bulkley valley - lakes district
airshed management society

B A C K G R O U N D E R **March 2009**

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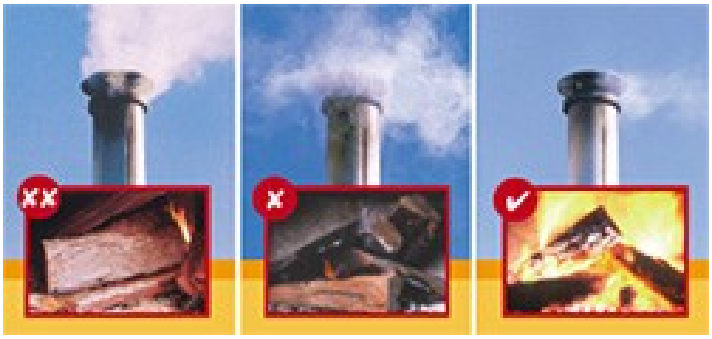
wood stove wisdom

tips for getting the most out of your wood stove



Heating with wood efficiently means getting maximum heat from your firewood. **Maximizing heat will minimize smoke.** These tips will help you get a hot fire burning quickly. If you follow these tips, you can reduce smoke emissions as long as well-seasoned firewood is used, the wood heater is certified and has been correctly installed, and regular maintenance has been undertaken.

start with good fuel

For safe and efficient wood heating use seasoned (dry) wood. Moisture in freshly cut can range from 35 to 70 per cent. Well seasoned wood has less than 20 per cent water. The higher the moisture content, the more energy is consumed heating and boiling the moisture rather than burning the wood. Energy is wasted and the result can be a smoky fire that is slow to start and difficult to keep going. **Never burn household garbage, painted or treated wood, plastics, rubber or saltwater driftwood.**

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H O T T I P

You can borrow moisture meters and videos on efficient wood stove operation free of charge from your local public library.

Firewood that is cut, split and stacked in the spring will be ready the following winter. Wood should be dried outside in an open area – unseasoned wood stored in your

basement could support the growth of unhealthy molds. Drying may take longer for dense wood such as birch, alder or oak. When properly seasoned, each piece will have deep cracks in its end grain and tend to have a dark grey colour.

when starting the fire

The first stage of the fire is usually the smokiest, because the cool wood, the boiling water within the wood and the cool air inside the stove take heat away from the flames.

- Use plenty of paper and small, dry kindling to get a good fire going quickly
- Use smaller logs instead of large logs
- Place a sheet of newspaper above your unlit fire to create a good updraft
- Fully open the air controls for 20 minutes after lighting and after adding more fuel

Although it might appear that this initial burning lets too much heat go up the chimney, it is a necessary part of building an efficient fire. The extra heat "primes" the chimney to produce an upward draft and also helps to keep the flue liner clean by loosening creosote deposits that have built up from previous fires. This initial burning also drives moisture out of the firewood and ignites the smoke that is being released.

burn smaller, hotter fires

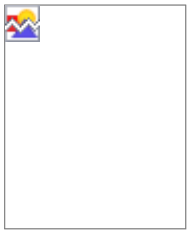
Most of the energy in burning wood is released as a bright flame. The best fire is one that is hot, with no smell of smoke indoors and very little smoke visible outside. **If there is dark, smelly smoke coming from your chimney, it means that the firewood is not burning completely.**

when the fire is burning well

- Place the wood end-on into the firebox rather than sideways
- Leave a minimum 2-centimetre gap between pieces of wood
- Reload regularly to ensure rapid ignition of the new fuel, but do not overfill it
- Burn on high air flow for 20 minutes after adding wood to the fire
- **Keep the fire burning brightly so it doesn't smoulder**

People sometimes stuff their stoves with wood and burn the wood very slowly overnight. This is one of the worst things to do. Smouldering fires are inefficient and dangerous—smouldering wastes wood and deposits creosote in the chimney, which can lead to a chimney fire.

check your chimney



Go outside occasionally when the fire is established and check your chimney or flue for smoke. If there is continuous visible smoke after 20 minutes of operation, adjust your fire for better burning. Refer to the tips on efficient lighting and burning. **Keep the flame lively and bright. A fire should never be dull or smoky.**

keeping warm overnight

One of the worst things you can do is dampen down your fire and let it smoulder overnight. With seasoned firewood, careful fuel loading and proper air settings, it is usually possible to burn overnight without smouldering.

At least half an hour before you go to bed:

•Reload your heater with quality wood.
•Run it on a high burn rate for 25 minutes.
•Turn the heater down but ensure that a visible flame is maintained.
•Never shut the air flow right down
•Let the fire burn itself out over night.

Turning the air supply right down does not gain you any advantage, because the wood will only smoulder, creating little heat and a large amount of wood smoke.

HOT TIP

To avoid a smouldering fire, consider alternatives to burning overnight. A portable electric heater, appropriate for size of the room being heated, switched on with a timer a short time before you wake will take the chill out of the morning air.

safety first

The smell of smoke in a home typically means that its wood-burning system is venting improperly. This is not only a fire hazard – it could also lead to carbon monoxide poisoning.

Make sure that your wood stove and chimney are professionally installed and inspected by a technician certified under the Wood Energy Technical Training (WETT) program. These technicians will ensure that your stove and chimney meet the requirements under the building codes. Once installed, your stove and chimney should be cleaned at least once a year.

upgrading your stove

If you follow these tips for correct operation and still have excessive smoke emissions, a problem may exist with your wood heater or flue, maintenance may be required. If your wood heater is more than ten years old and

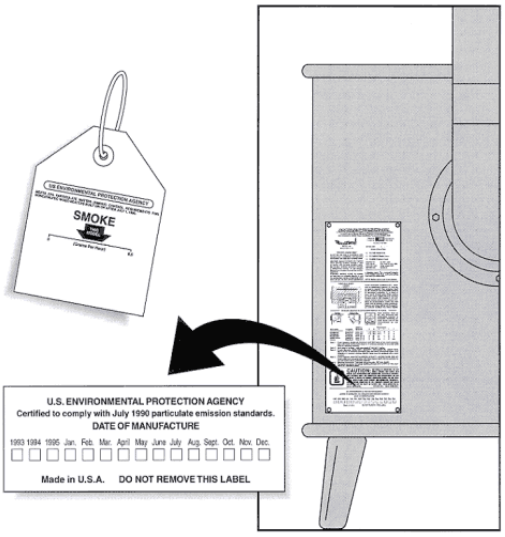
won't stop smoking, you may need to consider replacing it or switching to another form of heating.

If you are considering replacing your old stove with a new model that uses advanced technology. **Ask about rebates through the Skeena-BVLD Wood Stove Exchange Program**. Older stoves can release between 40 and 80 grams of smoke per hour; new certified models produce only 2 to 5 grams per hour. This means **as much as a 90 percent reduction in creosote buildup**, making the new stoves safer than conventional models.

When used properly, new modern units burn so efficiently that they require up to **one third less wood** and produce virtually no smoke. The best choices are appliances that are labelled for safety by recognized testing and certification agencies and certified as low-emission according to U.S. Environmental Protection Agency standards, which are accepted in Canada.

Is your stove certified as meeting emission standards?

Since 1994, only wood stoves or fireplace inserts that are emissions-certified can be sold in British Columbia. Your stove is certified if it has a plate with a CSA B-415 or a U.S. Environmental Protection Agency label. Look for the CSA or EPA plate on the back of the stove or visit a hearth specialty retailer for more information.



wood stove exchange

You can exchange your old wood stove for a super efficient new wood or pellet stove and receive valuable rebates. New EPA-certified wood stoves are proven to burn 1/3 less wood, drastically decrease the risk of chimney fire and reduce smoke emissions by up to 90%. **You will save the most money in March & April.**