

## Energy Management for Home

Air Sealing

Cooling Your Home

Gas Appliances

Home Insulation Choices

Indoor Air Quality

Insulating Side Walls

Mobile Homes

Saving Energy

Storm Windows

Top Ten Tips

Water Heater

Condensation

**Carbon Monoxide**

Lighting

Attic Insulation

Floor and Foundation

For more energy information, go to <http://energy.tennessee.edu>.

### Carbon Monoxide

Carbon monoxide (CO) is an invisible gas that you should be aware of. You can't see or smell it; yet it can kill you and your loved ones within minutes if you breathe high concentrations of it. At low levels, it can make you sick.

### Dizziness, headaches, fatigue, confusion, nausea, shortness of breath.

These are the symptoms of CO poisoning, and you're right – they resemble those of the flu and other common illnesses, so it can be hard to diagnose. Suspect mild CO poisoning if the symptoms disappear when you leave your house and reoccur when you come home.

CO quickly enters your blood stream and prevents it from delivering the oxygen your body needs to function. People with anemia, heart or lung problems, children and unborn babies are particularly susceptible to its deadly effects. Don't take any chances if the symptoms come on quickly and you've reason to suspect CO poisoning. If you hesitate, you could lose consciousness and die. Get everyone out into fresh air immediately and go to an emergency room. There's a blood test to check for CO poisoning. Make sure you contact a qualified heating contractor to check your fossil fuel appliances before re-entering your house.

### Fuel-burning appliances emit carbon monoxide

Small amounts of CO are produced whenever fossil fuels such as gas, oil, kerosene, charcoal or wood are burned. When these fuels burn efficiently and are exhausted properly, CO is not produced. But trouble comes quickly when the burn is incomplete and exhaust accidentally leaks inside your house. Sometimes when a fossil fuel appliance is operating at the same time as a powerful exhaust vent, combustion gases can be sucked out of the appliance or pipe and enter the house. This scary event is called appliance backdrafting. You can protect your household by having a trained professional perform a safety inspection on all fuel-burning appliances. Call a heating contractor for an appointment. This is the most important step you can take! These appliances include gas or oil furnaces, water heaters, ranges, ovens, cooktops, clothes dryers, portable kerosene or gas space heaters, wood or coal stoves and fireplaces.

The contractor should check to make sure:

- Appliances are installed and operating properly.
- All burners are getting enough outside/fresh air for complete combustion.
- No appliance is producing a dangerous level of CO.
- All vents, chimneys and flues are clear and well-connected. An inspector can make sure your chimney is clear and safe.

While prevention of CO should be your first priority, you can also install digital CO detectors. Plug-in and battery-powered detectors are designed to sound an alarm when they sense harmful CO levels. Make sure the detectors you buy meet American Gas Association or Underwriters Laboratories (UL2034) standard and use them only as a back-up measure, not as a substitute



for common sense and an annual appliance inspection and maintenance. When you purchase the detector, note the life expectancy of the sensor cell located inside the detector – the cell may not last forever and may have to be replaced according to the manufacturer’s recommendations. If your detector is battery-powered, the battery should be tested monthly and replaced annually (just like a smoke detector). Install detectors on the wall or ceiling outside your bedroom.

When using fossil fuel appliances, look for these warning signs:

- A gas appliance with a yellow flame (it should burn blue).
- Soot build-up on or around your appliance.
- Rust stains and corrosion on vents or chimneys.
- Increased condensation on windows.
- Furnace running longer and not heating as well.
- Unfamiliar smells or sounds coming from appliances.

While some CO detectors may look like smoke detectors, their function is completely different. For a safe home, you should have smoke AND carbon monoxide detector.

**Please follow these safety tips:**

- Never use an oven or range as a space heater.
- Never let the car run in an attached garage.
- Never use an unvented heater unless it is equipped with an oxygen depletion sensor and has proper combustion air.
- Never sleep in a room with an unvented gas or kerosene space heater.
- Always make sure unvented space heaters operate in rooms with a window cracked and the door open. (Better yet, avoid using them entirely!)
- Always follow operating and maintenance instructions for combustion appliances.
- Never operate gasoline-powered engines (generators, chain saws, etc.) in enclosed spaces.
- Never use a barbecue grill indoors.

**Energy-efficiency alert!**

If your home is energy-efficient – if it’s insulated and air leaks are sealed with caulking and weatherstripping – you must be extra careful. Please be sure all combustion appliances are operating properly, because CO levels can build up rapidly in a tight home.

**Notes**

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Original work created by Montana State University Extension and the University of Wyoming. Adapted for use in Tennessee by Martha - Keel, Department of Family and Consumer Sciences. -

R01-5120-101-028-14 SP 759-M 14-0151 04/14 500 -

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