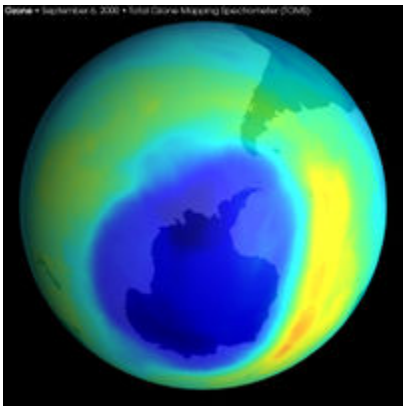
Backgrounder

The 20th Anniversary of the Montreal Protocol – A Landmark Environmental Treaty

September 16, 2007, marks a historic milestone: the 20th anniversary of the world's most successful international environmental treaty. ***The Montreal Protocol on Substances that Deplete the Ozone Layer*** has been signed by almost every country in the world: more than 190 countries are now Parties to the treaty. Across the planet, major corporations continue to make dramatic strides replacing ozone-depleting substances (ODS) with safer substitutes, which will slow and eventually reverse the thinning of the ozone layer as well as provide important climate benefits. The 20th anniversary provides us with an opportunity to assess the progress made so far, to thank the leaders in governments, the media, industry, and in the nonprofit sector who made it possible, and to recommit ourselves to the goals of the ***Montreal Protocol*** as well as to the vibrant partnerships that will help us realize these goals as we address the challenges ahead.

In 1974, Nobel Prize-winning scientists Sherwood Rowland and Mario Molina posited that chlorofluorocarbons (CFCs) could deplete the stratospheric ozone layer. Subsequent research confirmed that commonly-used chemicals – many of them components of everyday consumer products - were destroying the ozone layer. By 1985, scientists saw a drastic thinning of the ozone layer over Antarctica, an annual phenomenon dubbed the "ozone hole." Research since then has deepened our understanding of the causes and dangerous environmental and human health consequences of ozone depletion, showing that effects appear not just at the poles, but all over the world.



Source: National Aeronautics Space Administration
Stratospheric ozone thinning over the Antarctic, September 2000

This is true because a thinner ozone layer allows more ultraviolet radiation to reach the Earth's surface, exposing humans and living systems to additional ultraviolet (UV) radiation. Overexposure to UV can cause a range of health effects, including skin cancer and other skin damage, eye damage leading to cataracts, suppression of the immune system, as well as ecological effects including crop damage, damage to phytoplankton, and potentially the marine food chain. Recognizing these dangers, on September 16, 1987,

world leaders signed the ***Montreal Protocol***. Since then, new scientific proofs of the urgency of ozone damage have led the world community to strengthen the treaty repeatedly.

The treaty is designed to heal the ozone layer by ending production of ODS. In 1990, Congress amended the Clean Air Act to provide a framework for implementing the ***Montreal Protocol*** in the U.S. This framework has not only ensured the U.S. has consistently met or outperformed agreed-upon treaty deadlines for ending reliance on ODS, but also included innovative mechanisms to speed ozone layer protection: adding taxes to the cost of many ODS, requiring that ODS-containing products be labeled, and creating the Significant New Alternatives Policy program, allowing manufacturers and users to identify safer alternatives.

The U.S., historically one of the largest ODS consumers, has been a leader in ending use while at the same time developing and commercializing safer substitutes. We have virtually ended production of the most damaging ODS - including CFCs, carbon tetrachloride, and halons – which were found in common industrial and consumer products such as coolants, refrigerants, aerosol cans, polystyrene cups, fire extinguishers, and packing peanuts. Second-generation replacements, such as hydrofluorochlorocarbons (HCFCs), themselves face production phase-outs, and will no longer be made in the U.S. by 2030. Developing countries are expected to complete their own phase-outs by 2040.

U.S. Production of First-Generation ODS Phased Out on Schedule

Chemical Group	Production Phaseout Dates	Deadline Met
Halons	January 1, 1994	✓
Chlorofluorocarbons (CFCs)	January 1, 1996	✓
Carbon tetrachloride	January 1, 1996	✓
Hydrobromofluorocarbons (HBFCs)	January 1, 1996	✓
Methyl chloroform	January 1, 1996	✓
Chlorobromomethane	August 18, 2003	✓
Methyl bromide	January 1, 2005	✓

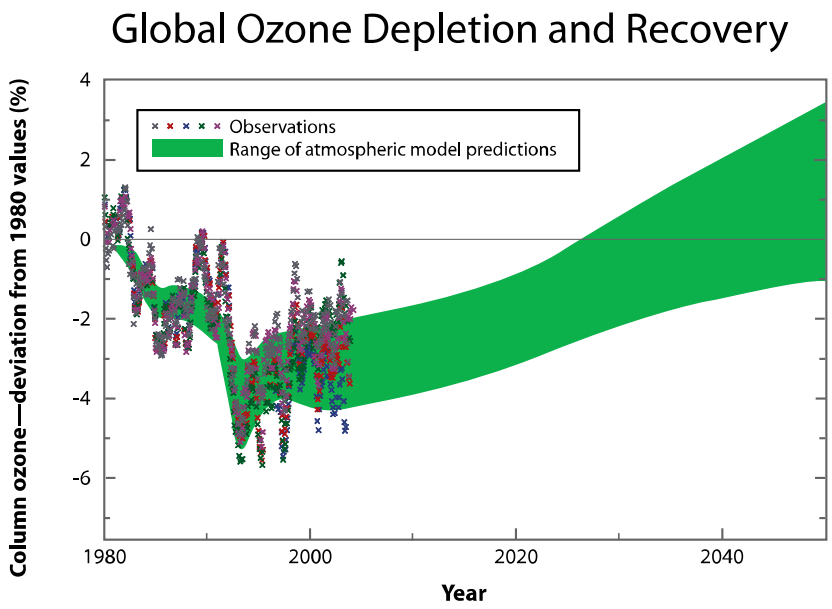
U.S. Production of Second-Generation ODS Being Phased Out on Schedule

Chemical Group	Production Phaseout Dates	Deadline Met
Hydrochlorofluoro-carbons (HCFCs)	Cut production 35 percent by January 1, 2004	✓ **(One year ahead of schedule)**
	Cut production 65 percent by January 1, 2010 Cut production 90 percent by January 1, 2015 Cut production 99.5 per-cent by January 1, 2020 Complete phaseout by January 1, 2030	**On track to meet all future requirements**

Key to the success of the U.S. phase-out has been close collaboration with other Parties to the treaty, and with partners from all sectors of the U.S. economy. Many U.S. corporations have been innovative champions of ozone layer protection, sharing information and technology within industry sectors as well as with developing countries in an effort to create practical, rapid means of transition away from ODS and into safer alternatives.

The Environmental and Public Health Benefit

Although the stratospheric ozone layer has not yet healed, the thinning has slowed, and – assuming developed and developing countries continue to meet their ***Montreal Protocol*** goals – scientists anticipate recovery between 2060 and 2075. Efforts to protect the stratospheric ozone layer will produce an estimated $4.2 trillion in societal health benefits in the U.S. during the period from 1990 to 2165, and prevent an estimated 6.3 million premature deaths from skin cancer.



Source: EPA: *Achievements in Stratospheric Ozone Protection - Progress Report.* April 2007.

Since most ODS are also potent greenhouse gases, replacing them with ozone-safe substitutes can also reduce greenhouse gas emissions and slow climate change. Recent research has demonstrated that the climate impact of CFC, HCFC, and HFC emissions, compared to carbon dioxide emissions from fossil fuel combustion fell from about 33 percent in 1990 to about 10 percent in 2000.

As we approach the 20th anniversary, the global success of the ***Montreal Protocol*** stands out as an ever-more significant landmark of international cooperation to avert severe environmental consequences. Major challenges remain, including the final phase-outs of key chemicals that damage the ozone layer, including the agricultural fumigant methyl bromide. In all these areas, decisive leadership has been vital to U.S. contributions to the global success of the Montreal Protocol. Continuing success in completing the important agenda of future work that faces the Parties will rely just as heavily on partnerships, vision, and the willingness to make difficult decisions and implement them rigorously.