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**New scientific report confirms success of Montreal Protocol but warns ozone layer will remain vulnerable for the next decade**

16 September: International Ozone Day  
Save O3ur Sky: Protect Yourself Protect the Ozone Layer

PARIS/NAIROBI, 16 September, 2002 - The executive summary of a new report by the world's leading ozone scientists warns that despite good signs of recovery, the ozone layer will remain particularly vulnerable during the next decade or so, even if countries comply with international agreements to protect it.

The new data in the full report, (which is in the process of being finalized) shows levels of ozone-depleting gases in the stratosphere (upper atmosphere) are now at or near their peak. As a consequence, the scientists believe human-influenced disturbances on Earth's protective shield will now be "at or near their largest."

At the same time, the report clearly shows that the world is making steady progress towards the recovery of the ozone layer, with the latest scientific results showing that the total amount of ozone depleting chemicals in the troposphere (lower atmosphere) continuing to decline, albeit slowly.

The findings reinforce the need for strengthened political commitment to ensure the continued compliance with the international treaty known as the Montreal Protocol by developed and developing countries. They also demonstrate the need for greater awareness of the reasons behind this vulnerability, not least a better scientific understanding of the linkages between ozone layer depletion and climate change.

The report from the United Nations Environment Programme (UNEP) and World Meteorological Organization (WMO) is being prepared by the scientific assessment panel of the Vienna Convention and its Montreal Protocol on Substances that Deplete the Ozone Layer. The Executive Summary is being released to the press today, with the full report available next year.

The latest in a series of four yearly reports that have reviewed the state of the ozone layer since the landmark Montreal Protocol came into being back in 1987, the report, "Scientific Assessment of Ozone Depletion: 2002," will focus on the new science results that have been obtained since 1998. It also has a section on implications for policy formulation. Its preparation involved 250 scientists from 37 countries worldwide.

The scientific "concern" in the report stems from two main findings. On

the one hand a scientific assessment that a failure by governments to meet targets laid down in the international ozone treaty, the Montreal Protocol, would delay or could even prevent recovery of the ozone layer. "The total atmospheric abundance of ozone-depleting gases will decline to pre-Antarctic ozone-hole amounts only with adherence to the Montreal Protocol's full provisions on production of ozone-depleting substances," the report's executive summary says.

On the other hand, a lot of scientific unknowns relating to issues like the complex and far from fully understood link between ozone protection and climate change. According to the executive summary the impact of greenhouse gases on lower stratospheric ozone "could be either positive or negative."

Presenting the executive summary report to the press here in Paris on International Ozone day, Professor Gérard Mégie, co-chair of the Montreal Protocol's Scientific Assessment Panel and one of the report's authors said, "These results confirm that the Montreal Protocol is achieving its objectives. During the next decades, we should see a recovery of the ozone layer."

"However," continued Professor Mégie, who is also the President of the French Centre National de la Recherche Scientifique (CNRS), "the concentration of chlorine in the stratosphere has now reached a maximum and the ozone layer is still quite vulnerable. It is therefore extremely important that the control measures in the Montreal Protocol are strictly respected by all."

"In addition," Professor Mégie said, "the scientific observations related to the inter-linkages between depletion of the stratospheric ozone layer and climate change indicate the need for a common policy to resolve the problems."

The ozone-depletion and the greenhouse-warming phenomenon share many common chemical and physical processes. For example, as the atmospheric concentration of chlorofluorocarbons (CFCs) decline because of the Montreal Protocol's provisions, their greenhouse-warming contributions will decline. On the other hand, use of hydrofluorocarbons (HFCs) and hydrochlorofluorocarbons (HCFCs) as substitutes for CFCs would cause the greenhouse-warming contributions of these new compounds to increase.

Indeed, according to the executive summary of the UNEP/WMO report global observations of many HFCs and HCFCs, as well as of hydrogen fluoride (HF), confirm that these contributions are currently increasing.

Among the various topics covered in the report, there is a section covering changes in the ozone layer over the Earth's poles. Referring to the Antarctic "ozone hole" the report notes that during the last decade it has increased in size, but not as rapidly as during the 1980s. Stating that the area of the ozone hole varies from one year to another, the scientists

warn that, "it is not yet possible to say whether the area of the ozone hole has maximized." But they do think that, "a future Arctic polar ozone hole similar to the Antarctic appears unlikely."

"Despite the concerns, the overall message from the report is that the Montreal Protocol is working, and the probability of a smaller future Arctic ozone hole is good news indeed" said Klaus Toepfer, UNEP's Executive Director. "The international community should take pride in the success so far. However, the scientific experts also give a clear signal that we must not be complacent and that failure to comply with the Montreal Protocol would delay or could even prevent recovery of the ozone layer. Given the huge risks that a weakened ozone layer poses to human health and the environment, we cannot allow this to happen," he said.

Mr. Marco Gonzalez, Executive Secretary of the Ozone Secretariat, said that compliance with the phase-out schedules of ozone-depleting substances by developing countries is critical. He said, "While the majority of developing countries seemed to be on course in terms of compliance with their individual phase-out schedules, some of them are still lagging behind."

Developed countries responsible for the vast majority of emissions to date have now phased out use of most CFCs and other ozone-depleting chemicals. To ensure these gains are not lost, it is now necessary that developing countries follow suit.

In some cases, like China and India, this is already the case. For example, in May of this year, the Indian Government and UNEP launched a new initiative aimed at accelerating the phase-out of ozone-damaging chemicals across the country. Under the initiative the four big manufacturers of CFCs are pledging to crack down on "rogue emissions" by introducing new, cleaner, production technologies.

They are also backing a nationwide public awareness scheme. It will be targeted at the thousand of small- and medium-sized companies that are part of the CFC supply chain and include refrigerator makers and repairers, suppliers of air conditioning units, and users of products that contain the ozone-depleting chemicals. Production by the four companies concerned is scheduled to reach zero in 2010 from a peak production figure of 23,659 tonnes at the end of the 1990s.

Under the Montreal Protocol, developing countries are committed to reducing their consumption and production of CFCs by 50% in the year 2005, and by 85% in 2007. By 2005 they are also obliged to reduce their consumption of halons by 50%, methyl bromide (a fumigant) by 20%, and the solvents carbon tetrachloride and methylchloroform by 85% and 30%, respectively.

An Ozone Fund - which is headquartered in Montreal and has already disbursed some \$1.3 billion since it was set up in 1991 - is to help developing countries meet these targets by adopting ozone-friendly

chemicals and processes. Since last July, governments have been negotiating replenishment of the "Multilateral Fund" for protecting the ozone layer for the next three years. The Parties to the Montreal Protocol will take a decision on the amount of replenishment when they meet in Rome in November 2002.

The Montreal Protocol has been ratified by 183 countries.

#### Note to Editors

Copies of the Executive Summary of the UNEP/WMO Scientific Assessment of Ozone Depletion: 2002 are available on the web:

<http://www.unep.org/ozone/pdf/execsumm-sap2002.pdf>. For background information see <http://www.unep.org/ozone/docs/bkgnd-execsumm-sap2002.doc>

The Executive Summary will be presented to the Meeting of the Parties to the Montreal Protocol at their next meeting, to take place in Rome from 25 to 29 November. With the full report available in 2003.

International Ozone Day is an annual event that takes place on September 16. This year's slogan is Save O3ur Sky: Protect Yourself Protect the Ozone Layer. For more information see [www.unep.org/ozone/ozone\\_day2002/](http://www.unep.org/ozone/ozone_day2002/). The UN Secretary-General's message for Ozone Day is also available at this address.

The ozone layer shields planet Earth from the harmful ultraviolet-B radiation of the sun. It also completely screens out lethal UV-C radiation. The ozone shield is thus essential to life as we know it. Depleting the ozone layer allows more UV-B to reach the earth. More UV-B means more melanoma and non-melanoma skin cancers, more eye cataracts, weakened immune systems, reduced plant yields, damage to ocean eco-systems and reduced fishing yields, adverse effects on animals, and more damage to plastics.

CFCs have been widely used since the 1930s in refrigerators, air conditioners, foams and other applications; they remain in the atmosphere for decades or even centuries. Halons are primarily used in fire extinguishers. Together with other chemicals, they destroy ozone molecules in the stratosphere that protect all living things from ultra-violet radiation.

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UNEP's Energy and OzonAction Branch assists the developing countries and countries with economies in transition in enabling them to meet the compliance with the Montreal Protocol. The programme also provides the practical information on protection of the ozone layer and also mitigating the climate change at the same time. See: <http://www.uneptie.org/ozonaction>

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