

Town of Gardiner Ground Source Heat Pump

Current Electric GHG Emissions/Cost With Heat Pump (Average of years 2015 thru 2018)	Current Propane GHG Emissions/Cost (Average of Years 2015 thru 2018)	Totals
GHG Emissions 6.85 Metric Tons	GHG Emissions 7.88 Metric Tons	14.73
Cost \$7,185.10 (\$0.1406 per KWh)	Cost \$1,513.44 (\$1.14 per gallon)	\$8,698.54
Estimated GHG Emissions/Cost Per Year Of Electricity Using Propane Furnace In Lieu of Heat Pump*	Estimated GHG Emissions/Cost Per Year of Propane	
GHG Emissions 3.42 Metric Tons	GHG Emissions 15.75	19.17
Cost \$3,592.55	Cost \$3,026.88	\$6,619.43
Total Emissions Saved with Ground Source Heat Pump 4.4 Metric Tons per year	Additional Cost Using Ground Source Heat Pump \$2,078.57 per year	

*Assumptions: 1) Ground source heat pump currently uses half of all the electricity consumed by Town Hall each year. 2) By using a propane-fired furnace instead of the heat pump, we estimate Town Hall propane consumption would double.

Even efficient new models of heat pumps require more electricity than most of the other equipment and appliances found in homes or small offices and institutions, especially during very cold and extremely hot weather. To assume that the WaterFurnace in Town Hall uses half of all the annual electricity may be a conservative estimate.

The price the Town pays for propane is low. The low cost may be the result of municipal group purchase programs or other incentives or subsidies. If Town Hall used fuel oil instead of propane for heat, the GHG emissions and perhaps the cost would be higher.