



# Focus

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## Major Air Pollutants

### Carbon Monoxide

#### Background

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You can't see it. You can't smell it. But more carbon monoxide gas dirties the air in Washington than any other pollutant. When you inhale carbon monoxide it takes the place of oxygen in your blood. The result is that your body doesn't get enough oxygen. Carbon monoxide can cause headaches and drowsiness, and even death at very high concentrations.

Carbon monoxide is a by-product of all kinds of burning: motor vehicle engines, factory boilers, wood stoves, and open burning. Motor vehicle exhaust is the leading source of carbon monoxide pollution. The number of motor vehicles in use and the miles traveled are increasing faster than population in Washington.

#### Washington's carbon monoxide problem

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The federal Environmental Protection Agency declares areas "nonattainment" when levels of certain air pollutants do not meet federal health-based standards. Western Washington areas that were previously nonattainment for carbon monoxide are now "maintenance" areas, which means they are meeting the carbon monoxide standard and have a plan in place to continue maintaining air quality.

Motor vehicles account for at least half the carbon monoxide pollution in Washington. Most of the rest comes from wood stoves and fireplaces, industries, and outdoor burning, including forest slash fires and residential and commercial burning.

#### Health effects of carbon monoxide

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Carbon monoxide attaches to the red pigment in the blood, hemoglobin, which carries oxygen to body tissues. It then interferes with the hemoglobin's ability to supply tissues with the oxygen they need to function. Individuals most sensitive to carbon monoxide exposure are heart patients, people with lung problems, and people with blood problems such as anemia.

Symptoms of carbon monoxide exposure may be increased length and frequency of chest pain for those with heart or other circulator problems. Other people may experience headaches, dizziness, lack of concentration, fever, or nausea. Mood swings, irritability, or behavioral changes can also be symptoms of relatively low exposures to carbon monoxide. Higher exposures can result in aggressiveness, loss of consciousness, and death.

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## Controlling carbon monoxide

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The Washington Clean Air Act adopted in 1991 provided new and better tools to control carbon monoxide pollution:

**The vehicle Emission Check Program.** This program is required in urban areas of King, Pierce, Snohomish, Spokane, and Clark counties. It helps reduce air pollution from vehicles by identifying the most polluting vehicles and requiring their proper repair.

**Oxygenated gasoline.** Gasoline with additives that increase the amount of oxygen in the fuel blend, reducing carbon monoxide emissions, is sold during the winter in areas that do not meet the carbon monoxide standard (central Puget Sound and Spokane and Clark counties). The oxygenated gasoline program has recently been phased out in central Puget Sound and Clark County due to air quality improvements in those areas.

**Reducing “drive-alone commuting.”** Major employers in the largest counties are required to have programs to reduce drive-alone commuting by their employees.

**Transportation planning.** Transportation programs and projects must not make air pollution worse in areas with air pollution problems.

**Wood stove emission standards.** Emission standards have been tightened for wood stoves sold in Washington. These standards result in more efficient wood burning, which in turn produces less carbon monoxide and other pollutants.

**Industrial regulation.** Major industries must obtain operating permits, which are updated and renewed every five years. The state must also review and update the pollution control technology standards for carbon monoxide and other industrial pollutants every five years.

**Restrictions on outdoor burning.** Open burning is phased out in areas that don't meet federal air quality standards. As alternatives to burning become available locally, open burning may be banned in some areas.

## For more information

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