



SOURCE ENERGY & EMISSIONS REPORT

Date:	January 09, 2009	Rating No.:	
Building Name:	Home Energy Rating	Rating Org.:	NorthWoods Energy
Owner's Name:	Northern Michigan	Phone No.:	(800) 661-2611
Property:	Saginaw	Rater's Name:	Flint Energy Rating
Address:	Upper peninsula, MI	Rater's No.:	
Builder's Name:	Flint Energy Rater		
Weather Site:	Traverse City, MI	Rating Type:	Site Visit
File Name:	Lansing Grand Rapids Energy Rater.blg	Rating Date:	7-29-08

Source Energy Consumption (MMBtu/year)

All Electric

	<i>Reference Home</i>	<i>As Designed</i>	<i>Difference</i>	<i>% Difference</i>
Heating:	129.8	218.1	88.3	68.1%
Cooling:	14.6	6.0	-8.6	-58.7%
Water heating:	51.7	51.5	-0.2	-0.5%
Lights & Appliances:	87.6	68.4	-19.3	-22.0%
Photovoltaics:	0.0	0.0		
Total:	283.8	344.0	60.3	21.2%

Total Emissions (lbs/year)

All Electric

<i>Type of Emissions</i>	<i>Reference Home</i>	<i>As Designed</i>	<i>Difference</i>	<i>% Difference</i>
Carbon Dioxide (CO2)	39122.9	46560.1	7437.2	19.0%
Sulfur Dioxide (SO2)	126.4	106.9	-19.5	-15.4%
Nitrogen Oxides (NOx)	86.7	82.2	-4.5	-5.1%

Emissions By End-Use (lbs/year) (All Electric Reference Home versus As Designed)

	CO2		SO2		NOx	
	<i>Ref</i>	<i>Des</i>	<i>Ref</i>	<i>Des</i>	<i>Ref</i>	<i>Des</i>
Heating	15936.8	27640.1	5.2	8.6	16.1	24.8
Cooling	2222.4	917.2	11.9	4.9	6.9	2.8
Water Heating	7856.8	7820.9	42.0	41.8	24.2	24.1
Lights & Appliances	13106.9	10181.9	67.3	51.6	39.5	30.5
Photovoltaics	0.0	0.0	0.0	0.0	0.0	0.0

The energy and emission values are calculated by comparing the Rated Home to an all-electric version of the Reference Home as defined in the "Mortgage Industry National Home Energy Rating Systems Standards" as promulgated by the Residential Energy Services Network (RESNET). Site-to-source energy multipliers and air emission data were taken from the USEPA E-GRID97 database.