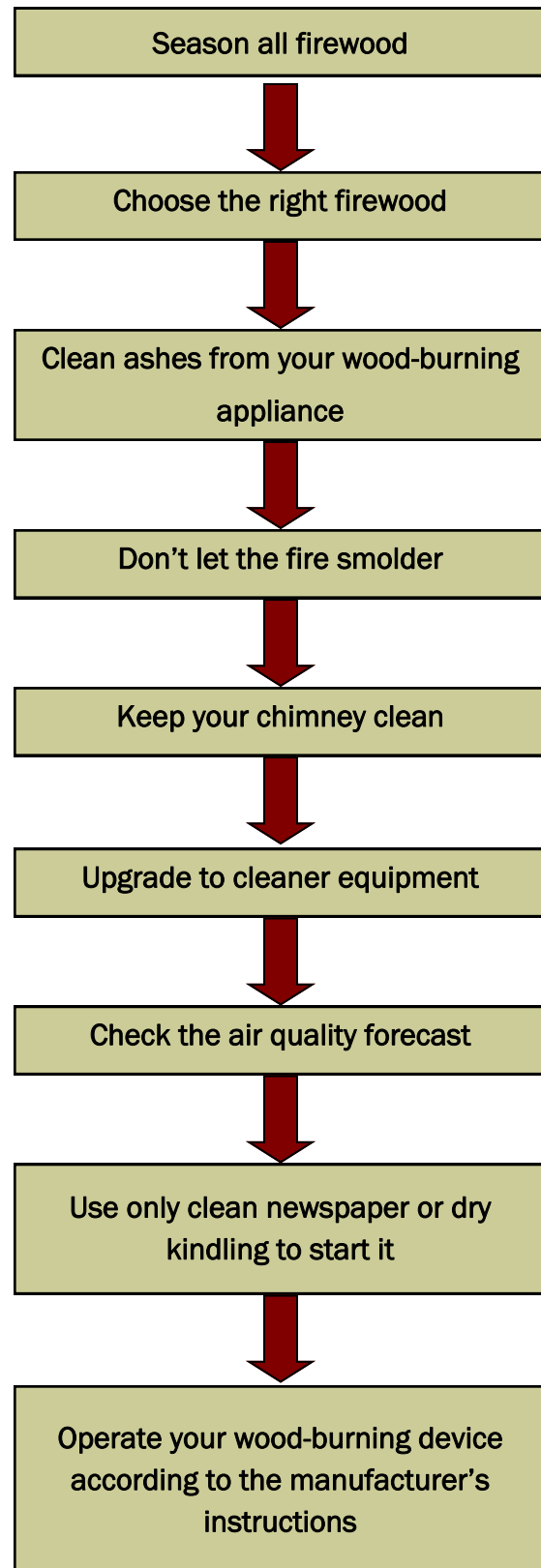


HOW TO BURN THE CLEAN WAY



CHOOSING APPLIANCES

Approximately 10 million wood stoves are currently in use in the United States, and 70 to 80 percent of them are older, inefficient, conventional stoves that pollute. EPA certified wood stoves emit approximately 70 percent less pollution than older, conventional wood stoves. It is estimated that there are 500,000 hydronic heaters (outdoor wood boilers) in the US. Those units that meet EPA's Hydronic Heater Voluntary Program emit 70-90% less pollution than units that are not EPA qualified.



- **EPA-Certified Wood Stoves and Wood Fireplace Inserts:** All wood stoves and wood fireplace inserts manufactured and sold today in the United States are required to meet strict emission standards and to be certified by EPA. To meet this standard, all stoves must prove emissions of less than 7.5 grams of particulate per hour. All EPA-certified wood stoves and fireplace inserts have a permanent label on the back that bears the name of the United States Environmental Protection Agency. Canada does not have a certification program but does recommend the purchase of EPA-certified products.

- **Pellet Stoves and Pellet Fireplace Inserts:** Pellet stoves and pellet fireplace inserts burn wood pellets made from recycled sawdust and are the lowest emission wood burners available. Because of their very low emissions, pellet stoves and pellet fireplace inserts are exempt from EPA-certification.

- **Masonry Heaters:** Masonry heaters are high performance, very clean burning and substantially-sized wood burners that produce a tremendous amount of heat. Similar to pellet appliances, masonry heaters are exempt from EPA-certification.

- **Cleaner-Burning Masonry Fireplaces:** There are cleaner wood-burning fireplaces that look much like traditional fireplaces but produce fewer emissions than EPA-certified wood stoves and fireplace inserts. Some local jurisdictions do have qualification processes to recognize these fireplaces as cleaner burning.

- **Outdoor Burning:** The Butte County Air Quality Management District has requirements for outdoor burning on residential and commercial lots. Visit www.bcaqmd.org for more information.

ADDITIONAL RESOURCES



Butte County
Department of Development Services

Planning Division

www.buttecounty.net/dds

7 County Center Drive
Oroville, CA 95965
(530) 538-7601

Butte County
Air Quality Management District

www.bcaqmd.org

U.S. Environmental Protection Agency

www.epa.gov/burnwise

Wood Heat Organization Inc.

www.woodheat.org

The Alliance For Green Heat

www.forgreenheat.org

The National Fireplace Institute

www.nficertified.org

The Chimney Safety Institute of America

www.csia.org

Butte County
Department of Development Services

CLEAN WOOD-
BURNING
PRACTICES



CLEAN WOOD BURNING

Clean wood-burning practices emphasize the importance of burning the right wood, the right way, in the right wood-burning appliance to protect your home, health, and the air we breathe. Wood-burning appliances include:

- Wood stoves
- Pellet stoves
- Fireplace inserts
- Fireplaces
- Fireplace retrofits
- Hydronic heaters
- Masonry heaters

INSTALLATION

EPA recommends that your wood-burning appliance be professionally installed and maintained by a certified technician to insure its safety and proper performance. The safety of your home and family depends on fully understanding and carrying out the critical manufacturer and building code requirements that include:

- Proper clearances between the wood-burning appliance and venting system and combustible materials
- Proper protection of combustible floors
- Proper assembly of appliance and venting components
- Errors in installation (by a non-professional) may not be visible, and problems may not be apparent for a considerable length of time—and then only by a resulting home fire



EPA guidelines are available at www.epa.gov/burnwise.

PRACTICAL FIRE-BUILDING TIPS

Once your wood-burning appliance is properly installed, building an effective fire requires good firewood (using the right wood in the right amount) and good fire-building practices. The following practical steps will help you obtain the best efficiency from your wood stove or fireplace.

- Season wood outdoors through the summer for at least 6 months before burning it. Properly seasoned wood is darker, has cracks in the end grain, and sounds hollow when smacked against another piece of wood.
- Wood burns best when the moisture content is less than 20 percent. You can purchase a wood moisture meter to test the moisture content of your wood before you burn it.
- Store wood outdoors, stacked neatly off the ground with the top covered.
- Burn only dry, well-seasoned wood that has been split properly.
- Start fires with newspaper and dry kindling or consider having a professional install a natural gas or propane log lighter in your open fireplace.
- Burn hot fires.
- To maintain proper airflow, regularly remove ashes from your wood-burning appliance into a metal container with a cover and store outdoors.



These guidelines apply to the unincorporated portion of Butte County; city jurisdictions may have stricter standards.

SAFE WOOD-BURNING PRACTICES

Once your EPA-certified or qualified wood-burning appliance is properly installed, follow these guidelines for safe operation:

- Keep all flammable household items—drapes, furniture, newspapers, and books—far away from the appliance.
- Start fires only with newspaper and dry kindling. Never start a fire with gasoline, kerosene, charcoal starter, or a propane torch.
- Do not burn wet or green (unseasoned) logs.
- Do not use logs made from wax and sawdust in your wood stove or fireplace insert – they are made for open hearth fireplaces. If you use manufactured logs in your device, choose those made from 100 percent compressed sawdust.
- Build hot fires. For most appliances, a smoldering fire is not a safe or efficient fire.
- Keep the doors of your wood-burning appliance closed unless loading or stoking the live fire. Harmful chemicals, like carbon monoxide, can be released into your home.
- Regularly remove ashes from your wood-burning appliance into a metal container with a cover. Store the container of ashes outdoors on a cement or brick slab (not on a wood deck or near wood).
- Keep a fire extinguisher handy.
- Remember to check the Butte County air quality forecast before you burn at www.bcaqmd.org.

Safety Recommendation: Install a Carbon Monoxide detector or check existing detectors when installing woodstoves.

Tips are available at www.fire.ca.gov.

ITEMS YOU SHOULD NEVER BURN IN YOUR APPLIANCE

Never burn household garbage or cardboard. Plastics, foam and the colored ink on magazines, boxes, and wrappers produce harmful chemicals when burned. They may also damage your wood-burning appliance.

Never burn coated, painted, or pressure-treated wood because it releases toxic chemicals when burned.

Never burn ocean driftwood, plywood, particle board, or any wood with glue on or in it. They all release toxic chemicals when burned.

Never burn wet, rotted, diseased, or moldy wood. When this type of wood is burnt, microscopic mold spores are released from the wood into the air. Spores can lead to symptoms such as coughing; eye, throat, and nose irritation; and sneezing.

MONEY-SAVING TIPS

Look into getting your name on a list with local tree cutters who will deliver wood to your home. This saves them from traveling to the landfill and paying dumping fees. It also reduces landfill dumping. Plus, you may end up with discounted firewood.

You can reduce overall heating needs and heating bills by improving the insulation in your home; caulking around windows, doors, and pipes to seal air gaps; and adding weather-stripping to doors and windows. EPA's ENERGY STAR Home Improvement Program provides information on home sealing.

Federal tax credits also may be available. For more information, visit the EPA's Energy Star web site at www.energystar.gov to learn about a possible \$300 tax credit for the purchase of a wood or pellet stove.

Brochure by Michael Werth, 2013.