Sustainable Development Advisory
Environment and Sustainability Cluster

Montreal Protocol Special Issue

UNDP Bangladesh

20th Anniversary of the Montreal Protocol on Substances that Deplete the Ozone Layer

September 20, 2007

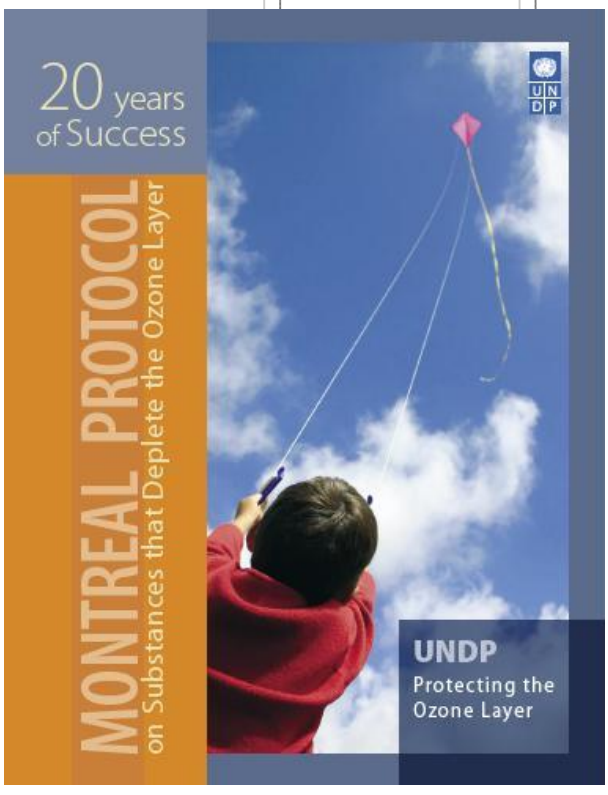
Issue 7

On Sunday 16/9/07, International Ozone Day and the 20th Anniversary of the Montreal Protocol were observed. The Montreal Protocol emphasises the complete phase out of ozone depleting substances by December 2010. The Montreal Protocol was adopted in 1987. Since this time the ozone layer hole reached a maximum size of 29 million square kilometers in 2000 however the good news is that the hole has begun to shrink and in 2004 it had reduced to 24 million square kilometers. Current estimates have the hole being eliminated by 2050 if the Montreal Protocol is observed and no further ozone depleting substances are released into the atmosphere post 2010. A depleted ozone layer allows more ultraviolet rays to reach the earth's surface. These rays are harmful and can cause a litany of problems such as increased instances of skin cancer and weakened immune systems as well as reduced fishing yields and the subsequent flow on effects on ocean ecosystems as well as terrestrial life forms. Chlorofluorocarbons (CFCs) are the most common cause of enhanced ozone layer depletion and these substances are commonly found in refrigerators, cooling systems, insulation, furniture foams, aerosol propellants, fire retardants and fumigants as well as pharmaceutical products such as inhalers. In Bangladesh, the phase out of ozone depleting substances is going well, however the pharmaceutical industry poses a particular problem as this was not identified in the National Phase Out Plan. Bangladesh has converted the aerosol industry so it is now CFC free and a new initiative has been launched to help the pharmaceutical industry overcome the use of CFCs. Ceasing CFC production and consumption is an admirable and realistic goal which is within site for Bangladesh.

Upcoming Event:

16 September 2008 — 21st Anniversary of the Montreal Protocol!!!

Inside this Issue:

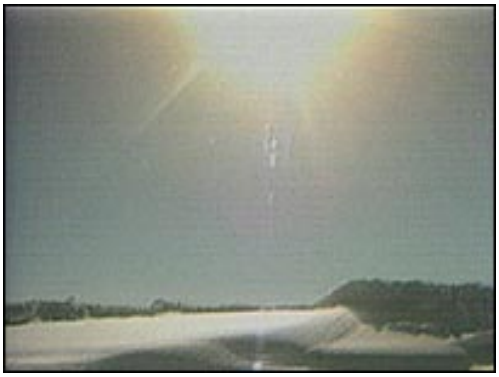


UNDP and GoB Actions:

- UNDP needs to work with the Government to ensure this serious issue is given appropriate consideration and action;
- The Government of Bangladesh needs to continue to keep on track monitoring and phasing out the CFC producing industries; and
- Both Government and UNDP may pressure, educate and offer alternatives to companies still using ozone depleting substances in order to change their techniques.

The Discovery of the Hole in the Ozone Layer

The discovery of the cause of the hole in the Ozone layer still being celebrated as the most significant scientific global environmental success stories of the 20th century. Within five years of the hole's discovery by the British Antarctic Survey, the proposed chemistry for the linkage between increases in long-lived man-made chlorofluorocarbons (CFCs) primarily responsible for the seasonal Antarctic ozone hole was confirmed and the Montreal Protocol on Substances that Deplete the Ozone Layer (the first treaty to address the Earth's environment) was enacted to phase out these compounds. As a result, the global production of these ozone-depleting compounds is now greatly reduced and there are signs that the ozone hole is slowly stepping into a recovery phase – both CFC and ozone levels are showing signs of levelling off and some CFCs have even started to decrease. The coordinated worldwide response to the Montreal Protocol has ensured that the hole in the Ozone layer is no longer growing which illustrates the worth of international protocols.



The ozone levels in atmosphere of the Earth are decreasing after 20 years of worldwide changes following the observation of the Montreal Protocol.

The Atmosphere, Ozone Layer & CFCs explained

The ozone layer is a thin, invisible layer of the Earth's atmosphere about 25km thick. In nature, ozone production and destruction are balanced, but the introduction of man-made compounds has upset this balance. Much like sunscreen for the Earth, the ozone layer shields the Earth from the sun's damaging UV-B radiation, which can adversely affect human health and ecosystems. The success of the turn around of the size of the hole in the ozone layer has been described in phases: phases of matter (gas, solid and liquid), phases of scientific discovery and phases of public awareness and global policy decisions. Ozone appeared to be depleted by about a third just a few years after the National Research Council said little would occur for a century. This and the fact that observed ozone losses occurred concurrently with increases of CFC concentrations in the troposphere raised fears that ozone depletion may have been drastically underestimated. Furthermore, the ozone depletion was not occurring at the very top of the ozone layer (near 40kms), as expected but at an entirely different height range from about 10-20kms (the very heart of the ozone layer). It was clear that this ozone depletion was not only larger than had been expected, but totally different in character. It could not be explained by the then-current ozone depletion theories, so along with a massive shift in scientific understanding, public pressure and legislative action came the Montreal Protocol.

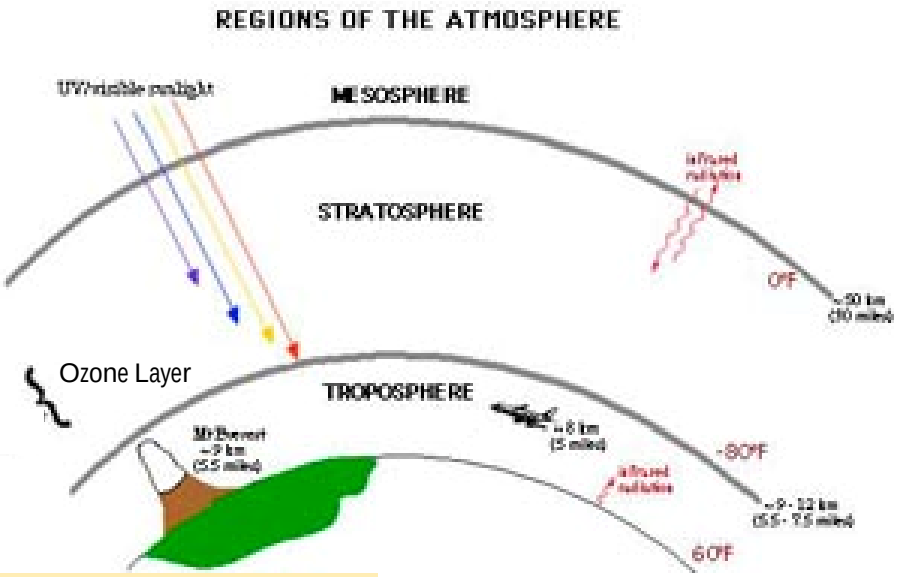


Image source: www.magazine.noaa.gov/stories/mag210.htm

On Sept. 16, 1987, diplomats from around the world met in Montreal and forged a protocol agreeing to set sharp limits on the use of CFCs