

Cost Comparison of Heating Sources (Commercial)

		Rates	
Name:	Case Study - Thermal Mass System	Natural Gas:	\$1.25 per Therm
Project:	7,600 Sq.Ft. - Slab on Grade Building Off-Peak Program 70° Inside Design Temperature -10° Outside Design Temperature 7,192 Heating Degree Days (2022/2023)	Propane Gas:	\$1.80 per Gallon
		Heating Oil:	\$4.00 per Gallon
		Off-Peak - Electricity:	\$0.0467 per kWh
		Dual Fuel - Electricity:	\$0.062 per kWh
		Peak - Electricity:	\$0.120 per kWh
		Yearly Heating Load:	253,207,015 BTU's

Natural Gas	Efficiency Rating	Estimated Therms	Price / Therm	Cost of Operation
(Forced Air)	80%	3165	\$1.25	\$3,956.36
	90%	2813	\$1.25	\$3,516.76

Propane	Efficiency Rating	Estimated Gallons	Price / Gallon	Cost of Operation
(Forced Air)	80%	3953	\$1.80	\$7,115.89
	90%	3459	\$1.80	\$6,226.40

Electric Boiler	Efficiency Rating	Total kWh Needed	Price / kWh	Cost of Operation
(Dual Fuel Rate)	90%-100%	74211	\$0.062	\$4,601.07

Electric	Efficiency Rating	Total kWh Needed	Price / kWh	Cost of Operation
(Forced Air)	90% - 100%	92763	\$0.120	\$11,131.61

Heating Oil	Efficiency Rating	Estimated Gallons	Price / Gallon	Cost of Operation
(Forced Air)	70% - 80%	2823	4.00	\$11,291.28

GSHP	Efficiency Rating	Total kWh Needed	Price / kWh	Cost of Operation
Ground Source Heat Pump	200% - 300%	30539	0.062	\$1,893.44

TMFH		Total kWh Needed	Price / kWh	Cost of Operation
Thermal Mass Floor Heat	Off-Peak Rate	41026	0.0467	\$1,915.93

ERC		Total kWh Needed	Price / kWh	Cost of Operation
Electric Radiant Ceiling	Dual Fuel Rate	41228	0.062	\$2,556.15

Oil=138,000 BTU/gal., LP=91,500 BTU/gal., NG=100,000 BTU/Therm, Electricity=3412 BTU/kWh
Heating load is approximate but must stay constant for all fuel sources

Comparison costs will vary based on location, type of building, construction practices, insulation values equipment, sizing, rates and programs available in your area.

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