

Wood Smoke - No Disappearing Act by Laurie LaFond

The smell of burning wood may conjure up fond memories of nights spent around a campfire or fireplace, but wood smoke is a major source of air pollution. The EPA estimates that wood smoke is 12 times more carcinogenic than second-hand cigarette smoke and attacks our body cells up to 40 times longer!

Wood smoke is composed of a mix of harmful gases, wood tars and particles of ash and soot. It contains hundreds of chemicals and compounds (including dioxins*), more than two dozen of which are toxic to human health. More than 90% of wood smoke consists of fine particulates so tiny that thousands would fit on the point of a pin. This fine particulate matter, or PM 2.5, is the biggest threat to human health.

Fine particulates are so small that our bodies cannot filter them out. They carry toxic chemicals deep into our lungs where they can remain for months. Health effects of short-term exposure to wood smoke include stinging eyes, runny nose, respiratory illness, headaches and shortness of breath. It can also aggravate chronic heart and lung diseases; studies have shown that as fine particulate levels rise, premature death rates for people with these conditions rise as well. Long-term exposure to wood smoke has been linked to heart disease and cancers of the nose, throat, lungs, blood and lymph system.

Closed doors and windows cannot filter out fine particulates. Even the newest energy-efficient homes showed concentrations at 50% - 70% of the outside level of this dangerous air pollutant. "In some parts of the United States during a typical wood heating season, wood smoke can account for about 80% of the air pollution in a residential area" (EPA). Infants and children, pregnant woman, the elderly and those with weakened immune systems are most at risk.

Natural gas, electricity and oil are hundreds of times cleaner than fireplaces and woodstoves. Outdoor boilers are the worst: "...emissions of fine particulate matter from burning wood in OWBs (outdoor wood boilers) are about four to 12 times higher than the emissions from indoor wood stoves." [Environmental Protection Bureau, "Smoke Gets in Your Lungs: Outdoor Wood Boilers in New York State," October, 2005. State of New York, Office of the Attorney General.]

If you must burn wood, consider that a properly installed EPA certified wood stove emits 60% - 80% less pollution than a conventional wood stove. "A fire that is burning properly produces little or no smoke from the chimney. If you see a lot of smoke coming from a chimney, that's air pollution." [www.epa.gov/woodstoves/healthier.html] Check out the following EPA page for more information or links to tips to help you reduce your emissions: www.epa.gov/woodstoves/healtheffects.html

You should never burn trash, treated or painted wood, pallets, particle board, plastics, etc.! Burning trash is not only unlawful, it releases even greater amounts of toxic chemicals, such as dioxins*, benzenes, lead and arsenic, into the air we all breathe.

In the words of one NYS Health Department Chief: "Smoke is bad for you. Everyone knows that."

More Information on this topic can be found at:

American Lung Association: www.lungusa.org

DEC: www.dec.ny.gov/public/32065.html (one of several pages on this topic)

NYS Office of the Attorney General: www.oag.state.ny.us/press/2005/avg/August%202005.pdf (all about OWBs)

Clean Air Revival: www.burningissues.org

Washington State Department of Ecology: www.ecy.wa.gov/programs/air/airhome.html

*Dioxins are some of the most toxic chemicals known to man. They are formed when substances processed with chlorine, such as plastics or even white paper plates and napkins, are burned. Waste-burning incinerators and backyard burn-barrels are a major source of dioxin in the environment. Paper mills that use chlorine bleaching in their process and the production of PVCs and certain chlorinated chemicals (like many pesticides) also contribute to dioxin pollution.