

How To Choose A Stove For Your Off-Grid House

More and more people are talking about going off the grid; not just preppers, but average middle class people as well. For them, it's about getting away from high electrical bills, but for preppers, it's about making sure you're ready for when the power goes out.

Just about everyone who is talking about going off the grid is thinking in terms of heating with wood. That's a good choice, as wood has been the heating [fuel of choice](#) for most of mankind's history. As long as there are trees which can be used, heating with wood is cheaper than just about any other option; not only that, but trees are a renewable energy source, so it should even make the environmentalists happy.

While heating with wood is a great option, it's not perfect. Wood burning stoves are pretty much limited to heating the room that they are in. So if you want to [heat your whole home](#), you either need a very open floor plan or you need some way of moving heat from one room to another.

Wood burning stoves provide much more heat for their size than fireplaces do. That's actually how wood burning stoves got their start. Most of the heat from a fireplace goes up the chimney, but a wood burning stove can radiate heat from all sides, making it a much more efficient heater than a fireplace could ever be.

The question then becomes, what kind of a wood burning stove do you want? There are a number on the market, so selecting the ideal unit for your needs can be a little tricky. You have to look at each of the factors and decide which one works better for you.

Construction Material

Wood burning stoves are either made of welded steel or cast iron. Both provide about the same amount of heat, so that's not a factor. There are some design and maintenance differences though. Cast iron stoves generally have curved lines and adornments cast into them, making them look old fashioned, while steel stoves are plain and simple, with very modern lines.

Cast iron stoves need to have their panels reset ever few years to eliminate air leaks. This is a minor inconvenience, but necessary to keep the stove working properly. Steel stoves don't need this maintenance, but can have a problem with high stress panels burning. The solution to this is to make sure that the steel is at least 1/4" thick and the high stress panels are replaceable.

Firebox Orientation

One of the most important and most rarely mentioned design criteria is the orientation of the firebox. Most wood burning stoves are built so that the firewood is loaded crosswise to the door, as you look at it.

This only allows the firebox to be loaded about half full, as any fuller will cause the wood to fall against the door while it is burning, creating a potentially dangerous situation. A few have the firebox designed so that the firebox loads so that you are seeing the end of the wood when it is loaded. This allows the firebox to be fully loaded, so it will produce more heat and burn longer than the other.

The first type I mentioned, where the wood is loaded crosswise, is actually more popular. That's because it provides a better picture of the fire burning in the stove. But if you want the stove for warmth, then the type where the wood is loaded so you see the end is better.

Catalytic or Non-Catalytic

Modern wood burning stoves fall into two categories; catalytic and non-catalytic. The catalytic type actually put out less emissions when they are new, but the emissions gradually increase throughout the life of the catalytic element. This element needs to be replaced after every four to six years, depending on how much you use the stove.

The trend is towards non-catalytic stoves. If you are buying your stove for the purpose of [heating your home in the case of a disaster](#), you'll probably be better off not having a catalytic stove, as you may not be able to find a new element when you need it.

Efficiency

Efficiency is one of the most talked about and least important specifications on a wood burning stove. Modern stoves, which have been built since 1988, have to meet newer EPA regulations on emissions. That has caused the efficiency of these modern stoves to increase. In other words, you will actually burn less wood to get the same amount of heat on the new stoves, than you did on the older ones.

The EPA regulations only apply to stoves manufactured after 1988, so if you have one that was built before that date, it is still okay to use. However, buying an EPA approved stove will ultimately save you money on the wood you burn.

Other than that, there is no standardized means of determining the efficiency of a wood burning stove. So, you can't really use the numbers to compare one company's wood burning stoves with another. About the only thing that those numbers do for you is help you compare the various models that a single manufacturer makes.

Video first seen on [PS Clean Air](#)

Soapstone

Some manufactures are now lining the firebox with soapstone. The idea behind this is that the soapstone will absorb heat from the fire and dissipate it even after the fire stops burning. This is true; but there's a flip-side to that coin. The soapstone has to heat up before the stove starts radiating heat. So, your start-up time is greatly increased over a stove that doesn't have soapstone.

You can accomplish the same thing that the soapstone does if you have a brick or stone wall behind the wood burning stove. The stove will heat that brick or stone while it is burning. Then, when the fire burns down, the brick or stone wall will continue to radiate the residual heat that's inside it.

Other Specifications

Manufacturers may provide other specifications for their wood burning stove, but they are really rather immaterial. Burn time, one specification that is sometimes provided, depends on the density of the wood being burnt, how much moisture it has in it and how hot a fire you set. So, whatever specification might be provided for burn time is purely relative.

Another specification that manufacturers like to mention is log length. Most firewood suppliers cut their wood to 16 inches, so as long as the firebox is big enough to accommodate that, having it capable of accepting 20 long logs really doesn't provide any additional benefit.

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*This article has been written by **Bill White** for [Survivopedia](#).*