

How to Use Wood to Heat Your Home

By Cliff Hammond

Back in the 70's during the "energy crisis" people began thinking about alternatives for heating their homes and, as part of what we now might think of as a whole movement "back to nature," started adapting and restoring fireplaces, wood stoves and other old-fashioned heat sources to modern use. Now that gas for your car is approaching 3 bucks a gallon, and experts are predicting that the price of heating your home this winter could rise by 70 percent or more, maybe it wouldn't be a bad idea to be first in line at your local fireplace and accessory store to find out what you can do to save energy and heat your home this winter without relying on petroleum.

The US Department of Energy has provided an entire section on its web site called "Wood and Pellet Fuel Heating," and it's a treasure trove of information about how you too can get back to nature, 21st Century style. What's pellet fuel? Well, it's basically waste products compressed into what the USDE says looks like "rabbit feed," but is actually sawdust, woodchips, bark and other organic material. Called "biomass" fuel, some pellet fuel burners can burn a wide variety of these fuels. Imagine you're a peanut farmer and have about a metric ton of shells laying around after you've sold your crop for Skippy Super Chunk. If you can burn "biomass" those shells are worth their weight in, well, propane. Other biomass fuels include everything from soybeans to corn kernels to cherry pits. But don't despair; if you don't have a vast cherry orchard and a team of pitters working 24 hours a day to heat your home, you can still use good old-fashioned wood.

The first thing the Department of Energy recommends is choosing the right "size" wood burning stove or fireplace for your home. In this case, size means the relation of the number of BTU's (think of it like purchasing an air conditioner, the more BTU's the more cooling power) to the amount of space you want to heat: 60,000 BTU's should heat about a 2000 square foot home. If you already have a conventional masonry fireplace, consider installing a high efficiency wood burning fireplace insert. Remember, accessories like glass doors and various passive heat recovery and airflow systems that work with your traditional bricks and mortar fireplace are not considered to improve energy efficiency. You need a professionally manufactured, rated and installed insert to gain any efficiency advantage. A wood-burning fireplace insert is basically a closed system, including an insulated chimney liner that fits into your existing chimney up to the very top. The most sophisticated fireplace inserts have dedicated air supplies from the outside (again like an air conditioner) as well as furnace-like ducting to other rooms in the home and auxiliary blowers in the basement. A wood burning fireplace insert can serve as either a supplement or centerpiece to an entire home heating plan. Or, if you're planning on upgrading

from oil heat to propane or natural gas, remember that a high quality gas fireplace insert can also contribute to your overall heating plan as well as being a beautiful addition to any room.

If you don't have a fireplace, consider one of the many high efficiency wood burning or dual fuel options available – conventionally these are called “stoves” though the Department of Energy likes to call them “heating appliances.” Again, your local dealer will be able to furnish you with a variety of alternatives for a wood burning stove depending upon where you would like to install it, the configuration of your house, etc. Look for “advanced combustion” stoves that burn at heats in excess of 1100 degrees, and provide maximum combustion and low emissions. Catalytic systems work in the same way your catalytic converter does in your car to increase efficiency and lower emissions. There are dual fuel models that are designed to automatically switch over to oil or gas supplies should you run out of wood. And of course, there is any number of comfort and convenience features, including models with glass doors to mimic the viewing properties of a conventional fireplace.

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