

Ozone Depletion

Carbon dioxide is not the only trace gas threatening the planet. Chlorofluorocarbons (CFCs) are a group of chemicals including Freon and Halon. They are widely used as refrigerants, solvents, fire suppression agents, aerosol propellants, and in the manufacture of plastic foams.

CFCs, and certain chlorinated solvents, can float to the upper levels of the atmosphere, where they react with naturally occurring ozone gas. Ozone is a poison at ground level, but 30 miles up it shields the Earth from damaging ultraviolet radiation. If we lose the ozone layer, the result will be widespread skin cancer, crop failure and the extinction of many species of animals and plants.

CFCs are extremely stable. They can last for 75 years or more in the upper atmosphere. One molecule of Freon can destroy a hundred thousand molecules of ozone. Holes in the ozone layer have already begun to appear around the north and south poles, where frigid temperatures accelerate the process. CFCs also contribute to the greenhouse effect and global warming, through an entirely different mechanism.

Fortunately, we have begun to control this problem. New international treaties will lead to the eventual phase-out of CFCs and other ozone-damaging chemicals. Many companies are working on substitutes. Allied Signal, for example, was once a major producer of CFCs. At its Buffalo Research Lab, whose 70 workers are represented by USWA Local Union 8823, the company is researching HCFCs (hydrochlorofluorocarbons), compounds similar to CFCs, but far less destructive to the ozone layer. HCFCs may provide a transition to substitutes that will not damage the atmosphere at all; Allied Signal is working to develop those substitutes as well.