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2 Degree Celsius Climate Target at Risk from Ozone-Friendly Replacement Chemicals

New UNEP Report Urges Fast Action on HFCs to Combat Climate Change

23rd Meeting of the Parties to the Montreal Protocol

Bali (Indonesia)/Nairobi, 21 November 2011--Keeping a global, 21st century temperature rise under 2 degrees Celsius will require urgent action on a group of chemicals increasingly being used in products such as air conditioners, refrigerators, firefighting equipment and insulation foams.

The chemicals, collectively known as Hydroflurocarbons (HFCs), are becoming popular as replacements for those phased-out or being phased-out to protect the ozone layer—the Earth's high flying shield that filters out dangerous levels of the sun's ultra violet rays.

But a report launched today by the UN Environment Programme (UNEP) projects that by 2050 HFCs could be responsible for emissions equivalent to 3.5 to 8.8 Gigatonnes (Gt) of carbon dioxide (Gt CO_2eq)---comparable to total current annual emissions from transport, estimated at around 6-7 Gt annually.

Achim Steiner, UN Under-Secretary General and UNEP Executive Director, said: "The more than 20 year-old international effort to save the ozone layer ranks among the most successful examples of cooperation and collaboration among nations—the original chemicals, known as CFCs, were phased-out globally in 2010 and countries are freezing and then phasing-out the replacements, HCFCs".

"However a new challenge is rapidly emerging as countries move ahead on HCFCs and that is HFCs. While these 'replacements for the replacement' chemicals cause near zero damage to the ozone layer, they are powerful greenhouse gases in their own right. The good news is that alternatives exist alongside technological solutions according to this international study and while assessing the absolute benefits from switching needs further scientific refinement there is enough compelling evidence to begin moving away from the most powerful HFCs today," he added.

HFCs are, along with CO_2, methane and other gases, controlled under the UN's Framework Convention for Combating Climate Change and its Kyoto Protocol.

Measures to protect the ozone layer are carried out under the Montreal Protocol on Substances that Deplete the Ozone Layer.

“Cooperative action between these treaties may be the key to fast action on HFCs, assisting to maintain momentum on recovering the ozone layer while simultaneously reducing risks of accelerated climate change,” said Mr Steiner.

The new report—*HFCs: A Critical Link in Protecting Climate and the Ozone Layer*—was launched today in Bali, Indonesia, at the 23rd Meeting of the Parties to the Montreal Protocol.

The report is the first of three being launched this week by UNEP in the run up to the UN climate convention meeting in Durban, South Africa. (see Notes to Editors)

Key Findings from the HFC report

The contribution of HFCs to climate forcing is currently less than one per cent of all greenhouse gases.

- But levels of HFCs are rising as they replace HCFCs—HFC 134a, the most popular type, has increased in the atmosphere by about 10 per cent per year since 2006.

The consumption of HFCs is projected to exceed the peak consumption levels in the 1980s of the old, now fully phased-out CFCs—this is primarily due to rising demand in emerging economies and a global population now above seven billion.

- The phase-out and phase-down of CFCs and HCFCs since the late 1980s has reduced greenhouse gas emissions by around 8 Gt $C0_2$eq annually while reducing damage to the ozone layer. This has been a tremendous plus for global climate protection.
- However, without action, the increasing use of HFCs could add annual greenhouse gas emissions of between 3.5 and 8.8 Gt $C0_2$ eq by 2050, and thus undo the large climate benefits scored by the phase out of CFCs and HCFCs since the late 1980s.

The report points to a range of alternatives that could ensure that the impact of HFCs remains small and equal to today’s impacts.

- Alternative Methods and Processes---these range from improved building design that reduces or avoids the need for air conditioners to fibre rather than foam insulation materials
- Non-HFC substances—there are already commercially available alternatives that range from ammonia to dimethyl ether for use in foams, refrigeration and fire protection systems

- Climate-friendly HFCs—some HFCs have shorter life-times in the atmosphere of months rather than years. Some of these are being introduced such as HFC 1234ze in foams and HFC-1234yf for mobile air-conditioners

The report points out that, with further technical developments backed by standards, investment incentives and training for technicians and workers, the introduction of alternatives to climate-damaging HFCs could be accelerated and fast-tracked.

Notes to Editors

HFCs: A Critical Link in Protecting Climate and the Ozone Layer—a UNEP Synthesis Report is available at **http://www.unep.org/dewa/Portals/67/pdf/HFC_report.pdf**

(Embargoed until after 1.30 PM Indonesian time (5.30am GMT), 21 November 2011)

The press conference will be held at the Nusa Dua Conference Centre, Bali, Indonesia

23rd Meeting of the Parties to the Montreal Protocol http://conf.montreal-protocol.org/meeting/mop23-cop9/default.aspx

On 23 November at 11.30 am GMT UNEP, in collaboration with climate modeling centres world-wide, will launch *Bridging the Gap: An Assessment* which outlines the gap between the commitments and pledges of countries versus where emissions need to be by around 2020 in order to keep a global temperature rise under 2 Degrees C

Venue: Kohn Centre, The Royal Society, 6-9 Carlton House Terrace, London SW1Y 5AG

On 25 November at 11.30am GMT, UNEP in collaboration with researchers will launch a report that outlines a package of 16 measures which could reduce global warming, avoid millions of premature deaths and reduce global crop yield losses by tackling black carbon, methane and ground-level ozone - substances known as short-term climate forcers.

Venue: The Conference Room, The Royal Society, 6-9 Carlton House Terrace, London, SW1Y 5AG

The 17th Conference of the Parties to the UNFCCC will take place in Durban from 28 November to 9 December 2011 http://unfccc.int/meetings/durban_nov_2011/session/6294.php

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