



Outdoor Wood-fired Boilers

negative impacts to air quality in your community

Polycyclic Aromatic Hydrocarbons

are formed during incomplete combustion, and can both increase birth defect rates and inhibit the immune system's response. + ♀♂

Carbon Dioxide (CO₂)

is a major greenhouse gas that contributes significantly to global climate change. 🫁🔥

Carbon Monoxide (CO)

can be fatal at high concentrations, but also causes fatigue, headaches, impaired vision, dizziness, nausea, and confusion at low concentrations. 🫁🧠🔥👄

Other Chemicals

such as aldehydes, nitrogen oxides and sulfur oxides can cause inflammation and respiratory distress. 🫁+

Benzene (C₆H₆)

is a volatile organic compound that can cause drowsiness, dizziness, rapid heart rate, headaches, and tremors. Exposure can also cause immune or reproductive problems, and increases cancer risks. 🧠🔥+

Chlorinated Dioxins

come from burning materials that contain chlorine such as plastic, pressure-treated wood, pesticides, and white paper. These chemicals can cause skin disease, change blood or urine chemistry, and affect reproduction. 🧠🔥👄

Wood Smoke

from Outdoor Wood-fired Boilers (OWBs) causes a host of environmental and public health issues that can impair local air quality and exacerbate health problems. The boilers release large amounts of carbon, nitrogen and sulfur oxides, volatile organic compounds and fine particulate matter. These pollutants can affect your:



Respiratory System



Cardiovascular System



Nervous System



Digestive System



Reproductive System



Immune System

Fine Particulate Matter (PM 2.5)

is one of the most problematic and abundant pollutants produced by OWBs. These fine particles can bypass the filtering mechanisms in the nose and throat to lodge deep in lung tissue. Short-term exposure can cause eye, nose, throat and lung irritation, while long-term exposure can increase cancer risks and exacerbate respiratory problems. 🫁🔥+

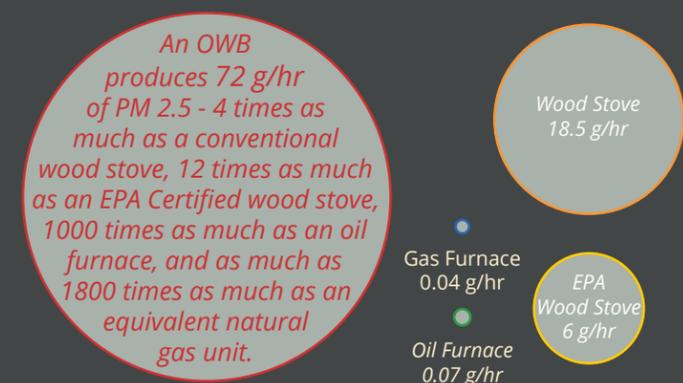
Indoor Heater or Boiler*
18' Minimum

Outdoor Wood Boiler
10' Minimum



Stack Height

on OWBs is significantly shorter than smoke stacks on indoor furnaces. The low stack height results in a higher amount of particulate matter and other pollutants entering lungs and near by buildings than from indoor heaters. This effect compounds the adverse health and environmental effects of OWBs.



Notes & Citations

Visit iseesmokepa.org for more information on wood burning including types of wood burning, model legislation, on-going campaigns, or to report burning violations in your community.

*Most codes require flues for indoor stoves, furnaces, and boilers must be a minimum of 3' taller than any structure within 10' radius. This implies an 18' minimum stack-height for a one-storey building. Check out your local zoning and building codes to find the requirements in your area.

Marin, Arthur et al. (Jun 2006). *Assessment of Outdoor Wood-fired Boilers*. Northeast States for Coordinated Air Use Management (NSCAUM). Retrieved from: <http://www.nescaum.org/documents/assessment-of-outdoor-wood-fired-boilers>

Spitzer, Elliot et al. (Aug 2005). *Smoke gets in your lungs: Outdoor wood boilers in new york state*. Albany, NY. Office of the Attorney General, Environmental Protection Bureau. Retrieved from: <http://www.health.state.ny.us/asthma/documents/05nysmokeyourlungs.pdf>