including MDI giveaways, coupons for reducing the price paid and patient-assistance programs based on financial need, that circumvent this problem.

The FDA's **criteria for imposing the deadline in the case of albuterol are that two non-CFC products with the same active drug are marketed with the same route of administration, for the same indication, and with approximately the same level of convenience of use as the CFC product that contains that active ingredient.**

In addition, sufficient supplies and production capacity for the non-CFC product will exist by the deadline, and adequate US post marketing use data are available to back up the safety and efficacy of the MDIs. It can be expected that similar prohibition will be put in place when similar conditions are met with other drugs delivered using MDIs.

Source: In-Pharma Technologist.Com, <http://www.in-pharmatechnologist.com/news/news-ng.asp?n=59137-fda-sets-deadline>

4- U.S. Manufacturers, Energy Advocates Pitch Efficiency Standards for Commercial Freezers

ARLINGTON, Va., April 7, 2005 - **Commercial refrigeration manufacturers and energy efficiency advocates have reached a consensus on federal equipment efficiency standards for refrigerators and freezers used in restaurants, convenience stores, grocery stores, and other commercial buildings.** Proponents say that if enacted by federal regulators or Congress, the new standards will avoid the need for two new 300 MW power plants. Currently, there are no federal minimum efficiency standards for commercial refrigerators, freezers, and refrigerator freezers.

Under the agreement, the signatories are jointly recommending to Congress a minimum efficiency standard for most self-contained refrigeration equipment and beverage coolers. In addition, the

agreement calls for legislation requiring that the U.S. Department of Energy establish efficiency standards for ice-cream freezers, self-contained cabinets without doors, and remote condensing products (solid door, transparent door, and cabinets without doors). The manufacturers and energy efficiency advocates will attempt to develop consensus recommendations that shall address all of the statutory criteria that the Department is required to take into account in promulgating energy efficiency standards for covered equipment.

The agreement was negotiated over the past 15 months by commercial refrigeration manufacturers, represented by their trade association, the Air-Conditioning and Refrigeration Institute (ARI), and by energy efficiency supporters, represented by the American Council for an Energy-Efficient Economy (ACEEE), a nonprofit organization. Other signatories to the agreement are nine commercial refrigeration manufacturers, the California Energy Commission, the Natural Resources Defense Council, the Alliance to Save Energy, Northeast Energy Efficiency Partnerships, Environment Northeast, and the Appliance Standards Awareness Project.

"This agreement represents a win for the environment, for consumers, and for manufacturers," stated William Sutton, president of ARI. "The agreement gives manufacturers regulatory certainty to develop new models for 2010 that will meet both the new efficiency standards and EPA regulations to phase-out the use of HCFC refrigerants that can deplete the ozone layer."

ACEEE estimates that the initial standard set under this agreement would reduce U.S. electricity use by about 2.3 billion kWh annually by 2020, after the existing stock of commercial refrigerators and freezers has been replaced with the more efficient units. These standards would also reduce peak electric demand by about 530 MW, nearly enough to displace two new power plants (300 MW each). From an economic point of view, ACEEE estimates the initial standard would save consumers and businesses more than \$1 billion from products purchased through 2030 (this number includes the value of energy savings minus the modest extra cost of the more efficient units). By reducing electricity use, the agreement would reduce emissions from power plants of air pollutants and compounds, such as carbon dioxide, that contribute to global warming. For example, the agreement would reduce power plant carbon dioxide emissions by 1.6 million metric tons in 2020, which is equivalent to taking about 300,000 average passenger vehicles off the road that year.

"Appliance efficiency standards have been one of the U.S.'s most effective energy-saving policies with the majority of standards developed through consensus negotiations," stated Steven Nadel, executive director of ACEEE. "This agreement shows the benefits of working together and we hope and anticipate that additional product efficiency standards can be negotiated in the future," he noted.

The agreement is now being provided to both the U.S. Department of Energy and members of Congress in anticipation of potential inclusion in new energy efficiency legislation.

Source: GreenBiz.com, http://www.greenbiz.com/news/news_third.cfm?NewsID=27919

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