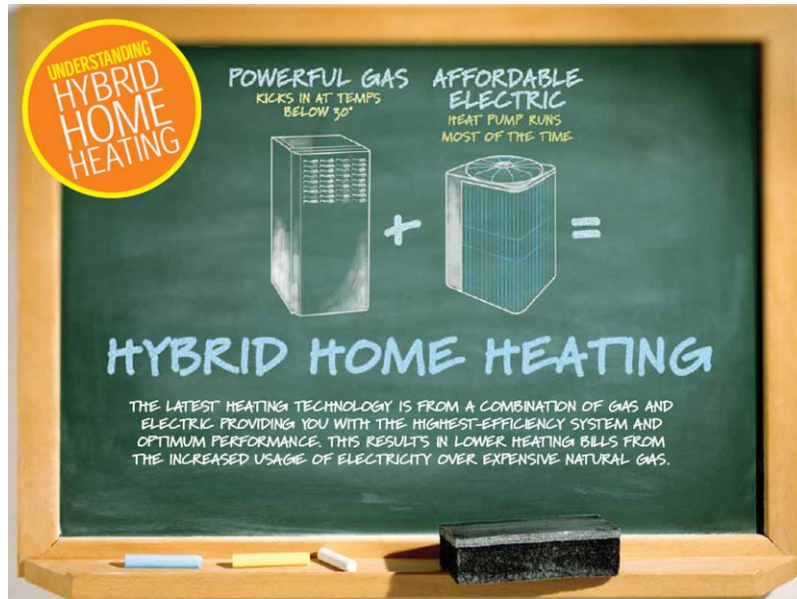


Introduction to a Dual Fuel Heating System

One of the best energy saving investments homeowners should consider is the “Dual Fuel” heating system. A dual fuel system is an electric heat pump added to your existing furnace. It can also be referred to as an Add-on Heat Pump. The best opportunity for this measure and the shortest payback on your investment occurs if you choose this option at the time you are buying a new air conditioner. Here’s how it works.

When you buy a new air conditioner, you should save money on your cooling bills. However, a new air conditioner will have no affect on your heating bills. Consider buying a heat pump instead of just an air conditioner. A heat pump is an air conditioner in the summer and in the winter it works in conjunction with your existing furnace to reduce your total heating costs.

Today’s heat pumps work efficiently at all outdoor temperatures, but they are extremely energy efficient when they operate in the temperatures from 20 to 60 degrees. Did you know that 80% of all hours in a typical Midwest winter will be in temperatures over 30 degrees? In this temperature range a new heat pump can generate heat for **less than \$6.00 per million BTUs** when electricity costs \$.06 per kWh. When a heat pump is added to your furnace, the heat pump is able to provide 60% to 70% of your total winter heat at this low price. Your existing furnace is still used in the colder winter temperatures and will supply all the remaining heat.



Compare Heating Systems by using the Cost per Million BTU

The heating system in your home converts fuel into heat. Any type of heat can be measured by using a term called a "BTU" or British Thermal Unit. A BTU is a small unit of heat, comparable to the amount of heat you get from one wooden match. An average Midwest home may use 60 to 80 million BTUs each winter.

To compare different heating fuels and heating systems we need a common unit of measure that applies to all fuels. The "Cost per one Million BTUs" (Cost per MBTUs) is the best way to compare the heating costs associated with different fuels and different heating systems. Each fuel and heating system will have its own Cost per MBTUs based on the efficiency of the system and the price of the fuel.

Here are some example fuel prices to compare different heating systems:

Natural gas	60% efficient	\$1.20/CCF(therm)	Cost per MBTUs = \$20.00
Natural gas	80% efficient	\$1.20/CCF(therm)	Cost per MBTUs = \$15.00
Natural gas	90% efficient	\$1.20/CCF(therm)	Cost per MBTUs = \$13.33
Electric	Furnace	\$.06/kWh	Cost per MBTUs = \$17.58
Electric	12 Seer heat pump	\$.06/kWh	Cost per MBTUs = \$8.00
Propane gas	80% efficient	\$1.60/gal.	Cost per MBTUs = \$16.67