



# Turbo Burn



## Fuels, Standard Heat Conversions, Heating Costs

### What is a BTU?

The heating industry calculates units of energy in British Thermal Units or BTUs.

1 BTU = the heat required to raise the temperature of one pound of water 1 degree Fahrenheit.

1 BTU = approximately the heat in one wooden match.

1 BTU = 252 calories

Fuel Comparisons	Approx heat content	Approximate heat conversion efficiency in a standard furnace	Useable BTUs per unit	Average consumer cost per unit (as of 1/1/2006)	Cost of 1,000,000 useable BTUs (as of 1/1/2006)
1 pound of coal	= 12,000 BTUs	65 %	7,800 /pound	\$60.00 /ton	\$3.85 Coal
1 pound of wood	= 8,500 BTUs	70 % <sup>1</sup>	5,950 /pound	\$140.00 /cord <sup>2, 3</sup>	\$5.60 Wood
1 gallon of waste oil	= 170,000 BTUs	80 %	136,000 /gallon	\$0.87 /gallon <sup>4</sup>	\$6.40 Waste Oil
1 gallon of natural gas	= 134 BTUs	85 %	114 /gallon	\$1.19 /Therm <sup>5</sup>	\$13.97 Natural Gas
1 gallon of fuel oil	= 140,000 BTUs	80 %	112,000 /gallon	\$2.27 /gallon	\$20.27 Fuel Oil
1 kilowatt hour of electricity	= 3,400 BTUs	100 %	3,400 /KWH	\$0.088 /kilowatt hour	\$25.88 Electricity
1 gallon of propane	= 92,000 BTUs	80 %	73,600 /gallon	\$2.10 /gallon	\$28.53 Propane

1 cu.ft. = 7.48 gallons  
 1 gallon = .13368 cu.ft.  
 1 barrel (crude oil) = 42 gallons

Water heaters are typically 10-20% less efficient than standard furnaces

During a heating season, between 50 and 150 million BTUs of energy are typically used to heat an average-sized home.

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- 1 Wood conversion variables include type (hardwood, softwood) and moisture content (green, air dried, kiln dried). 70% is an average energy extraction of all types of wood
- 2 A cord of wood (4' x 4' x 8') will average 4,200 pounds
- 3 Cord wood costs can be much less expensive if the consumer cuts it themselves
- 4 Waste oil can be much less expensive (or free) if picked up from local waste oil generators
- 5 One Therm is about 1337 gallons (100 cubic feet) of natural gas

### Why the Turbo Burn Water Stove is your best heating value

- 1 Turbo Burn is a true multi-fuel stove which means you can select the least expensive fuel available to heat your home and structures as well as satisfy all of your hot water needs.
- 2 Turbo Burn's state-of-the-art design burns fuel so hot that most solids, liquids and gasses are completely consumed. The end result is the extraction of more BTUs from fuel than conventional furnaces with virtually no smoke.
- 3 Inside each stove there is between 74 and 140 sq.ft of heat transfer surface area. This makes the Turbo Burn one of the most efficient heating systems on the market today.