



Heating your Home with Wood

Choosing the Right Wood Burning Appliance for You

Pellet Stoves

The rise and volatility in the price of fossil fuels, along with associated environmental concerns, has led to an increased interest in alternative fuels for residential heating options. Modern traditional wood stoves employ new technologies to increase fuel efficiency and reduce air pollution previously associated with burning wood. Other technologies have also introduced more options for the use of wood and wood products for home heating. One of these choices is the pellet stove.

These highly sophisticated appliances burn specialized fuel made from compressed renewable organic materials. Wood pellets are manufactured from wood chips milled into wood flour and then squeezed into small pellets that resemble rabbit food, often with no additional resins or binders. But while these appliances may be complex in design, they are very simple to operate and maintain.

On the outside, pellet stoves often resemble traditional wood stoves, but the similarities stop there. Stoves will not

operate without electricity. Pellet fuel is loaded into hoppers within the stove; hopper capacity varies in size with the appliance ranging, from 40 to 135 pounds. Pellets are carried from the hopper to the combustion chamber by an auger that is controlled manually or electronically by thermostat. Heat output is regulated by the rate pellets are fed into the fire. Fans and heat exchangers move the heat created from the burning pellets convectively away from the appliance and into the surrounding space. Because of this design, pellet stoves often remain cool to the touch and pose less of a hazard to small children than traditional wood stoves that produce radiant heat.



Pellet stove



Wood pellets have great potential as a fuel source.

In the right situation, pellet stoves can offer a very reliable and efficient heating option for your home. Currently pellets manufactured in Alaska are not available in many locations, although pellets from other locations can now easily be found in larger communities. Accessibility to fuel (pellets) and reliable electricity are both factors that will influence the decision to purchase a pellet stove.



Advantages:

- Exceptionally efficient, very low emissions and reduced creosote deposits.
- Clean and easy to operate and maintain; hoppers only need to be loaded daily, or less often.
- Less expensive to install than a traditional wood stove; many can be direct vented, eliminating the need for an expensive chimney or flue.
- Higher heat output than firewood.

Disadvantages:

- Require electricity; will not operate during a power outage.
- Complex appliance with expensive components that can break down.
- Pellets may not be available.

Clean, Efficient Wood Stoves

In February 2015, the U.S. Environmental Protection Agency (EPA) updated its clean air standards for residential wood heaters. The updates, based on improved wood heater technology, strengthen emissions standards for new stoves and, for the first time include previously unregulated new wood heaters, including pellet stoves. These new standards will not affect wood heaters already in use in homes, and emission standards will be phased in over the next five years for new stoves. For more information on the new Performance Standards, visit www2.epa.gov/

[residential-wood-heaters/fact-sheet-summary-requirements-woodstoves-and-pellet-stoves.](#)

Because they burn so clean, most pellet stoves were exempt from emission limits established for other wood burning stoves. Many pellet stoves already meet the new emission limits. EPA-certified stoves have a permanent label on the back indicating this certification and listing emission levels of the stove. For a complete and current list of EPA-certified wood stoves and pellet stoves, go to www2.epa.gov/sites/production/files/2013-08/documents/certifiedwood.pdf.



Additional resources:

www.woodheat.org
Wood Heat.org

www.chimneys.com
Chimneys.com

www.hpba.org/
Hearth Patio and Barbeque Association

<http://hearth.com>
Hearth.com

www.epa.gov/burnwise
EPA – Burn Wise