

# COMPARE ENERGY COSTS - GEOTHERMAL HEAT PUMPS TO FOSSIL FUELS

Geothermal Heat Pump (GHP) with a COP of 4.3 price/kWh	Fuel Oil 65% efficient price/gallon	LP 90% efficient price/gallon	Natural Gas 90% efficient price/therm	Cost per Million BTU	
\$0.060	\$0.37	\$0.34	\$0.37	\$4.09	
\$0.062	\$0.38	\$0.35	\$0.38	\$4.22	
\$0.064	\$0.40	\$0.36	\$0.39	\$4.36	
\$0.066	\$0.41	\$0.37	\$0.40	\$4.50	
\$0.068	\$0.42	\$0.38	\$0.42	\$4.63	
\$0.070	\$0.43	\$0.39	\$0.43	\$4.77	
\$0.072	\$0.45	\$0.40	\$0.44	\$4.91	* ECEC Off-Peak Electric Heat base rate
\$0.074	\$0.46	\$0.42	\$0.45	\$5.04	
\$0.076	\$0.47	\$0.43	\$0.47	\$5.18	
\$0.078	\$0.48	\$0.44	\$0.48	\$5.31	
\$0.080	\$0.50	\$0.45	\$0.49	\$5.45	
\$0.082	\$0.51	\$0.46	\$0.50	\$5.59	
\$0.084	\$0.52	\$0.47	\$0.52	\$5.72	
\$0.086	\$0.53	\$0.48	\$0.53	\$5.86	
\$0.088	\$0.55	\$0.49	\$0.54	\$6.00	
\$0.090	\$0.56	\$0.51	\$0.55	\$6.13	
\$0.092	\$0.57	\$0.52	\$0.56	\$6.27	
\$0.094	\$0.58	\$0.53	\$0.58	\$6.41	
\$0.096	\$0.60	\$0.54	\$0.59	\$6.54	
\$0.098	\$0.61	\$0.55	\$0.60	\$6.68	
\$0.100	\$0.62	\$0.56	\$0.61	\$6.81	
\$0.102	\$0.63	\$0.57	\$0.63	\$6.95	
\$0.104	\$0.64	\$0.58	\$0.64	\$7.06	
\$0.106	\$0.66	\$0.59	\$0.65	\$7.22	
\$0.108	\$0.67	\$0.61	\$0.66	\$7.36	
\$0.11037	\$0.68	\$0.62	\$0.68	\$7.52	* ECEC General Purpose base rate
\$0.112	\$0.69	\$0.63	\$0.69	\$7.63	
\$0.114	\$0.71	\$0.64	\$0.70	\$7.77	
\$0.116	\$0.72	\$0.65	\$0.71	\$7.90	
\$0.118	\$0.73	\$0.66	\$0.72	\$8.04	
\$0.120	\$0.74	\$0.67	\$0.74	\$8.18	
\$0.122	\$0.76	\$0.68	\$0.75	\$8.31	
\$0.124	\$0.77	\$0.70	\$0.76	\$8.45	

**Fuel**  
**GHP/COP of 4.3**  
**Fuel Oil**  
**LP**  
**Natural Gas**

**BTU Heat Content**  
**14,676/kWh**  
**140,000/gal**  
**91,500/gal**  
**100,000/therm**

Example: If you are comparing a geothermal heat pump with a COP of 4.3, at \$0.072/kWh (7.2 cents/kWh), to a 65% efficient fuel oil system, you would have to buy fuel oil at \$0.45/gal., or less, to have as low an operating cost as the geothermal heat pump.

\* ECEC rates subject to change at any time

