WASHINGTON STATE DEPARTMENT OF ECOLOGY

Clean Air Washington

The Clean Air Washington Act of 1991 sets a comprehensive new course toward cleaner air throughout the state.

Ozone Depletion and Global Warming

The problem

Ozone depletion

In the earth's upper atmosphere, the ozone layer which protects the earth from the sun's harmful rays is being depleted. There is already a seasonal ozone hole over the southern hemisphere, and new evidence suggests an ozone hole may be developing over the northern hemisphere. Over time, exposure to ultraviolet rays can cause skin cancer, immune system damage, and eye ailments such as cataracts and retinal scarring. Damage to agricultural and forest production may also result from ozone depletion. In addition, adverse effects are already being noted in both land and marine ecosystems in the southern hemisphere.

Although ozone is needed in the upper atmosphere, in the lower atmosphere it is the main ingredient of smog and the source of major air pollution. Unfortunately, ozone in the lower atmosphere breaks down into other gases long before it can drift upward and replenish the ozone layer.

Global warming

Most scientific experts agree that people are altering the earth's climate. However, there is disagreement about in what way and to what extent the climate may be changing. The most widely held belief is that global temperatures are increasing. The Intergovernmental Panel on Climate Change, a group of over 1,000 scientists from 25 countries, agrees that greenhouse gases (gases that trap the sun's heat close to the earth) are accumulating in the atmosphere. The Panel also agrees that the accumulation of greenhouse gases may cause the average global temperature to gradually increase about two to nine degrees Fahrenheit over the next century. This warming could significantly alter wind, precipitation, and other climatic patterns. The resulting warming of the oceans and melting of glaciers could cause a sea level rise of six to 38 inches by the year 2100. These and other changes could affect human health, natural ecosystems, agriculture, forestry, water resources, energy use, transportation, and many other aspects of human life.

Chlorofluorocarbons (CFCs)

The chief agent responsible for depletion of the ozone layer is the family of gases called chlorofluorocarbons (CFCs). CFCs are created by humans; they have no natural source. CFCs not only deplete the ozone layer, they are also powerful greenhouse gases. CFCs are used as coolants for refrigeration and air conditioning, solvents, blowing agents for foam insulation, and various other purposes. They are nontoxic, nonflammable, and virtually indestructible – well-suited for many applications.

CFCs are up to 20,000 times more efficient than carbon dioxide at trapping energy in the lower atmosphere, which produces warming. It can take 100 to 150 years for CFCs to break down once they are released into the atmosphere. These facts, coupled with the role of CFCs in depleting the ozone layer, underscore the importance of controlling CFC emissions.

Ecology is an equal opportunity and affirmative action employer.

FA-92-10 (rev. 9/98)

An international agreement (the Montreal Protocol) was reached in 1992 which called for industrialized nations to voluntarily reduce the amount of greenhouse gases they release in order to slow global warming. In 1997, representatives from around the world met in Kyoto, Japan to discuss strengthening this climate control treaty.

What the Clean Air Washington Act does

The Clean Air Washington Act adopted in 1991 indirectly addresses global warming and ozone depletion through programs designed to decrease emissions of traditional air pollutants in Washington State. These programs include:

- limiting traffic growth by providing options other than single occupant vehicles;
- encouraging the use of alternative fuels in motor vehicles;
- regulating outdoor burning;
- implementing strict standards for wood stove and fireplace emissions and encouraging cleaner burning practices for wood stove and fireplace users;
- regulating industrial emissions of air pollutants; and
- regulating chlorofluorocarbons (CFCs) used as coolants, solvents, blowing agents, and other purposes. (Federal law also bans the production of CFCs by the year 2000.)

How CFCs are regulated

The Clean Air Washington Act:

- Requires the use of equipment to extract coolants containing CFCs or other gases destructive to the ozone layer when servicing motor vehicle or other air conditioning systems; when servicing refrigeration equipment or consumer appliances; and prior to the disposal of appliances containing CFCs. The servicing of off-road commercial equipment is exempt.

- Directs the Department of Ecology to provide technical assistance to individuals involved with collecting, transporting, or recycling refrigerants.

- Bans the sale or purchase of refrigerants designed for consumer recharging of motor vehicle air conditioning systems or other appliances. This ban does not apply to refrigerants purchased for servicing off-road commercial or agricultural equipment.

- Prohibits the sale of nonessential consumer products that contain CFCs or other chemicals harmful to the ozone layer, and for which substitutes are readily available.

- Directs Ecology to establish a technical assistance team and adopt regulations to implement these provisions.

For more information

Ecology has prepared fact sheets on each major element of the Clean Air Washington Act. These are available from the Washington State Department of Ecology, P.O. Box 47600, Olympia, WA 98504-7600. For more information, call:

Tami Dahlgren Air Quality Program	(360) 407-6830
Stu Clark Air Quality Program	(360) 407-6873

If you have special accommodation needs or require this document in alternative format, please call Tami Dahlgren at (360) 407-6830 (voice); or call (360) 407-6006 (TDD only).