



Ozone Depletion & Global Warming

By Jessica Vallette Revere, Friends of the Earth

People in the United States now spend over \$3 billion annually to correct eye cataracts that can result from exposure to ultraviolet B (UV-B) radiation. The insurance industry is spending tens of billions of dollars to help people whose lives have been disrupted by unusual weather events spawned by global climate change. These facts alone should spur U.S. environmental negotiators to take actions that reduce and eliminate the production, use, and emissions of both ozone depleting and global warming chemicals as soon as technologically feasible.

Industry's long-term reliance on chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), methyl bromide, and other chemicals is resulting in a global atmospheric crisis that cannot be ignored. Normally, the ozone layer blocks nearly all UV-B radiation, which plays a significant role in the formation of skin cancers, eye cataracts, immune system deficiencies, and other health maladies. A 1% loss of stratospheric ozone equals

a 2% increase in skin cancers and a nearly 1% increase in eye cataracts worldwide. These are just a few of the reasons why world leaders formulated the 1987 Montreal Protocol on Ozone Depleting Substances, designed to quickly eliminate the use of CFCs and other ozone depleting chemicals.

Ratified by 172 countries and hailed by many experts as the most successful international environmental agreement, the Montreal Protocol has, unfortunately, not succeeded in halting deterioration of the ozone layer. In 1998 and 1999, the Antarctic ozone hole was found to be the largest,

deepest, and longest lasting ever. Increased ground-level UV-B radiation has been reported in many parts of the world, including New Zealand and Canada.

Further, in late 1997 and again in late 1999, the European Space Agency reported evidence of an ozone hole over Britain, Belgium, the Netherlands, and Scandinavia. These events were a result of unusually low temperatures in the stratosphere, increasing the rate of ozone depletion caused by ozone consuming chemicals. Consequently, it appears that ozone losses may be more severe than scientists originally anticipated. This news

has motivated the European Community to become the most vocal proponent of further actions to protect the ozone layer.

There is also evidence that ozone depletion is masking global warming, because ozone depletion cools the stratosphere even though the earth's surface temperatures are higher than historic averages. Global warming is predicted to cause rising ocean levels, lower plant productivity, and more frequent and dangerous weather patterns. Ozone depletion may also make it harder to combat global warming, because more UV light penetrates the world's oceans and destroys plankton. Plankton plays a pivotal role in the ability of oceans to draw carbon dioxide (the primary global warming chemical) from the atmosphere, thereby making oceans (along with rainforests) important "carbon sinks." Loss of these "sinks" further exacerbates global warming by accelerating the buildup of so-called greenhouse gases in the atmosphere.

Two sets of international agreements seek to address these crises: the Vienna Convention and its 1987 Montreal Protocol for ozone depletion and, for global warming, the Framework Convention on Climate Change and its 1997 Kyoto Protocol, a highly complex treaty signed by over 175 countries. Although the Montreal Protocol does phase out the worst ozone depleting substances (CFCs, HCFCs, halons, methyl bromide), unfortunately it allows ozone depleting chemicals to be replaced with two greenhouse gases, hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). Both of these chemicals are among the six global warming gases to be controlled under the Kyoto Protocol.

The Montreal and Kyoto protocols contain mechanisms for reviewing the scientific knowledge, revising control target dates, and banning more chemicals. The Montreal Protocol's Scientific Assessments (1989, 1991, 1994, and 1998) have led, for instance, to the adoption of three amendments to create phase-out schedules for methyl bromide, HCFCs, and other ozone depleting chemicals. The much newer Kyoto Protocol, although not amended to date, has a similar mechanism requiring a scientific review of its provisions.

As we enter the new millennium, the scientific evidence is overwhelming that global warming and ozone depletion are two of the most serious environmental crises ever faced by humankind. Because they are interlinked, there is an urgent need for new strategies that will combat them simultaneously.

- The U.S. is spending billions of dollars each year to combat the effects of ozone depletion and global warming on human health and weather patterns.
- Two groundbreaking international treaties, the Montreal and Kyoto protocols, have failed to adequately curb use of the chemicals causing ozone depletion and global warming.
- Ozone depletion and global warming are both man-made and interconnected, and they constitute the most serious environmental crises ever.

Problems With Current U.S. Policy

U.S. treatment of the Montreal and Kyoto protocols as mutually exclusive environmental treaties not only fails to internalize the new scientific evidence demonstrating the correlation between ozone depletion and global warming but also leads to ineffective, discordant policy-making that does not adequately protect life on earth against these synergistic atmospheric threats. In addition, the Clinton administration has accommodated industry interests bent on prolonging the use of ozone depleting and global warming chemicals. Washington, for instance, has refused to accelerate the HCFC phase-out or to close a loophole that allows methyl bromide (MB) use in developing countries even after 2005, when it is phased out in developed countries.

In 1992, the Montreal Protocol allowed continued use of MB—a deadly pesticide as well as a potent ozone depleter—for fumigation of goods and shipping containers used in international and domestic trade. This use currently accounts for over 22% of the MB consumed worldwide. U.S. agencies are split on the MB question. Under pressure from industry lobbyists, the U.S. Department of Agriculture (USDA) has expanded MB application to include wood products used in international shipping from China and Mexico, even though both countries have indicated that heat treatment is both less expensive and less environmentally harmful. An August 1999 Environmental Protection Agency (EPA) memo also stated that the agency “cannot find the rationale” for wood importers to use MB.

U.S. policymaking has been inconsistent in other ways as well. The Montreal Protocol temporarily exempts the production and use of CFCs for medical purposes. Several European and some developing countries have taken action, mindful of balancing medical needs with environmental needs, to shift away from metered-dose inhalers (MDIs) containing CFCs. The EPA concurs with this position. However, in September 1999, the Food and Drug Administration (FDA) stated it would not end approvals of new CFC MDIs, even though one non-CFC MDI has been approved and more are on the way. At the 1999 meeting of the Montreal Protocol in Beijing, the U.S. helped block a proposal by Costa Rica that would have further controlled these uses and facilitated a more effective transition from CFC MDIs to alternative medicine-delivery methods.

Under the Montreal Protocol, HCFCs will not be phased out until 2030. The European Commission (EC) and many nongovernmental organizations have advocated for an accelerated HCFC phaseout. However, the U.S. has not supported these efforts, primarily because DuPont and other U.S. companies have spent billions of dollars on developing HCFCs as alternatives to CFCs. Only in 1999 did the Clinton administration finally agree to new controls on the production of HCFCs, but it still failed to accelerate the consumption phase-out schedule. Though the agreement signals progress in U.S. policymaking, Washington's position on HCFC phaseout is still unclear.

Adding to the dangers of a slow HCFC phaseout, use of other fluorocarbon-based chemicals—HFCs and PFCs—is also being permitted. These chemicals are

among the six gases designated for control under the Global Climate Change Convention. This incongruity has led to confusion about the best alternative to adopt in both developed and developing countries. Failure to control HFCs and PFCs further reduces the incentive for industry to pursue alternatives to ozone depleting and global warming substances.

The fluorocarbon industry, represented by the Alliance for Responsible Atmospheric Policy, continues to aggressively promote HFCs and HCFCs for use in developing countries. Alliance lobbyists at the annual international ozone meetings target developing countries, arguing that these chemicals cannot be phased out because commercially viable alternatives are not available.

In fact, there are now only a few cases where there are no alternatives, and in some of these situations, the protocol permits companies to request permission to use these chemicals under emergency provisions.

To date, the U.S. has not adequately supported the adoption of non-ozone depleting alternatives at the international level and has not sufficiently promoted low

global warming and non-HCFC technologies under its own CFC alternatives policy called the Significant New Alternatives Policy (SNAP). The EPA created SNAP to facilitate the adoption of alternatives to CFCs and halons, and its mandate is to publish lists of acceptable and unacceptable substitutes. To make the determination of what is acceptable, the agency relies on information supplied by staff scientists, consultants, science advisors, the public, and corporations. In practice, the EPA has frequently recommended the industry proposal of substituting HCFCs and HFCs for CFCs in the refrigeration, air conditioning, and insulating foam sectors, even when non-ozone depleting, non-global warming alternatives are available.

- U.S. agencies responsible for implementing the Montreal Protocol are working at cross-purposes, leading to weak efforts to protect the ozone layer.
- Washington has failed to support efforts to accelerate the HCFC phaseout.
- The U.S. has not sufficiently supported the adoption of alternatives to ozone depleting and climate changing substances like HCFCs.

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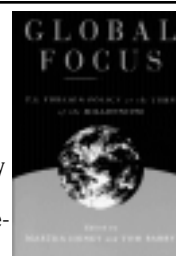
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Toward a New Foreign Policy

Protection of the ozone layer was one of the hottest environmental issues during the 1992 presidential race. Considering the new scientific evidence showing the negative synergies between global climate change and ozone depletion, these twin crises should be playing a major role in the environmental positions of candidates in the 2000 campaigns.

The next president will be in a unique position to change existing policies to make them more consistent

- The U.S. should legally link the two agreements to ensure that the implementation of the Montreal Protocol doesn't undermine the Kyoto Protocol.
- The U.S. should work to phase out HCFCs by 2004.
- The U.S. should increase the amount of funding it provides to the Multilateral Fund by designating a portion of the existing ozone depleting chemical tax to the fund.

with the clear need to stop the spiraling damage to the earth's atmosphere. Regardless of the composition of the next Congress, the president has the executive authority to enact a number of necessary reforms. For example, the new president could require the EPA and the USDA to ban all use of methyl bromide in shipping, except in emergencies. Furthermore, the president could distinguish himself by committing to work with Congress to increase the fund-

ing portion that the U.S. contributes to the Multilateral Fund. Such leadership could encourage other countries to take similar actions.

The U.S. needs to ensure that the goals of the Montreal Protocol do not undermine the Kyoto Protocol. To do so, it should support the legal linkage between the two protocols and should ban the adoption of HCFCs, HFCs, and other global warming chemicals as alternatives to ozone depleting chemicals, unless there is no other technologically feasible alternative.

The Montreal Protocol is already linked with the Basel Convention on the International Transport of Hazardous Wastes. In 1995, the parties to the Basel Convention agreed to ban the trade of ozone depleting substances controlled by the Montreal Protocol. The parties to the Montreal Protocol should take a similar decision to ensure that technologies adopted as alternatives to ozone depleting substances do not undermine the goals of the Kyoto Protocol.

The Montreal Protocol's current phaseout of 2030 for HCFCs is too distant to curb either ozone layer destruction or global warming. An accelerated phaseout would compel the chemical industry to innovate as it did when it developed HCFCs as an alternative to CFCs.

HCFCs should be phased out no later than 2004. According to the 1998 scientific assessment, eliminating

HCFC production is the third most important action that the parties can take to accelerate the recovery of the ozone layer. (Assuming full compliance with all of the phase-out requirements to date, the first and second most important actions would be to eliminate both Halon-1211 and Halon-1301 emissions worldwide by the end of this year.) A 2004 phaseout of HCFCs would also send a clear signal to developing countries not to use interim technologies when seeking CFC alternatives. Instead, they should be adopting longer-term solutions that protect the ozone layer and mitigate global warming. The existing 2030 phaseout does little to guide industry into the investments needed for research and development to make existing non-fluorocarbon-based alternatives more affordable.

In addition, the EPA should, as part of SNAP, support the emergence in the U.S. of non-ozone depleting alternatives, such as water foam blowing techniques and hydrocarbon and ammonia refrigerants. The EPA should also provide small grants to companies wishing to adopt the most appropriate technology and should track new product performance to inform future policy and negotiating positions. As Washington gains more experience with these alternatives, it will be in a better position to advocate for them at the international level.

The U.S. could also increase its financial commitment to the Multilateral Fund, which helps developing countries find nondestructive alternatives. Currently the U.S. provides about 24% of the total budget of the fund. Although this is the largest share contributed by any country, it is only fair, since U.S.-based companies manufacture the majority of ozone depleting chemicals. The U.S. could increase its share to the fund by earmarking a portion of its ozone depleting chemical tax. In addition, Washington should urge other countries to pay their commitments on time and in full. Japan, for instance, has committed to pay just under 20% but has never paid this amount in full. Italy, Germany, and other countries have also failed to meet their commitments.

Instead of looking back at the successful CFC phaseout, the U.S. needs to be looking toward the future and working to rapidly phase out all ozone depleting substances without compromising the goals of other treaties. This global atmospheric crisis is man-made and is not insurmountable. Through a combination of scientific know-how, industry innovation, political will, and sound public policy, the U.S. can help protect the ozone layer without adding to global warming.

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Websites

Secretariat for the Vienna Convention and the Montreal Protocol

Website: <http://www.unep.org/ozone/contact.htm>

United Nations Environment Programme (UNEP)

Website: <http://www.unepie.org/ozonaction.html>

U.S. Department of Agriculture Animal and Plant Health Inspection Service (APHIS)

Website: <http://www.aphis.usda.gov/>
 or: <http://www.aphis.usda.gov/ppd/rad/webrepor.html>

(recently published rules and notices)

U.S. Environmental Protection Agency's Office of Air & Radiation, Stratospheric Ozone Protection

Website: <http://www.epa.gov/ozone/>

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