Meeting Date: 1/17/12
Agenda Item: #6b

Mission Statement
Delivering quality services in a courteous, cost-effective and efficient manner.

GO GREEN, SAVE GREEN MEETING STAFF REPORT

REPORT TO: Go Green, Save Green Taskforce

REPORT FROM: Leigh Ann Wagner Kroening, administrative assistant

AGENDA ITEM: Report on Howard's 2011 utility usage

BACKGROUND

An energy audit was conducted by Focus on Energy in March of 2009. The following recommendations were made, and several were put into effect:

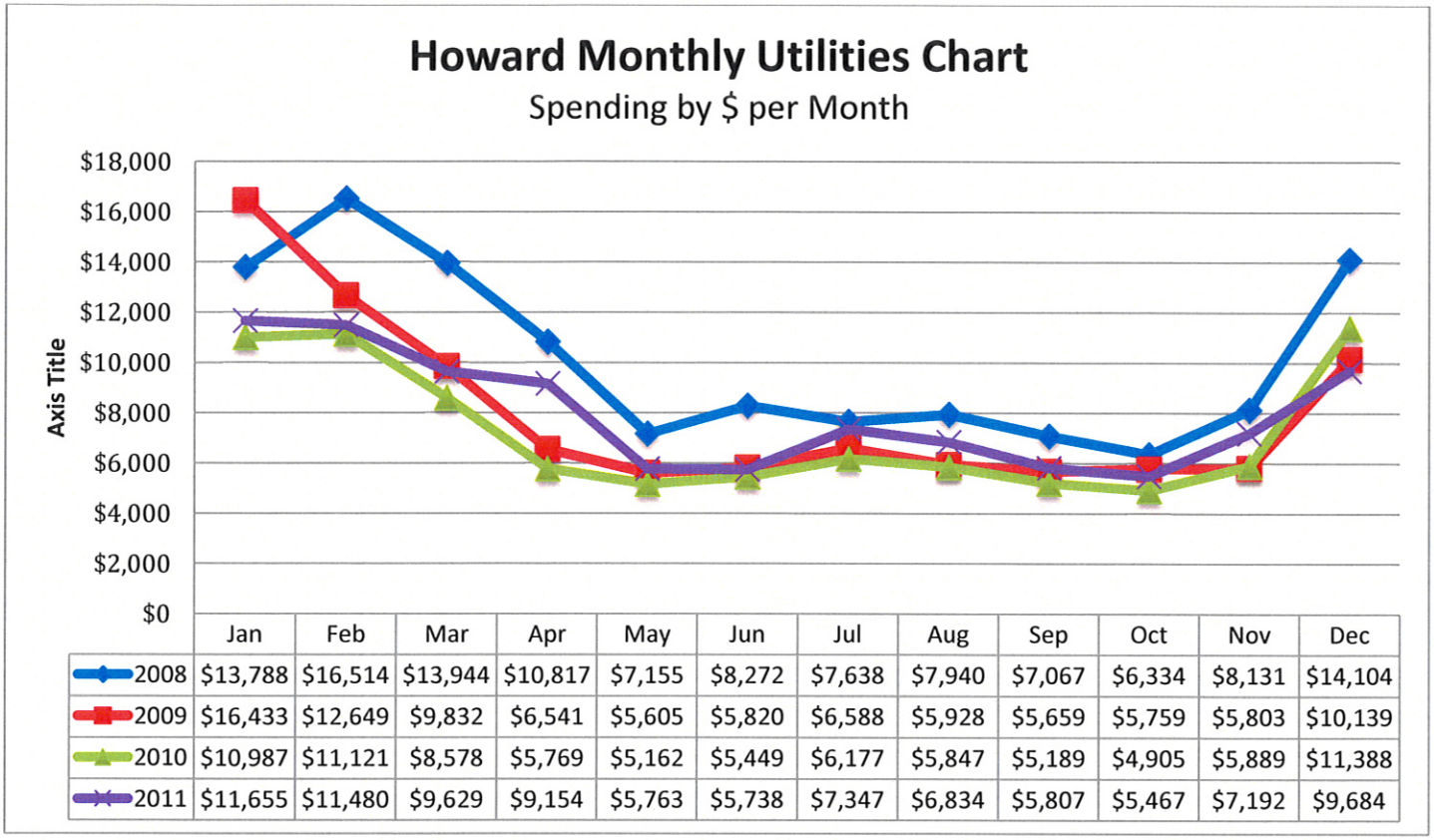
FOCUS ON ENERGY RECOMMENDATIONS

1. The offices are set to 68 degrees during the daytime hours and about 62-65 degrees at night. He suggests establishing energy guidelines that allow employees 68-72 degrees during the day. When leaving for the day, set night and weekend temperatures to 55 degrees. We can save up to 1% per degree per eight hour period.
2. Reset our discharge air temperatures from 55 to 65 degrees off of our air handlers/rooftops.
3. Set up our second floor heating temperatures to 65 degrees during the day, with some type of thermostat override button that heats it to 68-72 degrees when occupied. Make sure it sets back to 55 degrees at nights and weekends.
4. Start the heating systems a little earlier on Mondays to get back to occupied temperatures.
5. During the fall and spring months, make sure we are getting the benefit of economizing cycles. We want to cool the building with cooler 55-65 degree outside air.
6. Make sure the air conditioning system is off during nights and weekends. We can also start our air handlers closer to occupied periods during the cooling season.
7. Install motion sensors in restrooms, locker rooms, etc.
8. When replacing hot water boilers, consider installing condensing +90% efficient boilers. Have aggressive hot water reset temperatures as a result.
9. Garages should be heated to 45-50 degrees.
10. To save energy, ensure that all your HVAC systems are in working order. The thermostats should be calibrated at least once a year. The VAV boxes should be in working order. The hot water valves should modulate with the thermostats.
11. Replace pneumatic controls with DDC.
12. In the future, as air handlers fail, replace them with VAV systems.

GGSG annually reviews the village's energy reports as a way to monitor the success of the energy-savings measures that were put into place. The Task Force also has the authority to forward more energy-savings suggestions to village staff and the Village Board for consideration.

SUMMARY REPORT OF VILLAGE-WIDE 2011 UTILITY COSTS AND USAGE

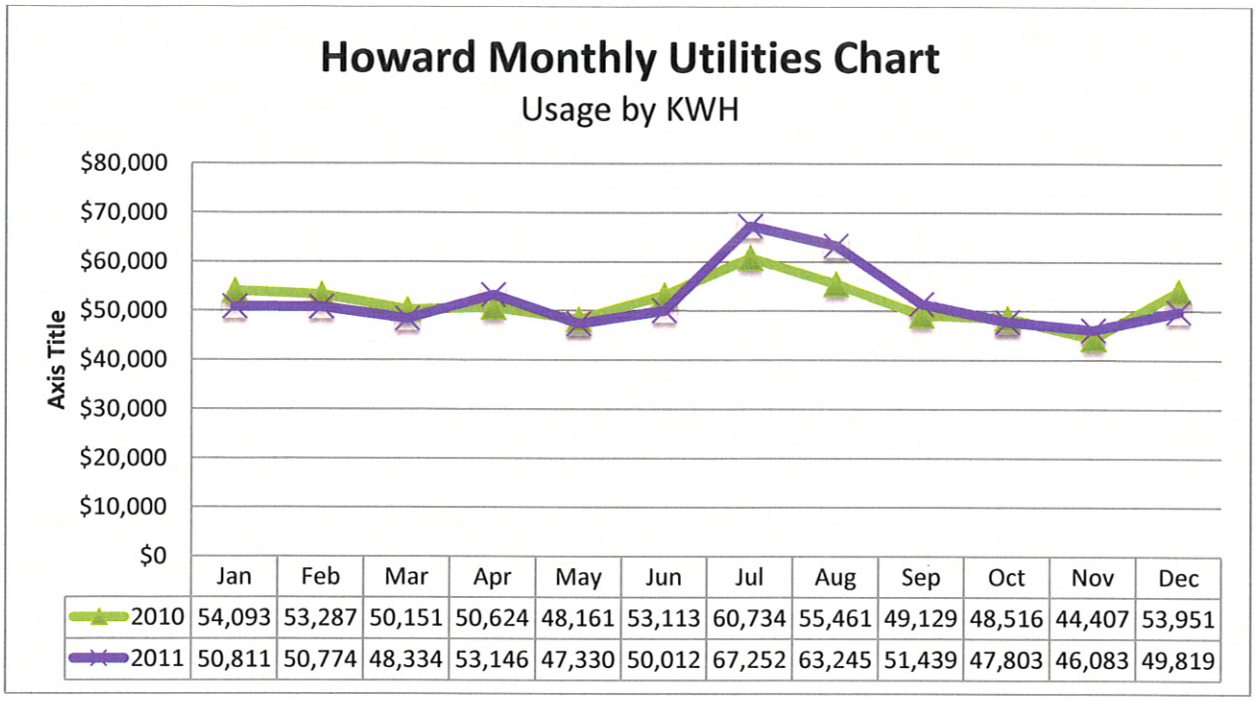
The first line graph compares the village's utility spending for 2011 in comparison to the three prior years. As you can see, 2011 spending remained substantially lower than 2008, was fairly similar to spending in 2009 and was noticeably higher than 2010.



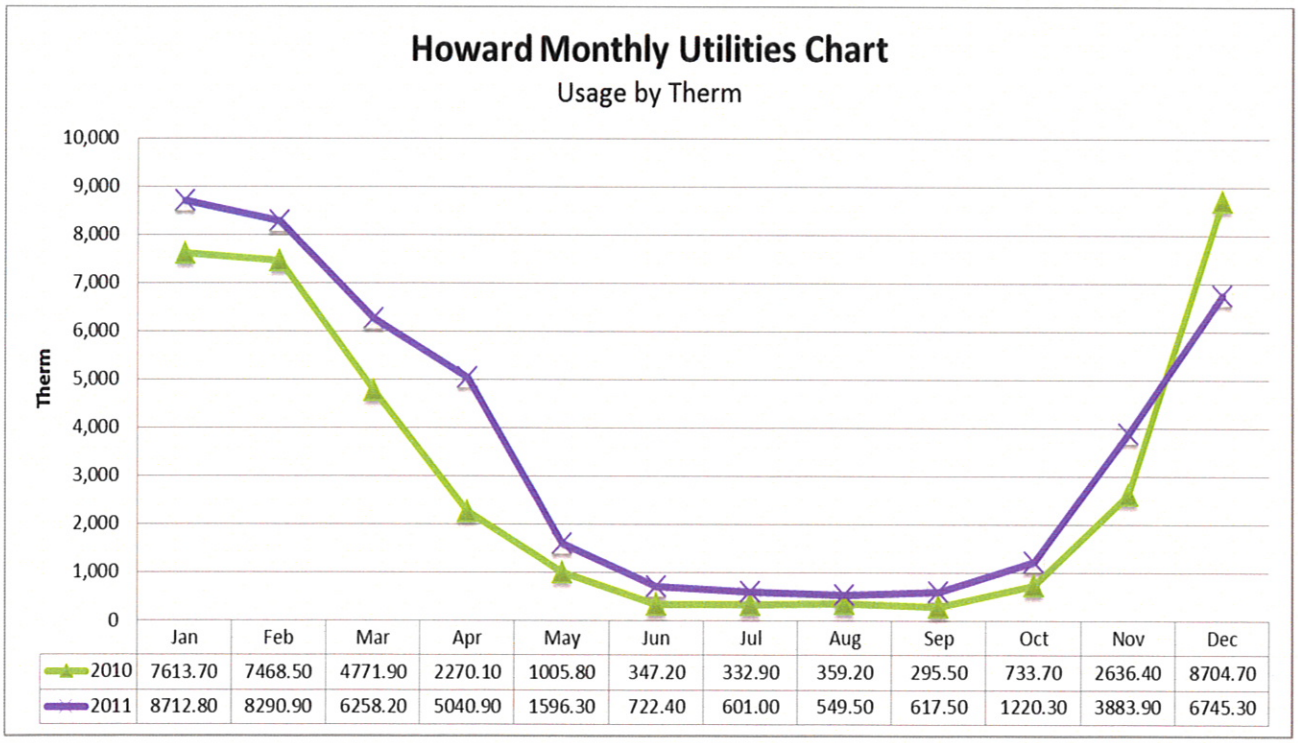
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2008	$13,788	$16,514	$13,944	$10,817	$7,155	$8,272	$7,638	$7,940	$7,067	$6,334	$8,131	$14,104
2009	$16,433	$12,649	$9,832	$6,541	$5,605	$5,820	$6,588	$5,928	$5,659	$5,759	$5,803	$10,139
2010	$10,987	$11,121	$8,578	$5,769	$5,162	$5,449	$6,177	$5,847	$5,189	$4,905	$5,889	$11,388
2011	$11,655	$11,480	$9,629	$9,154	$5,763	$5,738	$7,347	$6,834	$5,807	$5,467	$7,192	$9,684

Below are line graphs that compare the village's utility usage (in KWH and therms) for 2011 in comparison to 2010, which is the only prior year with usage information available. Moving forward, KWH and therm usage information will be included in the annual reports. Since the cost of energy fluctuates, using only cost comparisons is not an adequate way to determine whether the village is saving energy.

Overall, the entire village's 2011 KWH usage was consistent with usage from 2010, with substantially higher usage showing in the months of July and August 2011. The village's 2011 therm usage was significantly higher than in 2010, except for December 2011, which was a month that experienced unseasonably high temperatures and resulted in less energy (heating) usage.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	54,093	53,287	50,151	50,624	48,161	53,113	60,734	55,461	49,129	48,516	44,407	53,951
2011	50,811	50,774	48,334	53,146	47,330	50,012	67,252	63,245	51,439	47,803	46,083	49,819



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	7613.70	7468.50	4771.90	2270.10	1005.80	347.20	332.90	359.20	295.50	733.70	2636.40	8704.70
2011	8712.80	8290.90	6258.20	5040.90	1596.30	722.40	601.00	549.50	617.50	1220.30	3883.90	6745.30

2011 UTILITY COSTS AND USAGE OF EACH VILLAGE FACILITY

Below are charts and line graphs showing utility costs and energy usage for EACH village-owned facility. By looking at the individual facilities, it's possible to pinpoint which buildings are experiencing unusual energy-usage trends and identify potential problems and opportunities for improvement. The first chart shows the total utility costs and monthly average costs for the village's six major facilities. The following charts show the KWH and therm usage for each of those buildings for 2010 and 2011.

2010 Utility Costs for Village Facilities		
Building	Annual Total Utility Cost	Average Monthly Utility Cost
Public Works	$21,012.56	$1,751.05
Maywood Garage	$2,495.38	$207.95
Village Hall	$38,598.23	$3,216.52
Fire Station #2	$5,494.17	$457.85
Golf Course Garage	$3,213.82	$267.82
Golf Course Clubhouse	$15,646.62	$1,303.89
TOTAL	**$86,460.78**	**$7,205.07**

2011 Utility Costs for Village Facilities		
Building	Annual Total Utility Cost	Average Monthly Utility Cost
Public Works	$26,200.89	$2,183.41
Maywood Garage	$2,717.50	$226.46
Village Hall	$36,507.25	$3,042.27
Fire Station #2	$5,591.19	$465.93
Golf Course Garage	$2,808.10	$234.01
Golf Course Clubhouse	$21,925.27	$1,827.11
TOTAL	**$95,750.20**	**$7,979.18**

PUBLIC WORKS FACILTY ON CORNELL ROAD

MONTH	2010 KWH	2011 KWH	2010 THERMS	2011 THERMS
January	12,080	12,640	3,078	3,710
February	12,160	13,280	2,965	3,926
March	11,040	11,600	1,788	2,942
April	10,080	11,360	351	1,700
May	8,640	10,080	161	311
June	8,720	9,200	106	134
July	9,600	10,240	87	88
August	9,200	10,720	128	93
September	8,480	8,880	80	92
October	8,320	8,400	122	187
November	8,160	8,720	678	835
December	11,920	10,720	3,666	2,193
TOTAL:	**118,400**	**125,840**	**13,209**	**16,210**

The Public Works Building on Cornell Road saw a substantial increase in KWH and therms in 2011 compared to 2010. Geoff may be able to explain possible reasons for the increase.

MAYWOOD GARAGE

MONTH	2010 KWH	2011 KWH	2010 THERMS	2011 THERMS
January	881	935	358	458.2
February	977	607	460	455.6
March	658	678	237	293.2
April	212	514	102	230.5
May	210	388	35	57.2
June	166	376	14	15.1
July	153	402	15	15.1
August	248	472	14.1	15.2
September	154	214	14.1	14.1
October	218	238	23.1	19.2
November	527	766	123.1	127.6
December	773	947	510	320.9
TOTAL:	**5177**	**6537**	**1905.4**	**2021.9**

The Maywood Garage also saw an increase in both KWH and therms used in 2011, compared to 2010, though the increase in therms was minimal.

VILLAGE HALL

MONTH	2010 KWH	2011 KWH	2010 THERMS	2011 THERMS
January	27,920	26,480	2,841.30	3,286.10
February	28,080	26,400	2,777.50	2,818.40
March	27,840	25,040	1,810.90	2,164.60
April	27,520	25,520	1,419.90	1,871.40
May	25,520	20,480	574.40	568.30
June	28,000	20,960	19.20	78.50
July	31,680	30,800	11.10	11.10
August	28,000	28,880	15.10	11.10
September	25,520	24,240	18.10	84.80
October	26,960	23,200	415.10	456.00
November	25,600	22,800	1,281.40	1,541.80
December	29,920	23,520	3,286.10	2,208.20
TOTAL:	**332,560**	**298,320**	**14,470.10**	**15,100.30**

Village Hall saw a substantial drop in the KWH used in 2011 from 2010, and a slight increase in therms.

FIRE STATION #2

MONTH	2010 KWH	2011 KWH	2010 THERMS	2011 THERMS
January	4,692	3,151	541.80	639.40
February	4,091	3,062	498.00	598.80
March	2,657	3,437	396.00	430.70
April	2,052	2,870	173.00	335.70
May	1,458	1,723	47.30	61.20
June	1,152	1,257	3.00	4.00
July	1,011	1,001	3.00	0.00
August	919	909	2.00	0.00
September	1,241	422	2.00	0.00
October	1,526	1,215	19.10	53.60
November	1,742	2,610	329.90	308.00
December	2,880	3,288	679.70	385.30
TOTAL:	**25,421**	**24,945**	**2,694.80**	**2,816.70**

GOLF COURSE GARAGE

MONTH	2010 KWH	2011 KWH	2010 THERMS	2011 THERMS
January	1,827	824	307	219
February	921	824	361	201
March	1,217	1,016	278	207
April	1,021	877	45	242
May	1,173	1,170	1	151
June	1,432	1,200	0	10
July	1,625	1,415	0	0
August	1,506	1,200	0	0
September	1,366	1,023	0	2
October	1,414	942	0	55
November	1,128	417	100.90	160.10
December	835	250	193.80	183.10
TOTAL:	**15,465**	**11,158**	**1,286.40**	**1,428.50**

GOLF COURSE CLUBHOUSE

MONTH	2010 KWH	2011 KWH	2010 THERMS	2011 THERMS
January	6,693	6,781	488.40	400.80
February	7,058	6,601	407.00	291.30
March	6,739	6,563	262.00	220.40
April	9,739	12,005	179.20	662.20
May	11,160	13,489	187.10	447.80
June	13,643	17,019	205.00	480.90
July	16,665	23,394	216.80	486.40
August	15,588	21,064	200.20	430.30
September	12,368	16,660	180.90	424.80
October	10,078	13,808	154.80	449.90
November	7,250	10,770	123.10	911.70
December	7,623	11,094	369.50	1,454.70
TOTAL:	**124,604**	**159,248**	**2,974.00**	**6,661.20**

The Golf Course Clubhouse saw a substantial increase in energy use in 2011. The amount of therms used more than doubled, and the KWH jumped by almost 35,000. This is largely due to Coaches Corner taking over the Village Green Restaurant. The village-owned restaurant only served a Friday fish fry during the golf off-season and was closed the rest of the week. Coaches Corner operates seven days a week. Please note: Coaches Corner pays 100% of the utility bill during the winter months and 80% of the utility bill during the golf season.