

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: **1,100** gallons of oil used from Jan <> Dec

Cost of oil: **\$4,037** cost for oil from Jan <> Dec

BTUs from oil: 152,900,000 BTUs (#2 Heating oil has 138,000 BTU/gallon)

Lbs of wood pellets: 19,113 Based on 8000 BTU/Lbs of wood pellets real heating value

Short Tons of pellets: 9.6 Sh Tons Bags 478 **60 Fills of 8 bags of pellets into the BioWIN dayhopper**

\$2,150 Cost of wood pellets

Estimated savings: **\$1,887** cost savings per year with wood pellets

47%

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

62%

\$2,492 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	BTU/SF
1/1/2011	1,460	0.22	238		32,853,246 BTU	1,095,108	45,630	91,259	18.3	36.5
2/1/2011	1,216	0.18	198		27,362,704 BTU	912,090	38,004	76,008	15.2	30.4
3/1/2011	1,045	0.15	170		23,514,824 BTU	783,827	32,659	65,319	13.1	26.1
4/1/2011	621	0.09	101		13,973,881 BTU	465,796	19,408	38,816	7.8	15.5
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	26		3,555,351 BTU	118,512	4,938	9,876	2.0	4.0
10/1/2011	538	0.08	88		12,106,196 BTU	403,540	16,814	33,628	6.7	13.5
11/1/2011	707	0.10	HDD 115		15,909,072 BTU	530,302	22,096	44,192	8.8	17.7
12/1/2011	1,001	0.15	6746 163	1,100	22,524,726 BTU	750,824	31,284	62,569	12.5	25.0
1/1/2012	1,205	0.20	225		31,055,857 BTU	1,035,195	43,133	86,266	17.3	34.5
2/1/2012	954	0.16	178		24,586,961 BTU	819,565	34,149	68,297	13.7	27.3
3/1/2012	698	0.12	130		17,989,202 BTU	599,640	24,985	49,970	10.0	20.0
4/1/2012	519	0.09	97		13,375,925 BTU	445,864	18,578	37,155	7.4	14.9
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	35		4,767,912 BTU	158,930	6,622	13,244	2.6	5.3
10/1/2012	374	0.06	70		9,638,913 BTU	321,297	13,387	26,775	5.4	10.7
11/1/2012	902	0.15	HDD 168		23,246,791 BTU	774,893	32,287	64,574	12.9	25.8
12/1/2012	1,053	0.18	5890 197	1,100	27,138,438 BTU	904,615	37,692	75,385	15.1	30.2
1/1/2013	1,262	0.18	199		27,426,142 BTU	914,205	38,092	76,184	15.2	30.5
2/1/2013	1,140	0.16	180		24,774,803 BTU	825,827	34,409	68,819	13.8	27.5
3/1/2013	1,060	0.15	167		23,036,220 BTU	767,874	31,995	63,990	12.8	25.6
4/1/2013	648	0.09	102		14,082,520 BTU	469,417	19,559	39,118	7.8	15.6
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	39		5,346,142 BTU	178,205	7,425	14,850	3.0	5.9
10/1/2013	509	0.07	80		11,061,732 BTU	368,724	15,364	30,727	6.1	12.3
11/1/2013	901	0.13	HDD 142		19,580,787 BTU	652,693	27,196	54,391	10.9	21.8
12/1/2013	1,219	0.17	6985 192	1,100	26,491,654 BTU	883,055	36,794	73,588	14.7	29.4

Keene NH

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

15 kW BioWIN150

	HDD	%	Oil gallons	Oil BTU's	BTU/day	BTU/24h	BTU/16h	BTU/12h
Jan average	1,309	0.20	221	30,445,082 BTU	1,014,836	42,285	63,427	84,570
Feb average	1,103	0.17	185	25,574,823 BTU	852,494	35,521	53,281	71,041
Mar average	934	0.14	156	21,513,415 BTU	717,114	29,880	44,820	59,759
Apr average	596	0.09	100	13,810,775 BTU	460,359	19,182	28,772	38,363
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	33	4,556,468 BTU	151,882	6,328	9,493	12,657
Oct average	474	0.07	79	10,935,614 BTU	364,520	15,188	22,783	30,377
Nov average	837	0.13	142	19,578,884 BTU	652,629	27,193	40,789	54,386
Dec average	1,091	0.17	184	25,384,939 BTU	846,165	35,257	52,885	70,514
	6,540	1.00						

51180 BTU/hr Nominal

83% Output

69%

58%

37%

0%

0%

0%

0%

12%

30%

53%

69%

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

