

## Ferndale Home Energy Report

### Summary:

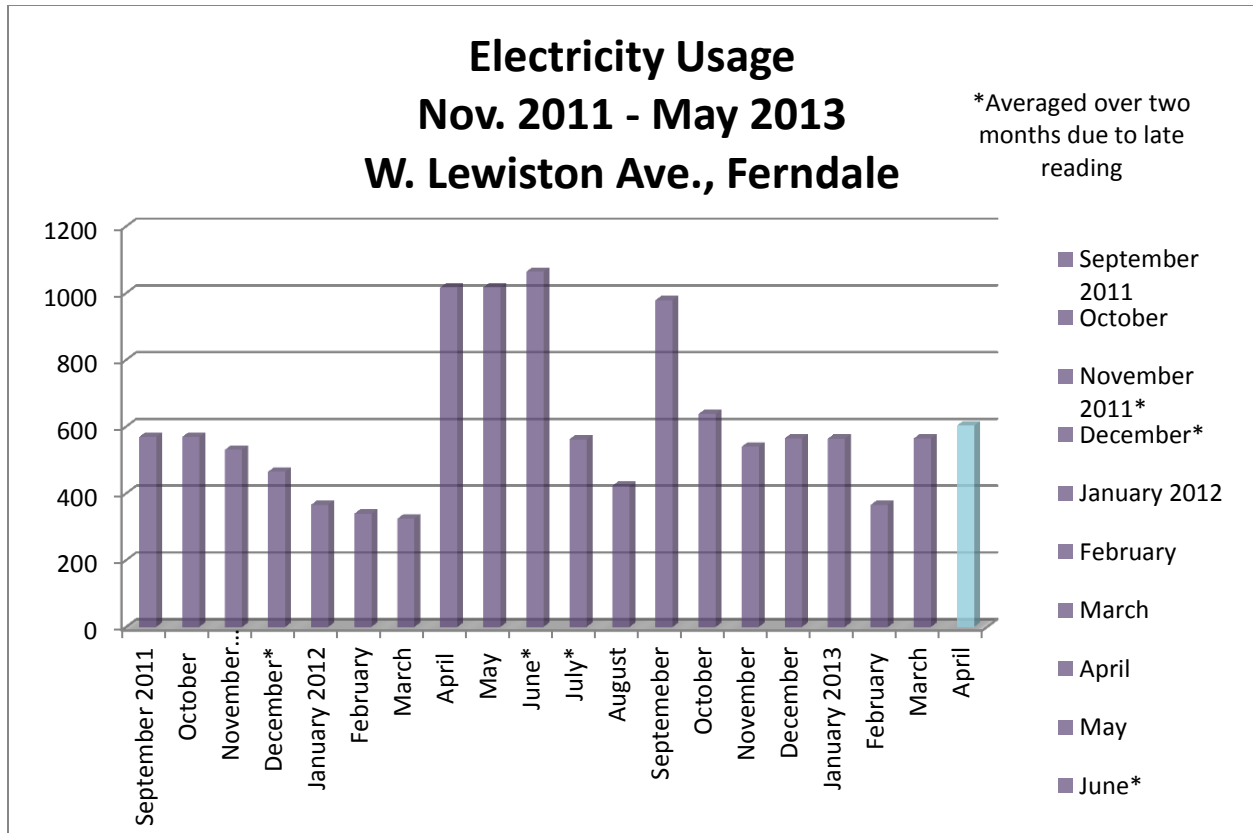
The Ferndale home is 45.6% more efficient in its energy use in comparison to an average 2,000 sq. ft. existing Michigan home. The average used 3,948 kWh a month, while the Ferndale house used only 2,195 kWh per month on average. The overall cost for the electric use in the Ferndale residence is \$74.56 a month, using 603 kWh, which is 34% less than the average, which costs \$121 a month and uses 908 kWh. On average, heating for the Ferndale home uses 5.3 MCF and costs 23.85 a month, while the average uses 10.1 MCF and costs \$127.46 a month. Altogether, the operation costs are 32% less than the average household to heat.

### Report Details

The house on average uses 603 kWh's of electricity a month, while the average Michigan home uses 908 kWh's a month. The majority of the electric usage is in the spring and summer, while the majority of the year is at or below the 600 kWh a month.

Based on the monthly utilities, this house uses .29 kWh per sq. ft. on average. The electric bill costs \$74.56 total per month and \$894.75 a year, at an average rate of 13.3 cents per kWh for the duration the owner has lived in the house. The average home uses .45 kWh per sq. ft. for a 2000 sq. ft home. Also, the average home cost \$121 a month, and \$1462.24 a year, at a rate of 13.42 cents per kWh. Over the course of one year, this house saves 49% on the electric bill compared to a standard 2000 sq. ft. Michigan home.

The Ferndale home operates at \$3.26 cents per degree day, meaning that the house cost 32% less to heat per degree. On average this house cost \$7.80 cents per degree to bring the temperature down to 60°F, while an average Michigan home cost \$8.55 cents per degree on average. For heating, on average, this home uses 5.3 MCF to heat, costing \$23.85 a month and \$792.32 a year to heat. A similarly sized Michigan residence takes 10.1 MCF on average to heat, with the average cost per degree day is 4.78 cents. Altogether, the average cost per square foot of the home is 2.8 cents, while the average home runs 6.4 cents, costing \$127.46 a month and \$1529.54 a year.



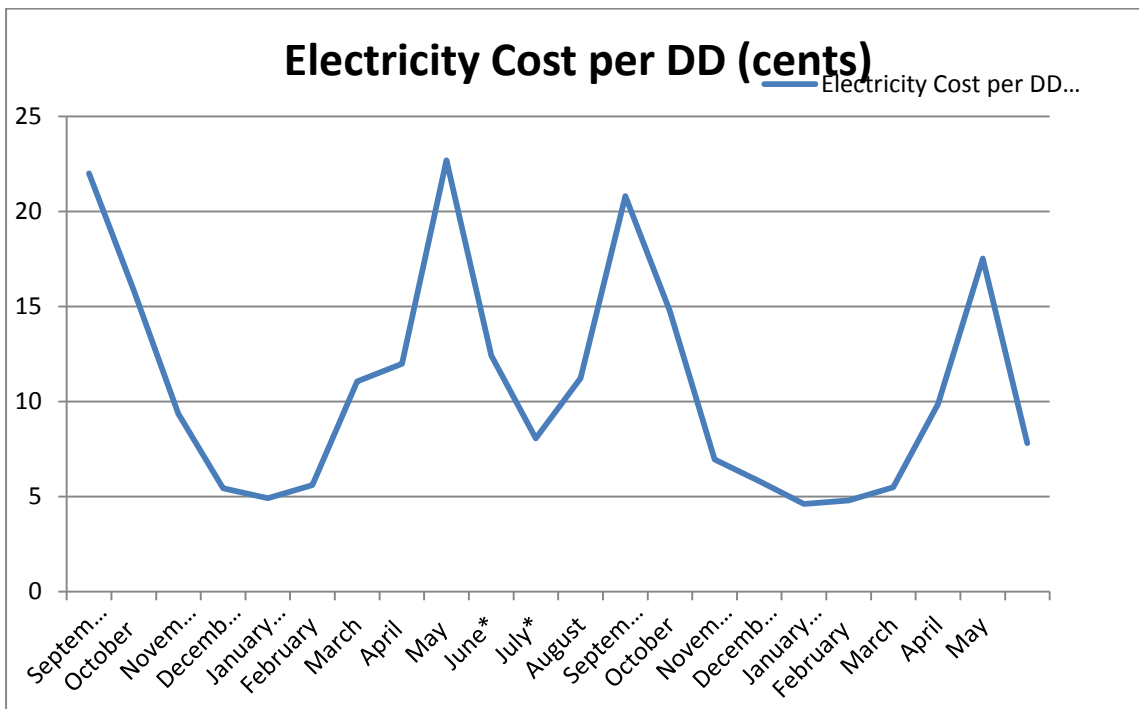
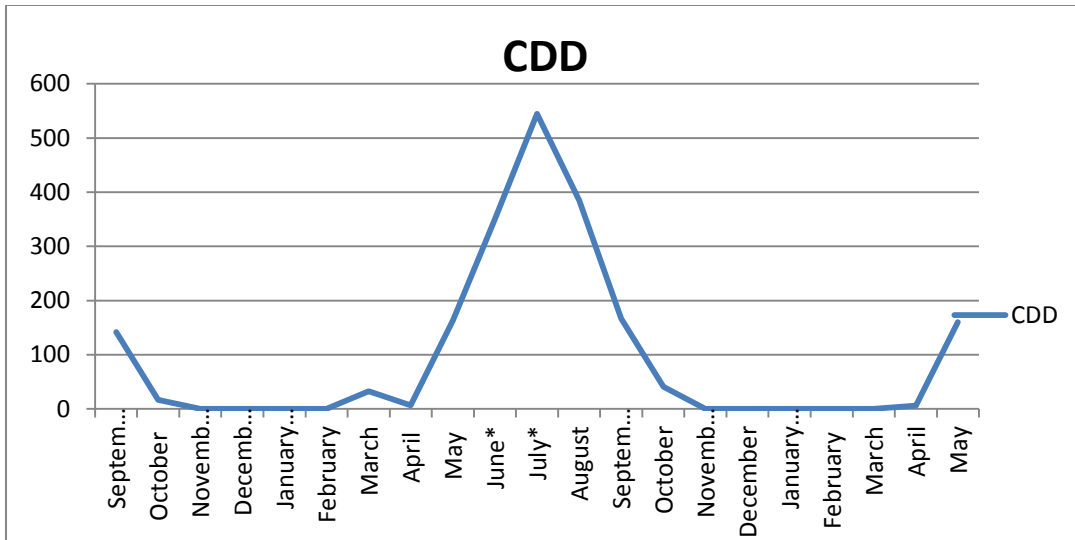
Based on the chart below a large part of the energy consumption is attributed to running the AC in the hot summer months. The most costly part of cooling the house is bring down the temperature initially, after which the temperature is more easily regulated by the high efficiency furnace which raises air quality and more evenly disperses the cool air. The high efficiency R20 open cell spray icynene insulation and 31 U-Value windows also play a large in prevent the air from leaking out, or transferring through the walls or windows.

On average this house cost 7.8 cents per degree to bring the temperature inside down to 60°F, while an average home cost 8.55 cents per degree on average.

**Energy Data Obtained From:**

Michigan electric rates: <http://www.dleg.state.mi.us/mpsc/electric/download/rates1.pdf>

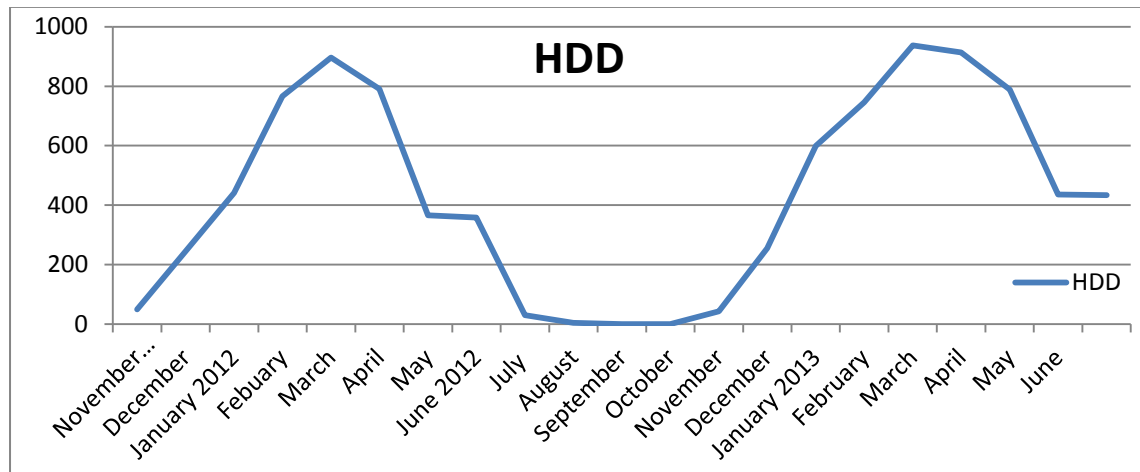
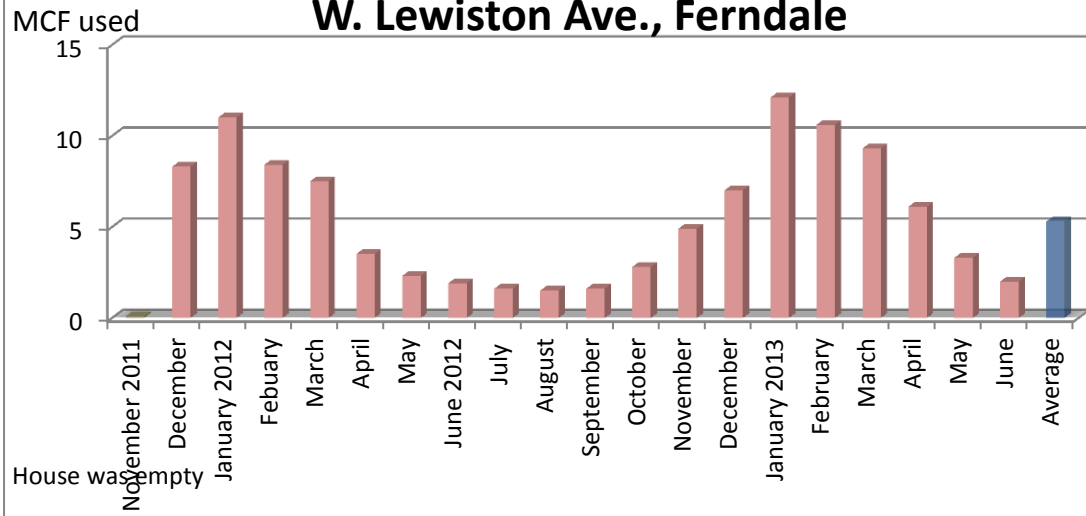
[http://www.greenandsave.com/articles/remodeling\\_amp\\_improvement/home\\_energy\\_rating\\_and\\_audits/energy\\_audits\\_and\\_home\\_efficienc\\_20](http://www.greenandsave.com/articles/remodeling_amp_improvement/home_energy_rating_and_audits/energy_audits_and_home_efficienc_20)

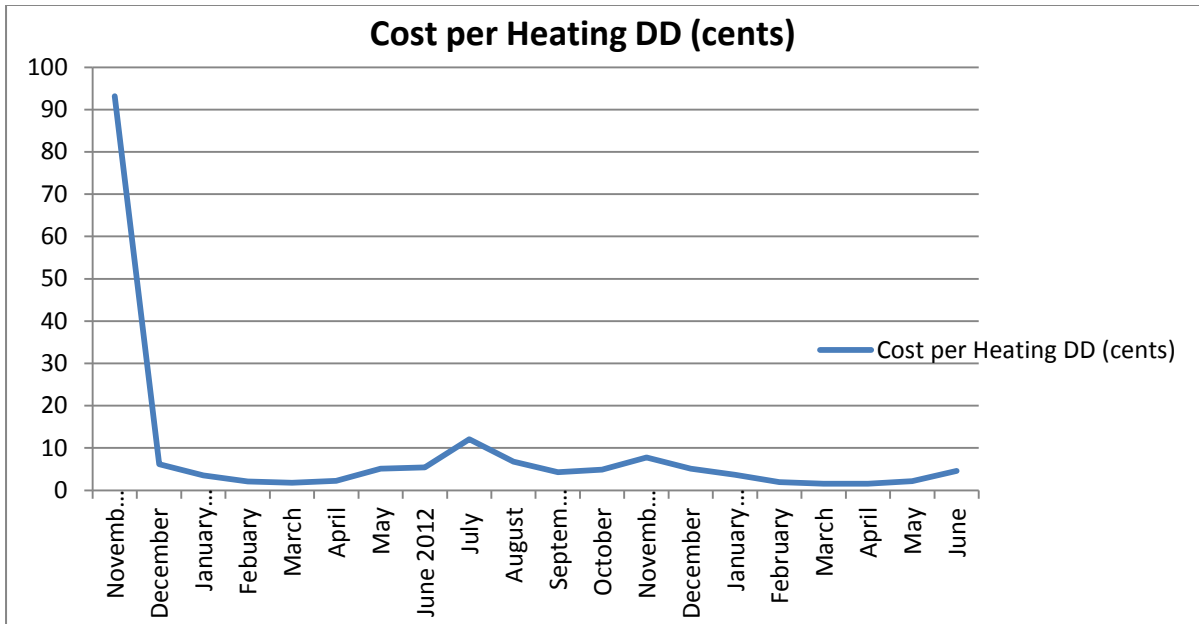


On average this home uses 5.29 MCF to heat, costing \$23.85 a month and \$792.32 a year to heat. The average cost per square foot of the home is 2.8 cents, while the average home runs 6.4 cents, costing \$127.46 a month and \$1529.54 a year. Also for a similarly sized home of 2000 sq. ft., it takes 10.1 MCF to heat on average, with the average cost per degree day is 4.78 cents. The Ferndale home operates at 3.26 cents per degree day, meaning that the house cost 32% less to heat per degree.

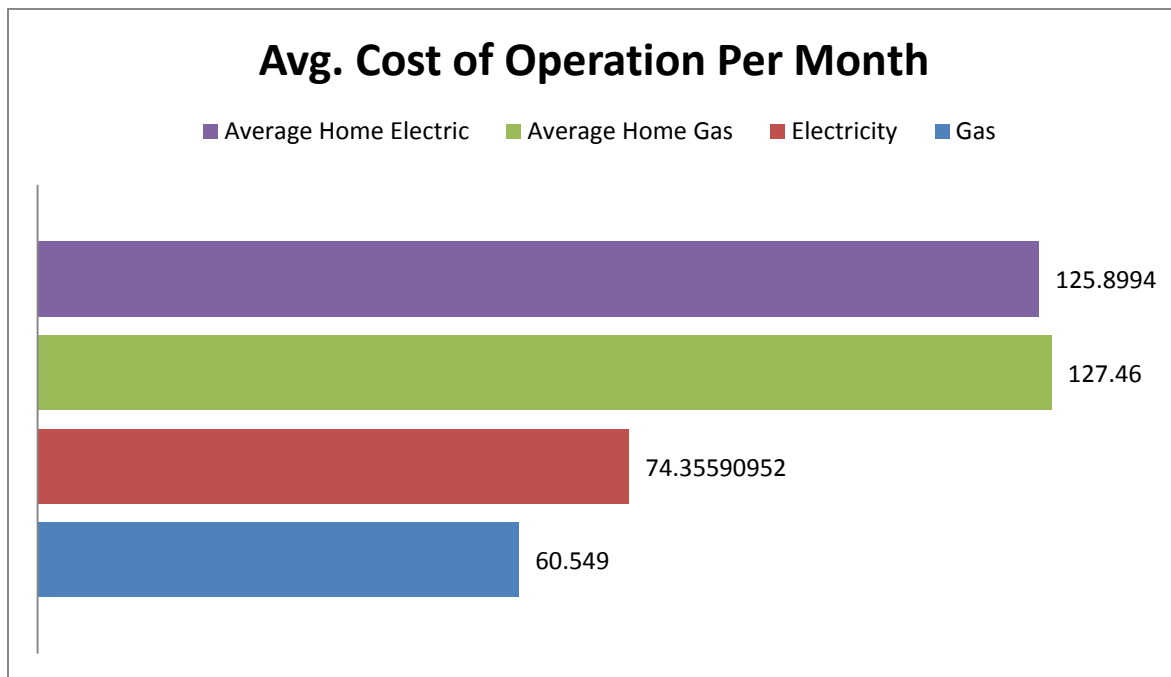
## Natural Gas Use in MCF Nov. 2011 - June 2013

**W. Lewiston Ave., Ferndale**





The Ferndale home is 45.6% more efficient in its electrical use for heating and cooling, and general electric usage; average house uses 3948 kWh a month the Ferndale house uses 2195 kWh a month. This home has a HERS of 66, so the actual efficiency exceeds that of the projected 34% efficiency. The Ferndale house also cost 46% less per month for gas and electric than the average house.



### Total Energy Use Calculation for Gas & Electricity

Year	Month	Gas (therms)	Gas (kWh)	Gas (\$)	Elec (kWh)	Elec (\$)	Total
Jan-12	1	112.97	3311	114.03	531	72.26	3842
Feb	2	86.268	2529	90.45	465	63.612	2994
Mar	3	77.025	2258	81.44	366	49.8126	2624
April	5	35.945	1054	40.92	339	45.7989	1393
May	6	23.621	692	31.10	324	43.8048	1016
June	7	19.513	572	24.88	1017	138.0069	1589
July	8	16.432	482	24.80	1017	138.0069	1499
Aug	9	15.405	452	23.85	1064	142.044	1516
Sept	10	16.432	482	24.70	562	75.75	1044
Oct	11	28.756	843	35.04	423	57.02	1266
November	12	50.323	1475	53.12	979	125.8994	2454
December	12	71.89	2107	70.12	638	85.2368	2745

**555**      **16,255**      **\$614.45**      **7,725**      **\$1,037.25**      **23980 kWh per year**  
**12 kWh per square foot per year**  
**\$1,651.70 \$ per year**  
**\$550.57 \$ per month**

Area (sf) 2047