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21 November 2011 Last updated at 12:32 GMT

Climate concerns as ‘ozone-friendly’ HFCs use grows

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A rise in the use of "ozone-friendly" HFCs has prompted experts to voice concerns that the potent greenhouse gases could be a problem in the future.

A UN report says that HFCs, **many more times potent than CO2**, could account for up to 20% of emissions and hamper efforts to curb climate change.

They are widely used in fridges and air conditioning, replacing CFCs and HCFCs that damage the Earth's ozone layer.

The findings were presented during a meeting on protecting the ozone layer.

The **HFCs: A Critical Link in Protecting Climate and the Ozone Layer report**, produced by the UN Environment Programme (Unep), projected that the global warming potential of HFCs in 2050 could be comparable with current emissions from the global transport sector.

HFCs (Hydrofluorocarbons) are a popular choice by refrigeration manufacturers because they are are deemed to be a "like-for-like" replacement substance for Chlorofluorocarbons (CFCs) and hydrofluorochlorocarbons (HCFCs), which are banned or being phased out under the

Montreal Protocol on Substances that Deplete the Ozone Layer.

The substances have also been widely used as aerosol propellants and solvents.

Closing the gap

The Protocol came into force in 1989 after it was discovered that a group of gases, such as CFCs and HCFCs, were responsible for creating a "hole" in the Ozone Layer - a region of the atmosphere about 20-30km above the Earth's surface, which protects life below from harmful levels of ultraviolet light produced by the Sun.

The Montreal Protocol is deemed to the most successful international policy mechanism of its kind. By 2009, it had phased out the consumption of 98% of the chemicals controlled by the protocol.

However, the replacement substances - HFCs - act as greenhouse gases in the atmosphere.

So while they do not harm the Ozone Layer, experts have warned that their growing popularity could lead to an accumulation that could hamper efforts to limit human-induced global warming.

"While these 'replacement for replacement' chemicals cause near zero damage to the ozone layer, they are powerful greenhouse gases in their own right," observed Achim Steiner, Unep executive director.

The report's authors said that not all HFCs had the same impact on the climate.

"Their differing ability is mostly [a result of] differences in their atmospheric lifetimes, which determine how much they accumulate in the atmosphere," they explained.

"HFCs with lifetimes greater than a few years accumulate more... and have larger climate consequences.

"Of concern is the fact that the average global warming potential (GWP) of the current mix of HFCs being used is about 1,600, meaning that a kilogram of currently used HFC has about 1,600 times the effect on global warming as a kilogram of carbon dioxide."

The team said that the rise in the global consumption of HFCs is projected to rise primarily because of the growing demand from emerging economies and a growing global population.

The authors point to a number of possible solutions to limit the substances' influence on the climate system, including:

alternative methods or processes; ranging from improved building designs in order to reduce the need for air-conditioning units to the use of fibre rather than foam insulation material,
greater use of non-HFC substance, a number of which are already commercially available,
"climate-friendly HFCs" - ones the shorter lifetimes in the atmosphere (months rather than years).

The report added that updating global standards, investment incentives and technical training programmes would help accelerate the introduction of alternative substances.

The **Twenty-third Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer**, being held in Bali, Indonesia, is set to continue until Friday.

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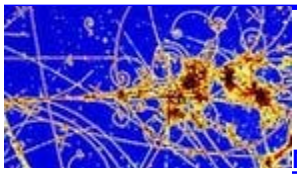

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