



NEWS RELEASE

Wisconsin Department of Natural Resources
101 S Webster, PO Box 7921, Madison, WI 53707
Phone: (608) 266-6790 TDD: (608) 267-6897
dnr.wi.gov www.wisconsin.gov

DATE: For release in the Nov. 8, 2005 DNR News
CONTACT: Kevin Kessler, DNR - (608) 266-5207 or Bill Otto, DHFS - (608) 266-9337
SUBJECT: Increased use of outdoor wood boilers causing some air quality concerns

MADISON – The increasing popularity of outdoor wood-fired boilers in Wisconsin by people looking to reduce heating costs is raising concerns over the impact the units have on air quality in the state.

Wisconsin ranks a close second to Michigan in the total number of Wood boilers sold, with more than 20,000 units statewide. Nationally, the number is growing very rapidly, with about half of all wood boilers sold over the past 15 years purchased in 2004 and 2005.

“As the number of these units in use increases, the potential to cause air quality and health problems, particularly for neighbors, also increases,” said Kevin Kessler, Department of Natural Resources open burning team leader.

Although wood smoke can contribute to regional air pollution, most complaints with wood boilers in Wisconsin are more localized.

“When the DNR receives complaints from citizens about smoke from outdoor wood-fired boilers, it’s almost always because they’re located too close to nearby neighbors.” Kessler said.

The wood smoke problem is compounded when combustible waste materials that are not legal to burn in Wisconsin, such as construction debris, painted or treated wood, and household trash containing plastic, rubber or chemicals, are incinerated in a wood boiler.

Currently, wood boilers are exempt from Wisconsin and federal regulations and are not required to meet emission standards. Local governments, however, have the authority to control outdoor burning and wood boilers and some have enacted ordinances that prohibit or control burning and wood boilers within their jurisdictions.

Kessler said people who are thinking about purchasing an outdoor wood boiler should consider whether they have any nearby neighbors. If they don't have neighbors who could be exposed to the smoke, they should check on whether there's a local ordinance that applies. Finally if they do purchase a unit, they should not burn anything other than dry firewood.

(more)

Outdoor wood boilers have advantages and disadvantages

Kessler said people who are thinking about adding an outdoor wood boiler should first check to make sure they are allowed under local ordinances. If they are allowed, they should make sure the unit will not have a negative impact on air quality for nearby neighbors. Finally, they should not burn anything in the units other than dry firewood.

On the negative side, he noted, “wood boilers can really smoke up a neighborhood, causing air pollution and health problems for nearby residents.”

According to U. S. Environmental Protection Agency studies, even when properly used, wood boilers emit an average of about 12 times as much fine particulate matter as an EPA-certified indoor wood stove.

There are several factors that contribute to more smoke problems from wood boilers than from conventional wood stoves. First, the water jacket around the fire box keeps the combustion temperature relatively low, which can cause incomplete combustion and more smoke. Second, smoke is released from the boiler through a short chimney, typically at a height of approximately 6 to 10 feet. Third, the heat output is controlled by damping the boiler, creating a smoldering fire with incomplete wood combustion that actually gives off more smoke.

Wood smoke contains not only particle pollution but also a variety of toxic emissions including carbon monoxide, formaldehyde, benzene, naphthalene and polycyclic aromatic hydrocarbons (PAHs). Fine particle pollution can cause a variety of serious health problems, especially in people with heart and lung diseases. The particles can aggravate congestive heart failure and coronary artery disease, and lung conditions such as asthma, emphysema and bronchitis. So far in 2005, the DNR has issued 20 air quality health advisories for particle pollution for portions of Wisconsin, and those advisories have occurred in every month except May.

There are a number of resource sites available on the Internet on open burning and wood boilers.

Wisconsin DNR:

<http://dnr.wi.gov/org/caer/ce/ob/>

<http://dnr.wi.gov/org/aw/air/health/ppFAQ.htm>

Wisconsin Department of health and Family Services:

<http://dhfs.wisconsin.gov/eh/HlthHaz/fs/waterstoves.htm>

<http://dhfs.wisconsin.gov/eh/HlthHaz/fs/WoodBrn.htm>

NY Attorney General Report: Smoke Get in Your Eyes:

Outdoor Wood Boilers in New York State (On the AG's homepage under Reports, Outdoor Wood Boilers):

<http://www.oag.state.ny.us/>.

University of Wisconsin-Extension:

<http://www.uwex.edu/shwec/Pubs/pdf/woodfiredboilers.pdf>

<http://www.uwex.edu/shwec/Pubs/pdf/burnbarrel.pdf>

Wood Heat Organization

<http://www.woodheat.org/technology/outboiler.htm>