

# Comparative energy costs for space heating

Electricity (Cents/kWh)	Fuel Oil Regular Furnace (\$/Gal.)	Fuel Oil Super Efficient Furnace (\$/Gal.)	Propane Regular Furnace (\$/Gal.)	Propane Super Efficient Furnace (\$/Gal.)	Natural Gas Regular Furnace (\$/ MCF)	Natural Gas Super Efficient Furnace (\$/ MCF)
4	0.98	1.31	0.64	0.97	7.03	10.55
4.2	1.03	1.38	0.68	1.01	7.38	11.08
4.4	1.08	1.44	0.71	1.06	7.74	11.60
4.6	1.13	1.51	0.74	1.11	8.09	12.13
4.7	1.16	1.54	0.76	1.14	8.26	12.39
4.8	1.18	1.58	0.77	1.16	8.44	12.66
4.9	1.21	1.61	0.79	1.18	8.61	12.92
5	1.23	1.64	0.81	1.21	8.79	13.18
5.1	1.26	1.67	0.82	1.23	8.97	13.45
5.2	1.28	1.71	0.84	1.26	9.14	13.71
5.3	1.30	1.74	0.85	1.28	9.32	13.98
5.4	1.33	1.77	0.87	1.30	9.49	14.24
5.5	1.35	1.80	0.89	1.33	9.67	14.50
5.6	1.39	1.84	0.90	1.35	9.84	14.77
5.7	1.40	1.87	0.92	1.38	10.02	15.03
5.8	1.43	1.90	0.93	1.40	10.20	15.30
5.9	1.45	1.94	0.95	1.43	10.37	15.56
6	1.48	1.97	0.97	1.45	10.55	15.82
6.5	1.60	2.13	1.05	1.57	11.43	17.14
6.7	1.65	2.20	1.08	1.62	11.78	17.67
7	1.72	2.30	1.13	1.69	12.31	18.46
7.5	1.85	2.46	1.21	1.81	13.18	19.78
7.7	1.90	2.53	1.24	1.86	13.54	20.30
8	1.97	2.63	1.29	1.93	14.06	21.10
8.5	2.09	2.79	1.37	2.05	14.94	22.41
8.6	2.12	2.82	1.38	2.08	15.12	22.68
8.7	2.14	2.85	1.40	2.10	15.29	22.94
8.9	2.19	2.92	1.43	2.15	15.65	23.47
9	2.22	2.95	1.45	2.17	15.82	23.73
10	2.46	3.28	1.61	2.42	17.58	26.37
12	2.95	3.94	1.93	2.90	21.10	31.64
14	3.45	4.59	2.25	3.38	24.61	36.92

The above figures are based on the assumptions and formulas listed on the reverse side.

# Assumptions

Fuel Source	Btu Heat Content	Annual Seasonal Operating Efficiency	
		Regular Furnace	Super Efficient Furnace
Electricity	3,413 Btu/kWh	100%	100%
#2 Fuel Oil	140,000 Btu/Gal.	60%	80%
Propane	91,600 Btu/Gal.	60%	90%
Natural Gas	1,000,000 Btu/MCF	60%	90%

## Formulas

### Alternate fuel price to electric rate conversion formula:

$$(\text{Fuel Price}) \div (\text{Efficiency}) \times (341,300) \div (\text{Btu Heat Content}) = \text{Electric Rate}$$

*Example of \$1.21/Gal. Propane to Electricity with a Super Efficient Furnace:*

$$(1.21) \div (0.90) \times (341,300) \div (91,600) = 5.0\text{¢/kWh}$$

### Electricity rate to alternate fuel price conversion formula:

$$(\text{Electric Rate}) \times (\text{Efficiency}) \times (\text{Btu Heat Content}) \div (341,300) = \text{Fuel Price}$$

*Example of 5¢/kWh Electricity Rate to #2 Fuel Oil with a Regular Furnace:*

$$(5.0) \times (0.60) \times (140,000) \div (341,300) = \$1.23/\text{Gal.}$$