



## COMPLIANCE ASSISTANCE PROGRAM

### Counting the Health Cost of Wood Heating

As temperatures drop, many Yakima County residents will turn to wood stoves, fireplaces and other wood-burning devices to heat their homes.

If done right, burning wood can be a cheap way to heat your home. But poor burning habits and old, inefficient devices produce large amounts of wood smoke – one of the most serious air pollution problems in our state, according to the Washington Department of Ecology (Ecology).

Fine particles in smoke are so small they can easily get into your lungs. Once there, they can cause heart and breathing problems, and even death. People who are most at risk are children, pregnant women, older adults and those with asthma and respiratory illnesses.

Health studies show that people who heat their homes with wood have more breathing problems than those who don't. Smoke particles also invade neighboring homes. Research shows that children in wood-burning neighborhoods are more likely to have lung and breathing problems.

A 2009 Ecology Analysis estimates that fine particles contribute to about 1,100 deaths and millions of dollars in health-care costs each year in Washington.

#### **Burn Smarts Quiz**

Test your burn smarts with the following quiz:

1. T or F. It is illegal to install an uncertified woodstove in Washington State.
2. T or F. A woodstove is a handy way to get rid of your old junk mail, cardboard and other burnable household trash.
3. T or F. It's fine to burn wood just as soon as it has been cut.
4. T or F. Fireplaces without a stove insert are still a good way to save on home heating costs.
5. T or F. A gas or propane stove can be used during a burn ban.
6. T or F. Electric heat is cheaper than propane.



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### Quiz Answers:

- 1. True.** Only EPA- certified wood stoves may be legally installed in Yakima County.
- 2. False.** All of these items are illegal to burn because they give off toxins when burned, and place that toxic smoke in your home.
- 3. False.** Wet wood gives off little heat and produces a great deal of smoke. Burn only dry wood, preferably seasoned for a year.
- 4. False.** A "naked" fireplace has unregulated air flow, so wood burns quickly, and most of the heat goes straight up the chimney. Such fireplaces have been known to suck cold air back into the room.
- 5. True.** The pollution of 10 EPA-Certified woodstoves equals that of Three Thousand gas furnaces.
- 6. False.** Hard to believe, but heat cost analysis shows propane to be less expensive than electric heating.

### How Burn Bans Work

When fine particle pollution reaches unsafe levels, Ecology and local clean air agencies can call county-wide burn bans in their jurisdictions. These bans protect people's health by limiting wood burning in those areas.

In 2008, the Washington State Legislature approved stricter air quality health standards to match new federal standards adopted in late 2006. The stricter standards better protect human health. This means more Health Burn Bans will be called than in the past in Central Washington. In the winter of 2009-2010, Yakima Regional Clean Air Agency called 38 Health Burn Ban days to restrict burning. Burn ban information is available on line at [www.yakimacleanair.org](http://www.yakimacleanair.org). Burn bans are called in stages:

*Stage 1 Burn Bans* are called based on weather conditions and rising pollution levels. No burning is allowed in wood-burning fireplaces, uncertified woodstoves or uncertified fireplace inserts, unless it is your only source of heat.

*Stage 2 Burn Bans* are called when fine particle pollution levels reach a "trigger value" set by state law. No burning is allowed in any wood-burning fireplace, woodstove or fireplace insert, unless it is your only source of heat.

Burning during a burn ban is a violation which could lead to penalties, including fines. During Stage 1 and Stage 2 Burn Bans, all outdoor burning also is banned, even in areas where outdoor burning isn't permanently banned. The bans include agricultural and forest burning.

### Helpful tools you can use:

Suppose you wondered if you would save money on switching to much cleaner-burning propane. A website is available to help you calculate your savings based on details about your home.



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Here are a few examples of what you can find on Ecology's Air Quality Program website:

[http://www.ecy.wa.gov/programs/air/indoor\\_woodsmoke/wood\\_smoke\\_page.htm](http://www.ecy.wa.gov/programs/air/indoor_woodsmoke/wood_smoke_page.htm).

- ✓ Washington's wood stove and pellet stove standards.
- ✓ Lists of wood stoves, pellet stoves and fireplaces that meet those standards.
- ✓ What you can do to reduce wood smoke pollution.
- ✓ Helpful videos on how to select a woodstove, and how to use it correctly.
- ✓ Opportunity to sign up for e-mail alerts on burn bans.

### Health Costs of "Cheap" Heat

A 2009 Ecology study analysis estimates that fine particles contribute to about 1,100 deaths and millions of dollars in health-care costs each year in Washington. (Ecology, 2009)<sup>17</sup> The smaller these particles are, the more deeply they penetrate into the lungs, where they can cause damage. Breathing fine particles is associated with most types of respiratory illness, cardiovascular disease (heart disease and strokes), and even death. Ecology estimates that, every year in Washington that fine particles contribute to approximately:

- ✓ 1,500 nonfatal heart attacks,
- ✓ 450 incidents of different heart diseases not resulting in heart attacks,
- ✓ 1,900 incidents of acute bronchitis,
- ✓ 100 cases of chronic lung disease,
- ✓ 250 incidents of pneumonia,
- ✓ 400 emergency room visits for asthma, and
- ✓ thousands of incidents of worsened asthma.

Ecology estimates that the direct and indirect costs of these diseases approach \$190 million each year.