



Clean Air: An Act That Works

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REDUCING CARBON MONOXIDE

A major achievement of the Clean Air Act has been a large reduction in carbon monoxide pollution. Since passage of the Clean Air Act Amendments of 1990, over 75% of the cities that exceeded the federal health standard for carbon monoxide have now come into compliance with the federal standard.

The Health Risk. Carbon monoxide (CO) reduces the ability of blood to deliver oxygen to the body, because CO "mimics" oxygen by binding with hemoglobin that would otherwise transport oxygen. Exposure to low levels of CO is most dangerous for persons with heart disease; it aggravates angina (heart pain) and may trigger heart attacks. At higher CO levels, healthy individuals can suffer impaired visual perception, manual dexterity, and learning capacity. At extremely high levels (such as those caused by running a car in an enclosed garage), CO causes death by asphyxiation.

25 Years Ago. When the Clean Air Act was first enacted in 1970, about 130 million tons of CO were emitted into the air each year -- about 90 million tons from cars and trucks and 40 million tons from other sources. In the early 1980s, when reliable, uniform monitoring data first became available nationwide, 78 urban areas exceeded the national ambient air quality standard (NAAQS) for CO.

1990. When Congress passed the Clean Air Act Amendments of 1990, 42 areas of the country, with a combined population of over 55 million, violated the CO NAAQS.

Today. Nationally, carbon monoxide emissions have been reduced by 24% since 1970 -- despite a doubling in the number of miles driven by motor vehicles. Remarkably, only ten cities continued to violated the NAAQS in 1994.

Why the Clean Air Act Is Working. Reductions in CO emissions from new cars, which beginning in 1975 were required to use catalytic converters, have caused much of the long-term reduction in CO emissions. Cars emitted 70% less CO in 1990 than in 1970.

In recent years, important additional reductions have been achieved through new controls on wintertime emissions. In cold weather, CO emissions rise because fuel combusts more inefficiently and pollution controls function less effectively. To control these emissions, the 1990 Amendments required 36 nonattainment cities to add oxygen to gasoline from November to February in order to enhance fuel combustion. These fuel changes reduced CO emissions from motor vehicles by 32% and helped bring many of the cities into attainment.

In addition, beginning in model year 1994, new vehicles are required to meet new cold-weather tailpipe standards, which on a per-vehicle basis should reduce cold-weather CO emissions by another 13%.