

HEATING ENERGY EQUIVALENTS

Energy Unit Cost: **\$ per Unit =** Unit Energy Cost based on historical data for the NW WI region at the time of printing.

Heating Equipment Efficiency: **AFUE =** Annual Fuel Utilization Efficiency for Fossil Fuel Burning Furnaces

COP = Coefficient of Performance for Resistance Heat and Heat Pumps

HSPF = Heating Seasonal Performance Factor for Air Source Heat Pumps

SF Eff = Estimated Average Operating Efficiency for Solid Fuel Stoves and Furnaces

\$/Million BTU = Net Cost to deliver 1 Million BTU of heat to the Living Space

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Energy Source Fuel Type	Energy Unit	Energy Unit Cost \$ per Unit	Energy Content BTU per Unit	Heating Equipment Efficiency	Net Heating Energy Cost \$/Million BTU	Typical Application	Predicted Cost for Example Residence Heating \$ per Year
Natural Gas (WE)	Therm	\$0.9500	100,000	92% AFUE Furnace	\$ 10.33	New Hi Eff Natural Gas Furnace	\$ 1,224
	Therm	\$0.9500	100,000	75% AFUE Furnace	\$ 12.67	Older Natural Gas Furnace	\$ 1,501
Propane 02-15	Gallon	\$1.71	91,600	92% AFUE Furnace	\$ 20.29	New Hi Eff Propane Furnace	\$ 2,405
	Gallon	\$1.71	91,600	80% AFUE Furnace	\$ 23.34	Older Propane Furnace	\$ 2,765
Propane '08-'09 SCF WI pre-buy	Gallon	\$2.39	91,600	92% AFUE Furnace	\$ 28.36	New Hi Eff Propane Furnace	\$ 3,361
	Gallon	\$2.39	91,600	80% AFUE Furnace	\$ 32.61	Older Propane Furnace	\$ 3,865
Fuel Oil 02-'14	Gallon	\$2.32	139,000	85% AFUE Furnace	\$ 19.64	New Fuel Oil Furnace	\$ 2,327
	Gallon	\$2.32	139,000	65% AFUE Furnace	\$ 25.68	Older Fuel Oil Furnace	\$ 3,043
Electricity (Cntrld) Avg TOD rate (NWE WI Elct)	KWH	\$0.0875	3,412	1.0 COP Resistance	\$ 25.64	Baseboard Resistance Heat	\$ 3,039
	KWH	\$0.1187	3,412	8.0 HSPF Heat Pump	\$ 14.84	Air Source Heat Pump	\$ 1,758
	KWH	\$0.1187	3,412	4.1 COP Geo Heat Pump	\$ 8.49	ClimateMaster Geo Heat Pump	\$ 1,005
Electricity (strg) Lower Rate (Plk-Brnt winter)	KWH	\$0.0654	3,412	1.0 COP Resistance	\$ 19.17	Resistance Heat	\$ 2,271
	KWH	\$0.1050	3,412	8.0 HSPF Heat Pump	\$ 13.13	Air Source Heat Pump	\$ 1,555
	KWH	\$0.1050	3,412	3.1 COP Geo Heat Pump	\$ 9.93	ClimateMaster Geo Heat Pump	\$ 1,176
Shelled Corn	Bushel	\$3.63	392,000	75% Hi Eff Corn Furnace	\$ 12.35	HiEff Corn Furnace (15% Moisture)	\$ 1,463
Wood Hardwood Air Dried	Cord	\$175.00	20,000,000	20% Standard Fireplace	\$ 43.75	Tight Packed Cord (4'Hx4'Dx8'L)	\$ 5,184
	Cord	\$175.00	20,000,000	40% Franklin Wood Stove	\$ 21.88	Hardwood Dried @ 8,500 BTU/lb	\$ 2,592
	Cord	\$175.00	20,000,000	70% Hi Eff Wood Boiler	\$ 12.50	Annualized Efficiency Considered	\$ 1,481

Example Residence:

Design Heat Loss of Building: **50,000** BTU per Hour Calculated from Area and R-Values of walls, roof, windows, etc. - 50,000 BTU/Hr is average new WI home 3400 heated SF).

Annual Heating Degree Days: **7,900** HDD per year Weather Data representing the "coldness" of the winter season - 7900 HDD is an average HDD value for NW WI

Annual Heating Energy Req'd: 118.5 Million BTU per Year with an predicted cost of