



Buyer's Guide

...to Finding the BEST Renewable Energy Pellet Stove or Fireplace



The pellet stoves & fireplaces homeowners recommend to their friends!

It's An Important Decision!

This guide will answer your questions and walk you through the different options available in pellet stoves so you can be confident in your decision.

Heating your home or business is a large part of your financial budget. Saving you a substantial amount of money on your heating costs is possible, due to exciting technology advances in the way that wood and other fuels are burned to allow clean, easy, safe and efficient heat.

Two Convenient Methods

Get Your Appliance On Its Way
Visit Us Online At:

AmericanEnergySystems.com

Give Us A Call:

1-800-495-3196

What Types of Stoves Are Available?

While it may seem daunting in trying to figure out what is right for your home, this guide will break it down and help you understand the advantages of the different types of stoves and fireplaces so that you can quickly determine what is right for you.



FREE STANDING STOVES

A common type of stove is the free standing stove with legs. This is a popular option, especially in the Eastern States because of its traditional look and décor.

Another popular style is the free standing pedestal. It is more of a contemporary look and has the advantage of added ash capacity.

The next is the Euro cabinet style with a taller more slender style.



FIREPLACE INSERTS

If you want to give your old “drafty” wood fireplace a much needed update, use a wood pellet or multi-fuel fireplace insert to look more like a traditional wood fireplace. This will offer high efficiency heating so that more heat is going into the home rather than up the chimney.



Do I Need a Chimney?

No. You do need a means of exhaust, but you don't need a chimney. A chimney is a traditional means of venting smoke out of the home. Older style fireplaces and stoves that utilize a chimney use a natural draft design that requires an expensive chimney installed in the home or on the outside of the home. Very few wood pellet or multi-fuel stoves on the market today use this means of venting smoke.

Most pellet stoves, like the Magnum and Country Flame brand, are designed to avoid chimneys in order to provide homeowners with more efficient heat, lower emissions, and a more complete combustion of the fuel. This translates into less cost for the consumer and better stewardship to our environment.

Do I Need to Vent My Stove?

Yes. The more popular combustion (exhaust) type is the Power Vented Stove, called “Direct Vent” where the exhaust is pulled through the stove to create an “active” fire and the exhaust is exited out the back of the stove through a special 3” or 4” venting that is designed for this type of stove. This makes it possible to vent the stove directly out of the side of the home using an exterior wall, reducing “chimney” costs, and making it easier to place your stove where you would like it to be.

You want to work with a knowledgeable professional to ensure you are sizing the appliance to the environment. You don’t want to overheat or underheat, which would jeopardize your overall comfort.

After you’ve located the best location for your appliance, it will use a “Type L” double walled vent that is stainless steel on the inside and usually heavy galvanized steel on the outer layer. This venting usually is designed to handle the chemical corrosion of burning wood pellets or other fuels.

Depending on the design of the stove or the altitude that your home is at, you would use a 3” or 4” Type L Pellet Vent.



Most Federal, State and local codes, along with manufacturers and certification requirements, require that you have a fresh air “combustion air” source that comes from outside of the home and hooks directly to your pellet or multi-fuel stove. The size of the fresh air supply will be determined by the stove design, manufacturer recommendations and length of the install.

Why Do I Need a Fresh Air Source for My Stove?

Fresh air on most appliances is now required and benefits homeowners with higher efficiency and best operation for high heat output. Fire requires oxygen in order to burn. Most homes today are air tight and several other appliances are running within the home like stove exhaust fans, bathroom fans, dryers and more all using the oxygen found in the home which can create a negative pressure concern.



What Do I Look for In Emissions Standards?

With the new EPA regulations that went into effect on May 15, 2015, all solid fuel stoves, furnaces and fireplace inserts (whether cord wood or wood pellet fuel burning) must be labeled and certified to have emissions of 4.5 g/hr or less and by 2020 must be 2.0 g/hr or less.

Many cord wood burning models have achieved the 4.5 g/hr but may struggle with the 2.0 g/hr in 2020. Wood pellet stoves are typically around 1 g/hr and exceed today's standards and also the 2020 standards.

It is important that you take a look at the certification label that is required to be attached to the stove to be sure that it meets the current regulations standard.

Are Efficiency Ratings Important?

Most wood pellet or multi-fuel stoves will have a combustion efficiency of around 98-99% efficiency while the overall efficiency may be from 69-75%. This is considerably higher than old technology which was around 15-25%.

Along with the new EPA regulations standard, efficiency ratings also must be displayed in the owner's manuals and other information concerning the wood or wood pellet burning stove.

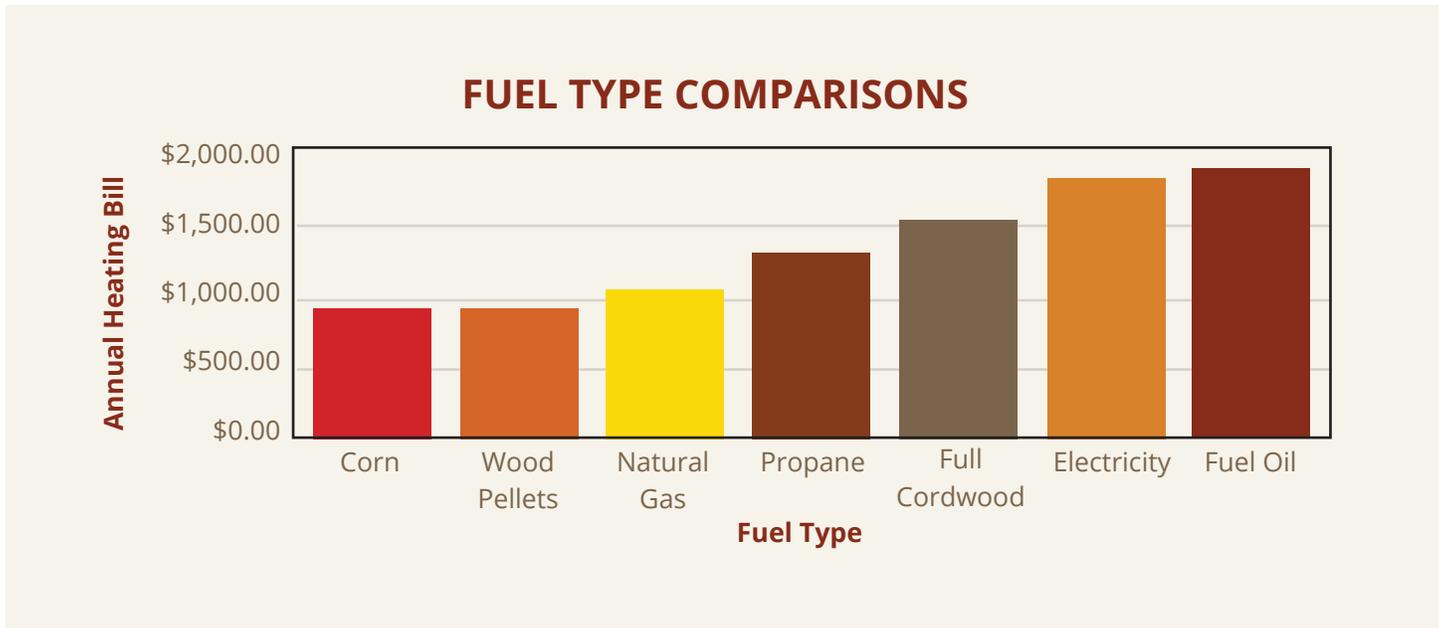
Some manufacturers will display a "Manufacturer's Certificate of Efficiency" on their website or in their owners manuals as shown below.

The image shows a "Manufacturer's Certificate of Efficiency" for Magnum stoves. At the top, it features the Magnum logo with a flame icon and the text "A FAMILY OF HEARTH PRODUCTS" and "by American Energy Systems, Inc.". Below the logo is the title "Manufacturer's Certificate of Efficiency". The certificate text states: "The American Recovery and Reinvestment Act of 2009, provides a tax credit for biomass and wood appliances that have efficiency rating of 75% or greater. The guidelines are outlined by the IRS under Section 25C of the Internal Revenue Code. This certificate provides a list of qualified appliances manufactured by American Energy Systems, Inc." It then lists three categories of appliances: BIOMASS/CORNSTOVES, BIOMASS/CORNSTOVES (repeated), and WOOD APPLIANCES. The BIOMASS/CORNSTOVES lists include models like 3500P, 3500L, 3502, Win-ACP, Win-DCP, Win-DCI, Win-ACI, BC-AC, BC-DC, HR-01, CF-04 Flex, Baby Countryside, Baby Countryside Harvester, and Crossfire Insert Flex. The WOOD APPLIANCES lists include BBF, IWZC, O2, BBF Series, Inglenook Series, and O2 Series. There is also a section for PELLET STOVES listing CF-04 Pellet, LR-01, Crossfire Insert Pellet, and Little Rascal. At the bottom, there is a signature of Mike Haefer, President-CEO, and a declaration: "Under penalties of perjury, I declare that I have examined this certification statement, and to the best of my knowledge and belief, the facts presented are true, correct, and complete." The footer includes the American Energy Systems, Inc. address (150 Michigan Street SE, Hutchinson, MN 55350), the Magnum and Country Flame logos, and the date July 2010.

An efficiency rating is different from heating capacity. Stoves are measured in heat output, also called heating capacity. Most have a rating of 8,000-90,000 Btu's or more. You need 25-30 Btu/h per sq ft. (British Thermal Units) per hour, which you can calculate based on the square footage of your home.

How Much Can I Expect to Save on Heat?

Below is a table comparing the annual heating expenses using various fuel types in a 1500 square foot home. This comparison was based on a particular year, current prices on all fuels and is typical of the average difference in cost between these fuels.



To compare your actual cost savings this manufacturer has provided an online fuel calculator:
<http://www.americanenergysystems.com/fuel-calculator.cfm>

A typical homeowner will save up to 60% on their heating bill using wood pellets or other multi-fuel options. The frosting on the cake is that it will cost less to keep your home warmer.

Square feet:

Fuel Source	Cost	Unit of Measure
Corn	<input type="text" value="\$ 6"/>	per bushel
Natural Gas	<input type="text" value="\$ 15.3"/>	per kilocubic feet
Wood Pellets	<input type="text" value="\$ 185"/>	per ton
Full Cordwood	<input type="text" value="\$ 160"/>	per full cord
Propane	<input type="text" value="\$ 2.35"/>	per gallon
Electricity	<input type="text" value="\$ 0.11"/>	per kilowatt hour
Fuel Oil	<input type="text" value="\$ 3.49"/>	per gallon

Are Wood Pellet or Multi-Fuel Stoves Safe?

The unique combustion design along with high efficiency heat transfer allows a stove to be cool to the touch. Reduced clearances and low temperature venting eliminate the safety risks of normal chimneys. A high efficiency stove will not only have lower emissions, but they are often safer since complete combustion is in a "closed system". This helps prevent buildup of flammable chimney deposits called creosote. Look for a stove that has been UL Certified which is indicated on the manufacturer's label.

How is a Wood Pellet Stove Different from a Multi-Fuel Stove?

In your search for the right stove for your home, you will hear the terms Wood Pellet Stove, Multi-Fuel Stove, Grain Stove and similar terms used in various retail establishments that sell these products. Sometimes it can get confusing on *which is which* and what is right for you.

WOOD PELLET STOVES

Typically a wood pellet stove is designed to burn a variety of kinds and types of condensed wood sawdust that is in a pellet form. These types of stoves are not designed to burn any other fuels and can be dangerous if you try to burn other fuels in them.

MULTI-FUEL STOVES

A multi-fuel or grain stove typically will burn wood pellets very well and will also burn a variety of tested fuels like corn, wheat, oats, cherry pits, olive pits and other fuels that the stove is designed and tested to burn.

With the new EPA regulations manufacturers are required to label what fuel their stoves are certified for and the emissions that it produces.

The distinct advantage of purchasing a multi-fuel stove over a stove that only burns wood pellets is availability of fuel. Many areas of the country can run into wood pellet shortages, especially high quality wood pellets, and if you own a multi-fuel stove you are able to switch fuels and keep heating your home.



How Does a Wood Pellet or Multi-Fuel Stove Work?

Renewable energy stoves contain some highly sophisticated technology inside to offer this incredibly low cost heating. The motors of a stove require electricity using 110v (normal home voltage) electricity. Fill the fuel hopper and the system augers the fuel to the combustion burn chamber. There is a room fan to blow the heated air into the home, and an exhaust blower that sends the exhaust thru the vent system to the outside.

Some models are available with an auto ignition system, some offer thermostat control, and others even offer power from a battery backup when the power goes out. Some models offer power from a solar panel system or hook up into a generator for power.

How Easy Is It To Get the Fuel That I Will Need for the Winter?

Wood pellet fuel is available around the country and is stocked at specialty retailers and also the big box stores. Corn and other multi-fuels are available at elevators, distribution centers and also at some specialty retailers and big box stores, especially farm related stores.

How and Where Do I Store Fuel?

Proper storage is important whether you are using wood pellets, corn, or any other fuel. Make sure that you are buying clean and dry fuel and make sure that you are only buying enough to get you through the winter heating months.

It is not a good idea to store fuel over the summer months, as it will attract moisture and the fuel will spoil. To avoid spoiling during the winter months, keep your fuel in a clean and dry place and possibly keep a small fan blowing air on the fuel to keep moisture from building up.

Do not store the fuel outside where it can get wet, covered with snow or have melting water get in it.

In the spring, burn up the remaining fuel and if you have a considerable amount left over, see if there are neighbors who need a little before the heating season is over. You can feed the corn to animals or if you have wood pellets left over you can use it for bedding.

When buying corn or other grain for burning make sure that it is less than 14% moisture and has been cleaned.

What Kind of Maintenance Will It Require?

To keep your wood pellet or multi-fuel stove or fireplace insert working efficiently and safely, you'll have to maintain it on a regular basis. Choose models that allow easy access to its components without extensive disassembly or tools for easy cleaning.

You will want to create a schedule for daily, weekly, monthly, spring shutdown, and fall start-up maintenance. Many manufacturers provide excellent information in their owners manuals and online.



Let us know how we can help

...to Find You the BEST Renewable Energy Pellet Stove or Fireplace

Thank you for taking the time to read this Buyers Guide, and we sincerely hope that you are able to make a sound decision on what is right for heating your home.

It is so important that your selection includes a product that has been time tested, made of high quality materials and has a sound reputation in the industry. American Energy Systems leads the industry in customer service and technical assistance before, during, and long after your purchase. It's why our customers refer us so often.

RESOURCE LINKS

Check out these additional resources:

-  <http://blog.magnumheat.com>
-  <http://www.hpba.org>
-  <http://www.pelletheat.org>
-  <http://americanenergysystems.com>
-  <http://www.facebook.com/magnumheat>
-  <http://www.twitter.com/#!/alternativeheat>
-  <http://www.youtube.com/user/MagnumHeat>



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