

## What's the safest and most efficient method to store my wood?

Research confirms that dry wood is cleaner and safer to burn than wet wood. Burning wet wood is less efficient and produces excessive smoke. This leads to many kinds of health problems, including asthma and heart conditions. It also leads to build up of creosote in the chimney, which can result in a chimney fire.

To prepare wood to use in your wood burning device:

- **SPLIT** the wood in half at least once. Your wood should be less than two feet in length.
- **STACK** in a pile to allow for adequate air flow.
- **STORE** properly by covering the top of the wood pile to protect from rain and snow, leaving sides of the stack open to breath. Store for six months to two years depending on your location, the weather, and type/species of wood. Store in an area with good exposure to the sun. If wood is prepared after August 1st, store until the following burn season.
- **SAVE** money and our air. Burning dry wood means your fire burns hotter so you burn less wood.



## Glossary of Terms

**Catalytic wood stove** - a wood stove with a catalytic combustor, which is a device that reignites otherwise wasted particles, thereby capturing energy that would otherwise go up the stack

**Check** - cracks that appear in the ends of wood, an indicator of dry wood

**Non-attainment area** - the entire air shed that contributes to air pollution levels that persistently exceed National Ambient Air Quality standards

**Solid Fuel Burning Device (SFBD)** - a device designed to burn wood, coal or any other nongaseous or nonliquified fuels

**Wood burning device** - a device designed to burn wood (i.e. wood stove, hydronic heater, masonry heater, fireplace or furnace)

**PM<sub>2.5</sub>** - a form of particulate matter air pollution typically resulting from incomplete combustion, the particles of which measure 2.5 microns in diameter or less. The particles are small enough to bypass the body's defense mechanisms and lodge deep in the lungs and even enter the bloodstream. It has been linked to significant health problems, including decreased lung function, aggravated asthma, irregular heartbeat and even premature death.

For more information about burning wood efficiently and effectively in the Fairbanks North Star Borough, contact the Air Quality Division at:



Phone 907.459.1005 • Fax 907.459.1006  
Or visit [www.AQFairbanks.com](http://www.AQFairbanks.com)  
Also, be sure to visit the US EPA Burnwise website at: [www.epa.gov/burnwise](http://www.epa.gov/burnwise)

# SPLIT STACK STORE and SAVE!

## Burn Wood Wisely

## Improving Our Air

One of the biggest health concerns in Fairbanks is that small particles (PM<sub>2.5</sub>) floating in our air are produced, in part, through burning wood. The health of our residents, especially our children and elderly population, depends on finding ways to reduce the amount of PM<sub>2.5</sub> pollution in our air.

In June 2010, the Fairbanks North Star Borough Assembly passed Ordinance 2010-28, taking a step towards reducing PM<sub>2.5</sub> by focusing on wood burning practices for residents living in the non-attainment area. The ordinance includes:

- A voluntary Air Quality Improvement Program, which offers participants financial incentive to upgrade older, non-EPA certified wood stoves, or even remove a wood burning device or other solid fuel burning device (SFBD) if they no longer wish to utilize wood (or coal) as a fuel source.
- An educational outreach program, which provides participants with access to the most current information from local, national and global sources, on more efficient wood burning techniques.
- A requirement that residents only install FNSB-approved wood burning devices and other SFBDs (SFBDs installed prior to June 11th, 2010 are grandfathered).
- A process to protect the public from nuisance emissions.

**For those who burn wood, this brochure will provide guidelines to help burn more cleanly and efficiently.**



## How dry does it need to be?

In order to burn efficiently, wood should be dried to 20% or less moisture content. Here are a few ways to check:

- Knock the log together with another log. Typically, the more hollow the sound, the dryer the wood
- Dryer wood will feel considerably lighter, compared to a similarly sized, unseasoned piece of wood
- Look for “checks” (or cracks) in the wood, which are a good indicator of dry wood
- Use a moisture meter (available at local retailers)

## Can I burn wood and still minimize air pollution?

YES! You can reduce the amount of PM<sub>2.5</sub> your wood burning device puts into the air by following these simple guidelines:

- Follow the manufacturer’s instructions for the device
- Burn only DRY wood. Be sure to knock off snow and let the wood dry inside overnight
- Use kindling (small, thin sticks) to start the fire and gradually add larger pieces until the stove is burning hot
- Allow the fire to burn hot. A smoldering fire reduces efficiency and produces more PM<sub>2.5</sub>

## What are my options for wood burning devices?

	PROS	CONS
<b>EPA-Certified Catalytic Wood Stoves</b>	Very low emissions, more efficient (uses less fuel than a non-EPA certified SFBD)	More technical to operate
<b>EPA-Certified Non-Catalytic Wood Stoves</b>	Low emissions (uses less fuel than a non-EPA certified SFBD)	Slightly less efficient
<b>Pellet Fuel Burning Appliances</b>	Very low emissions, more efficient than other SFBDs	Requires electricity
<b>Masonry Heaters</b>	Load once per day, lower emissions, more efficient	Expensive to purchase and install
<b>Wood-Fired Boilers (also called hydronic heaters)</b>	Can heat and supply hot water to a large house	Expensive to purchase and install, smolder when heat is not needed, increasing emissions

NOTE: SFBDs installed in the Borough non-attainment area after June 11, 2010, must be Borough-approved or Borough-exempt. A list of borough-approved SFBDs can be found at [AQFairbanks.com](http://AQFairbanks.com). Borough-exempt SFBDs includes: masonry heaters, pellet fuel burning appliances, cook stoves, and fireplaces.

NOTE: Installation of hydronic heaters is not permitted within the City of Fairbanks, as per Article VI, section 34-201 of the City of Fairbanks Code of Ordinances Part II. [http://library.municode.com/HTML/12896/level3/PTIICOR\\_CH34HE\\_ARTVIHYHE.html](http://library.municode.com/HTML/12896/level3/PTIICOR_CH34HE_ARTVIHYHE.html)

The City of Fairbanks has its own requirements see section 301.1 of the City Administrative code and inspection processes see International Mechanical Code: sections 904 and 905, and Chapter 8 for the installation of wood stoves and other solid fuel burning devices.