# NATURAL GAS COST COMPARISON

Listed below is the cost to produce 1 million BTU of heat. This is a direct cost comparison of different fuel sources and types of heating systems to produce the same amount of heat. You can use this to determine which heating system is the least expensive to operate.

**Geothermal System** -- Coefficient of Performance - 3.5
Electric Heat Rate - 84 kwh @ 7.0 cents/kwh = $ 5.88

**All-Electric Heat Pump** -- 16 SEER w/resistance coils COP 3.4
Electric Heat Rate - 117 kwh @ 7.0 cents/kwh =
85% of heat from heat pump - 99 kwh @ 7.0 cents/kwh $6.93
15% of heat from resistance heat - 18 kwh @ 7.0 cents/kwh $1.26
$ 8.19

**All-Electric Heat Pump** -- 13 SEER w/resistance coils COP 3.0
Electric Heat Rate - 127 kwh @ 7.0 cents/kwh =
85% of heat from heat pump - 108 kwh @ 7.0 cents/kwh $7.56
15% of heat from resistance heat - 19 kwh @ 7.0 cents/kwh $1.33
$ 8.89

**Add-On Heat Pump** -- Electric Heat Rate - 16 SEER Heat Pump 15E switchover
Air-Source Heat Pump-COP 3.4/90% natural gas furnace combination
75% of heat from Heat Pump - 65 kwh @ 7.0 cents/kwh = $4.55
25% of heat from gas - 2.8 therms @ $1.21/therm = $3.39
$ 7.94

**Add-On Heat Pump** -- Electric Heat Rate - 13 SEER Heat Pump 15E switchover
Air-Source Heat Pump-COP 3.0/90% natural gas furnace combination
75% of heat from Heat Pump - 74 kwh @ 7.0 cents/kwh = $5.18
25% of heat from gas - 2.8 therms @ $1.21/therm = $3.39
$ 8.57

**Natural Gas Furnace** -- 90% efficiency
11 therms @ $1.21/therm = $13.31
11 therms @ $1.50/therm = $16.50

**Natural Gas Furnace** -- 80% efficiency
13 therms @ $1.21/therm = $15.73
13 therms @ $1.50/therm = $19.50

**Electric Resistance Heat** (electric furnace, baseboard, ceiling cable)
Electric Heat Rate - 293 kwh @ 7.0 cents/kwh = $20.51

# PROPANE COST COMPARISON

Listed below is the cost to produce 1 million BTU of heat. This is a direct cost comparison of different fuel sources and types of heating systems to produce the same amount of heat. You can use this to determine which heating system is the least expensive to operate.

**Geothermal System** -- Coefficient of Performance - 3.5
Electric Heat Rate - 84 kwh @ 7.0 cents/kwh = $ 5.88

**All-Electric Heat Pump** -- 16 SEER w/resistance coils COP 3.4
Electric Heat Rate - 117 kwh @ 7.0 cents/kwh =
85% of heat from heat pump - 99 kwh @ 7.0 cents/kwh $6.93
15% of heat from resistance heat - 18 kwh @ 7.0 cents/kwh $1.26
$ 8.19

**All-Electric Heat Pump** -- 13 SEER w/resistance coils COP 3.0
Electric Heat Rate - 127 kwh @ 7.0 cents/kwh =
85% of heat from heat pump - 108 kwh @ 7.0 cents/kwh $7.56
15% of heat from resistance heat - 19 kwh @ 7.0 cents/kwh $1.33
$ 8.89

**Add-On Heat Pump** -- Electric Heat Rate - 16 SEER Heat Pump 15E switchover
Air-Source Heat Pump-COP 3.4/90% propane gas furnace combination
80% of heat from Heat Pump - 69 kwh @ 7.0 cents/kwh = $4.83
20% of heat from gas - 2.4 gallons @ $2.00/gallon = $4.80
$ 9.63

**Add-On Heat Pump** -- Electric Heat Rate - 13 SEER Heat Pump 15E switchover
Air-Source Heat Pump-COP 3.0/90% propane gas furnace combination
80% of heat from Heat Pump - 78 kwh @ 7.0 cents/kwh = $5.46
20% of heat from gas - 2.4 gallons @ $2.00/gallon = $4.80
$10.26

**Propane Furnace** -- 90% efficiency
12 gallons @ $1.75/gallon = $21.00
12 gallons @ $2.00/gallon = $24.00
12 gallons @ $2.25/gallon = $27.00

**Propane Furnace** -- 80% efficiency
14 gallons @ $1.75/gallon = $24.50
14 gallons @ $2.00/gallon = $28.00
14 gallons @ $2.25/gallon = $31.50

**Electric Resistance Heat** (electric furnace, baseboard, ceiling cable)
Electric Heat Rate - 293 kwh @ 7.0 cents/kwh = $20.51