

Calculation of MONTHLY HEATING DEMAND based on Local Heating Degree Days

Keene NH - HDD for the last 3 years

Customer: NE WOOD BURNER

Address: ?

Location: Keene NH

Square Footage: **2,500** Square Footage of the home

Gallons of oil used: 914 gallons of oil used from Jan <> Dec

Cost of oil: **\$3,354** cost for oil from Jan <> Dec

BTUs from oil: 127,046,000 BTUs (#2 Heating oil has 138,000 BTU/gallon)

Lbs of wood pellets: 15,881 Based on 8000 BTU/Lbs of wood pellets real heating value

Short Tons of pellets: 7.9 Sh Tons Bags 397 **50 Fills of 8 bags of pellets into the BioWIN dayhopper**

\$1,787 Cost of wood pellets

Estimated savings: **\$1,568** cost savings per year with wood pellets

47%

Add efficiency gain: **15%** Efficient pellet boiler <> inefficient oil boiler

62%

\$2,071 overall cost savings

#2 Heating oil:	\$3.67 /gallon
wood pellets:	\$225 /ton

Month	HDD	% heat	Oil gallons			Oil BTU's			24h		12h	
									BTU/day	BTU/24h	BTU/12h	BTU/SF
1/1/2011	1,460	0.22	198			27,298,061	BTU	909,935	37,914	75,828	15.2	30.3
2/1/2011	1,216	0.18	165			22,735,919	BTU	757,864	31,578	63,155	12.6	25.3
3/1/2011	1,045	0.15	142			19,538,681	BTU	651,289	27,137	54,274	10.9	21.7
4/1/2011	621	0.09	84			11,611,025	BTU	387,034	16,126	32,253	6.5	12.9
5/1/2011	0	0.00	0			0	BTU	0	0	0	0.0	0.0
6/1/2011	0	0.00	0			0	BTU	0	0	0	0.0	0.0
7/1/2011	0	0.00	0			0	BTU	0	0	0	0.0	0.0
8/1/2011	0	0.00	0			0	BTU	0	0	0	0.0	0.0
9/1/2011	158	0.02	21			2,954,174	BTU	98,472	4,103	8,206	1.6	3.3
10/1/2011	538	0.08	73			10,059,149	BTU	335,305	13,971	27,942	5.6	11.2
11/1/2011	707	0.10	HDD 96			13,218,993	BTU	440,633	18,360	36,719	7.3	14.7
12/1/2011	1,001	0.15	6746 136	914		18,715,999	BTU	623,867	25,994	51,989	10.4	20.8
1/1/2012	1,205	0.20	187			25,804,594	BTU	860,153	35,840	71,679	14.3	28.7
2/1/2012	954	0.16	148			20,429,529	BTU	680,984	28,374	56,749	11.3	22.7
3/1/2012	698	0.12	108			14,947,392	BTU	498,246	20,760	41,521	8.3	16.6
4/1/2012	519	0.09	81			11,114,178	BTU	370,473	15,436	30,873	6.2	12.3
5/1/2012	0	0.00	0			0	BTU	0	0	0	0.0	0.0
6/1/2012	0	0.00	0			0	BTU	0	0	0	0.0	0.0
7/1/2012	0	0.00	0			0	BTU	0	0	0	0.0	0.0
8/1/2012	0	0.00	0			0	BTU	0	0	0	0.0	0.0
9/1/2012	185	0.03	29			3,961,701	BTU	132,057	5,502	11,005	2.2	4.4
10/1/2012	374	0.06	58			8,009,061	BTU	266,969	11,124	22,247	4.4	8.9
11/1/2012	902	0.15	HDD 140			19,315,970	BTU	643,866	26,828	53,655	10.7	21.5
12/1/2012	1,053	0.18	5890 163	914		22,549,575	BTU	751,652	31,319	62,638	12.5	25.1
1/1/2013	1,262	0.18	165			22,788,630	BTU	759,621	31,651	63,302	12.7	25.3
2/1/2013	1,140	0.16	149			20,585,609	BTU	686,187	28,591	57,182	11.4	22.9
3/1/2013	1,060	0.15	139			19,141,005	BTU	638,034	26,585	53,169	10.6	21.3
4/1/2013	648	0.09	85			11,701,294	BTU	390,043	16,252	32,504	6.5	13.0
5/1/2013	0	0.00	0			0	BTU	0	0	0	0.0	0.0
6/1/2013	0	0.00	0			0	BTU	0	0	0	0.0	0.0
7/1/2013	0	0.00	0			0	BTU	0	0	0	0.0	0.0
8/1/2013	0	0.00	0			0	BTU	0	0	0	0.0	0.0
9/1/2013	246	0.04	32			4,442,158	BTU	148,072	6,170	12,339	2.5	4.9
10/1/2013	509	0.07	67			9,191,294	BTU	306,376	12,766	25,531	5.1	10.2
11/1/2013	901	0.13	HDD 118			16,269,854	BTU	542,328	22,597	45,194	9.0	18.1
12/1/2013	1,219	0.17	6985 160	914		22,012,156	BTU	733,739	30,572	61,145	12.2	24.5

Keene NH

Heating Degree Days 3-year average: 2011, 2012 & 2013

10 kW BioWIN150

	HDD	%	Oil gallons	Oil BTU's	BTU/day	BTU/24h	BTU/16h	BTU/12h
Jan average	1,309	0.20	183	25,297,095 BTU	843,237	35,135	52,702	70,270
Feb average	1,103	0.17	154	21,250,353 BTU	708,345	29,514	44,272	59,029
Mar average	934	0.14	130	17,875,692 BTU	595,856	24,827	37,241	49,655
Apr average	596	0.09	83	11,475,499 BTU	382,517	15,938	23,907	31,876
May average	0	0.00	0	0 BTU	0	0	0	0
Jun average	0	0.00	0	0 BTU	0	0	0	0
Jul average	0	0.00	0	0 BTU	0	0	0	0
Aug average	0	0.00	0	0 BTU	0	0	0	0
Sep average	196	0.03	27	3,786,011 BTU	126,200	5,258	7,888	10,517
Oct average	474	0.07	66	9,086,501 BTU	302,883	12,620	18,930	25,240
Nov average	837	0.13	118	16,268,272 BTU	542,276	22,595	33,892	45,190
Dec average	1,091	0.17	153	21,092,577 BTU	703,086	29,295	43,943	58,590
	6,540	1.00						

34120 BTU/hr Nominal

103% Output

87%

73%

47%

0%

0%

0%

0%

15%

37%

66%

86%

Description: Fahrenheit-based heating degree days for a base temperature of 65F

Source: www.degreedays.net (using temperature data from www.wunderground.com)

Accuracy: Estimates were made to account for missing data: the "% Estimated" column shows how much each figure was affected (0% is best, 100% is worst)

Station: JAFFREY MUNI-SILVER RANCH, NH, US (72.00W,42.81N)

Station ID: KAFN

