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Glossary

Ampere - The unit of measurement of electrical current produced in a circuit by 1 volt acting through a resistance of 1 Ohm.

British thermal unit (Btu) - The quantity of heat required to raise the temperature of 1 pound of liquid water by 1 degree Fahrenheit at the temperature at which water has its greatest density (approximately 39 degrees Fahrenheit).

Cooling degree-day (CDD) - A measure of how warm a location is over a period of time relative to a base temperature, most commonly specified as 65 degrees Fahrenheit. The measure is computed for each day by subtracting the base temperature (65 degrees) from the average of the day's high and low temperatures, with negative values set equal to zero. Each day's cooling degree-days are summed to create a cooling degree-day measure for a specified reference period. Cooling degree-days are used in energy analysis as an indicator of air conditioning energy requirements or use.

Kilowatt - a common metric unit of power, equivalent to 1000 watts.

Heating Degree Day (HDD) – A measure of how cold a location is over a period of time relative to a base temperature, most commonly specified as 65 degrees Fahrenheit. The measure is computed for each day by subtracting the average of the day's high and low temperatures from the base temperature (65 degrees), with negative values set equal to zero. Each day's heating degree-days are summed to create a heating degree-day measure for a specified reference period. Heating degree-days are used in energy analysis as an indicator of space heating energy requirements or use.

ITS – The Department of Information Technology Services.

PAC – President's Advisory Council

Set-Point – A guideline that is established to control the internal temperature of a building. The federal government recommended guidelines for heating and cooling is 68 degrees in the winter, and 78 degrees in the summer. The estimated dollar savings per 1 degree change in set-points is 5%.

Therm - A commercial unit of heat energy. One therm is equal to 100,000 Btu.

Volt - The International System of Units (SI) of electric potential or electromotive force.

Watt – The unit of electrical power equal to one ampere under a pressure of one volt. A watt is equal to 1/746 horsepower.

Source –Energy Information Administration

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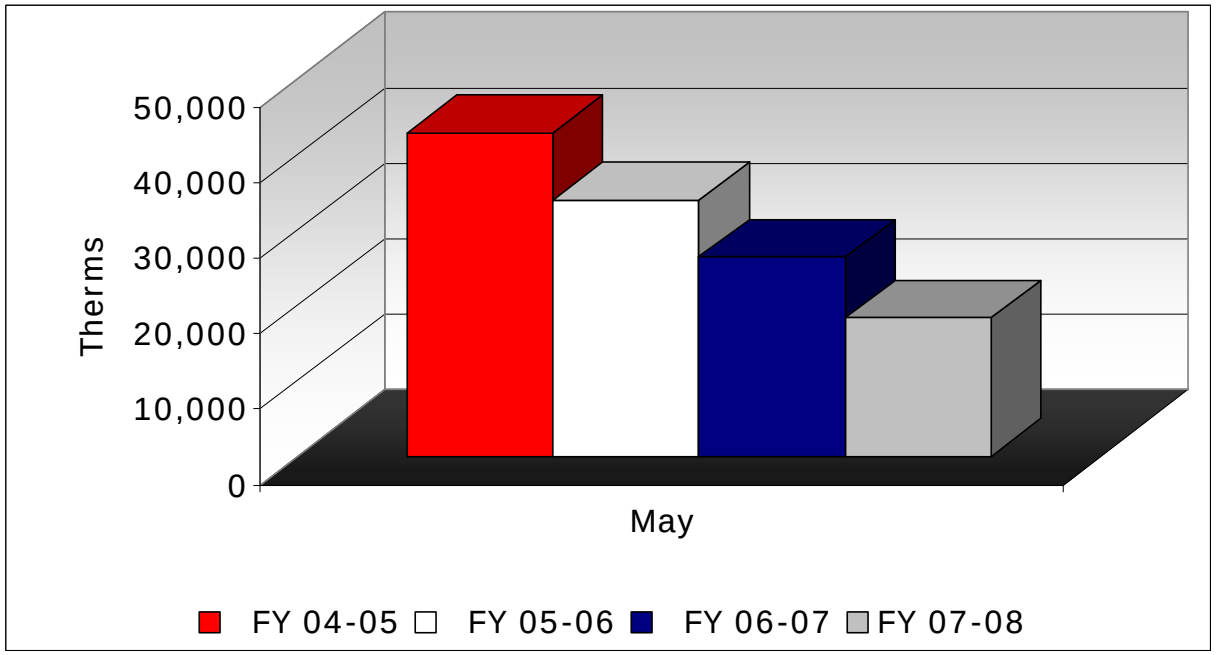
Gas Summary



May	Therm Consumption	Btu Consumption	Btu / ft²	Cost	$ / therm
2008	18,316	1,831,194,988	935.67	$29,521	$1.612
2007	26,406	2,640,014,532	1,348.94	$37,341	$1.414
2006	33,950	3,394,171,431	1,733.58	$44,540	$1.312
2005	42,803	4,279,278,056	2,185.65	$51,815	$1.211

May's natural gas consumption decreased by 31% in comparison to May 07. Overall consumption for FY08 is .25% less than FY07 with a cost savings of 4.5%

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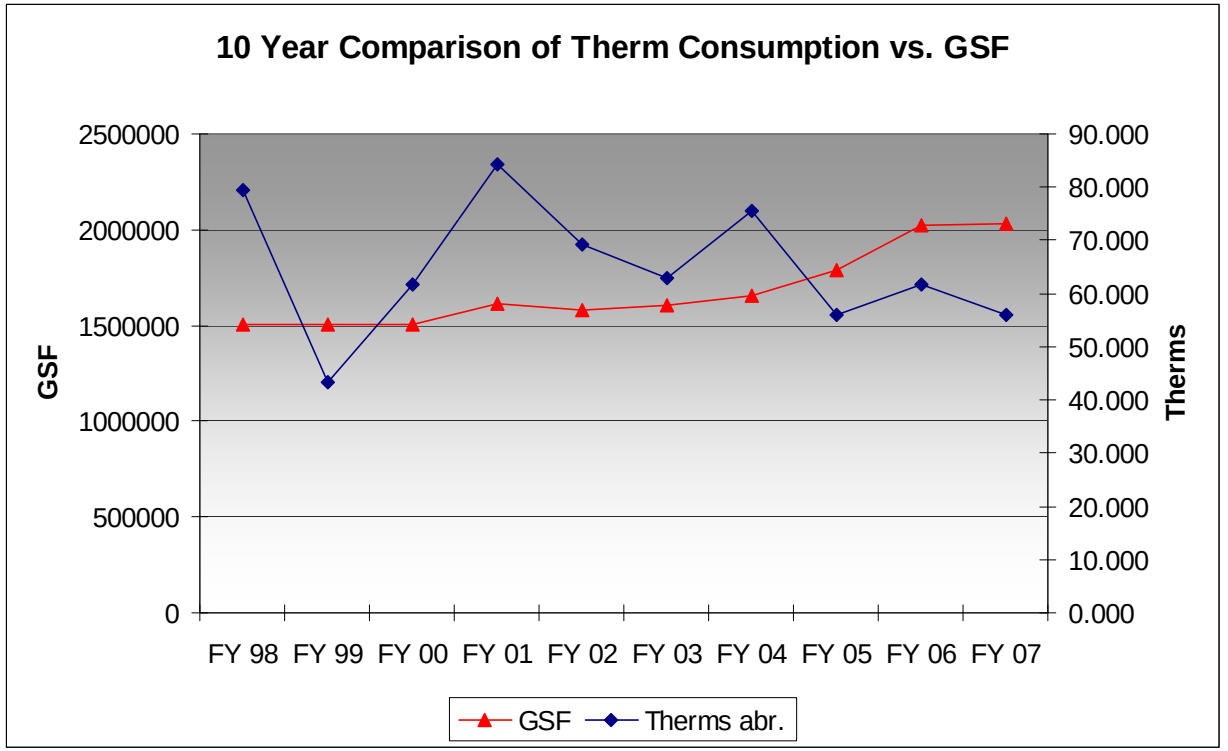
Gas Usage Patterns



Year	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07
GSF	1,507,778	1,507,778	1,507,778	1,614,000	1,581,204	1,605,278	1,653,648	1,787,881	2,022,445	2,035,483
Therms	79.471	43.450	61.716	84.182	69.250	62.899	75.692	55.876	61.823	56.021

*Note: Therms are displayed in abbreviation of hundred thousand

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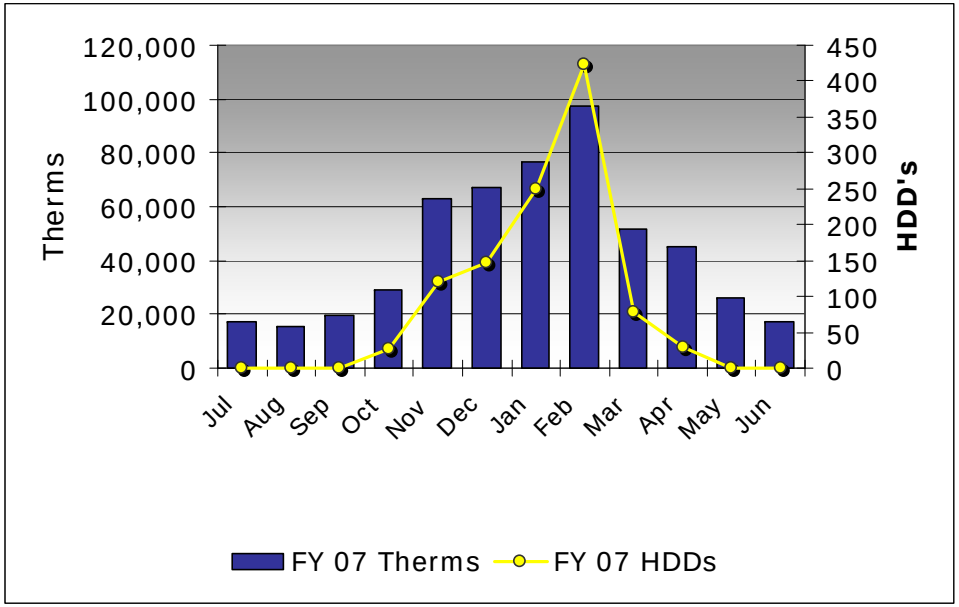
As with electricity, the University of West Georgia's gas consumption is somewhat dependent on weather. While gas has many applications on the campus, such as for water heating, much of the gas used at UWG is for space conditioning.

This graph below shows that during the winter months, when outside temperatures are lowest, UWG's consumption of gas is highest.

Similar to cooling degree days, there is also a measure which relates heating requirements to outside temperature. This measure is "heating degree days," or HDDs. The graph also illustrates how months having more HDDs also have higher gas consumption.



For a variety of reasons, gas usage cannot be estimated using HDDs in the same manner in which CDDs can be used to project electric usage:

- Many months experience zero HDDs
- To maintain proper humidity, air to buildings may require reheating even though air conditioning is being operated, particularly in the spring and fall, thereby increasing gas usage
- Internal heat sources that require additional air conditioning, e.g. lighting and computers, also reduce the amount of heating required

Therefore, even though gas usage tends to increase with lower temperatures, the relationship is not linear, nor is it as stable as the relationship between outside temperature and electricity usage.

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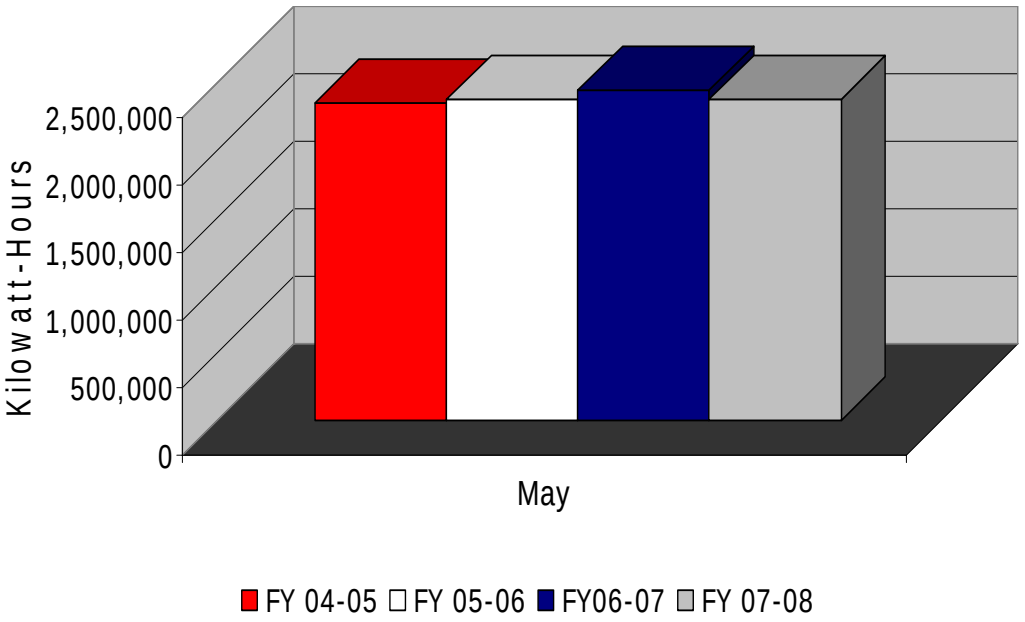
Electricity Summary



May	KWH	Btu Consumption	Btu/ft²	$	Cost		CDDs
2008	2,389,959	8,154,878,598	4,152.24	$168,704	$0.071	per kWh	174
2007	2,449,993	8,359,723,109	4,256.54	$150,534	$0.061	per kWh	248
2006	2,384,365	8,135,791,078	4,155.37	$121,178	$0.051	per kWh	178
2005	2,356,108	8,039,374,192	4,106.12	$109,080	$0.046	per kWh	161

May electricity consumption decreased by 60,034 kWh (2.4%) in comparison to May '07 yet the total cost increased by 12.1%. Overall consumption for FY08 is .3% less than FY07 but electricity costs are 18.1% higher.

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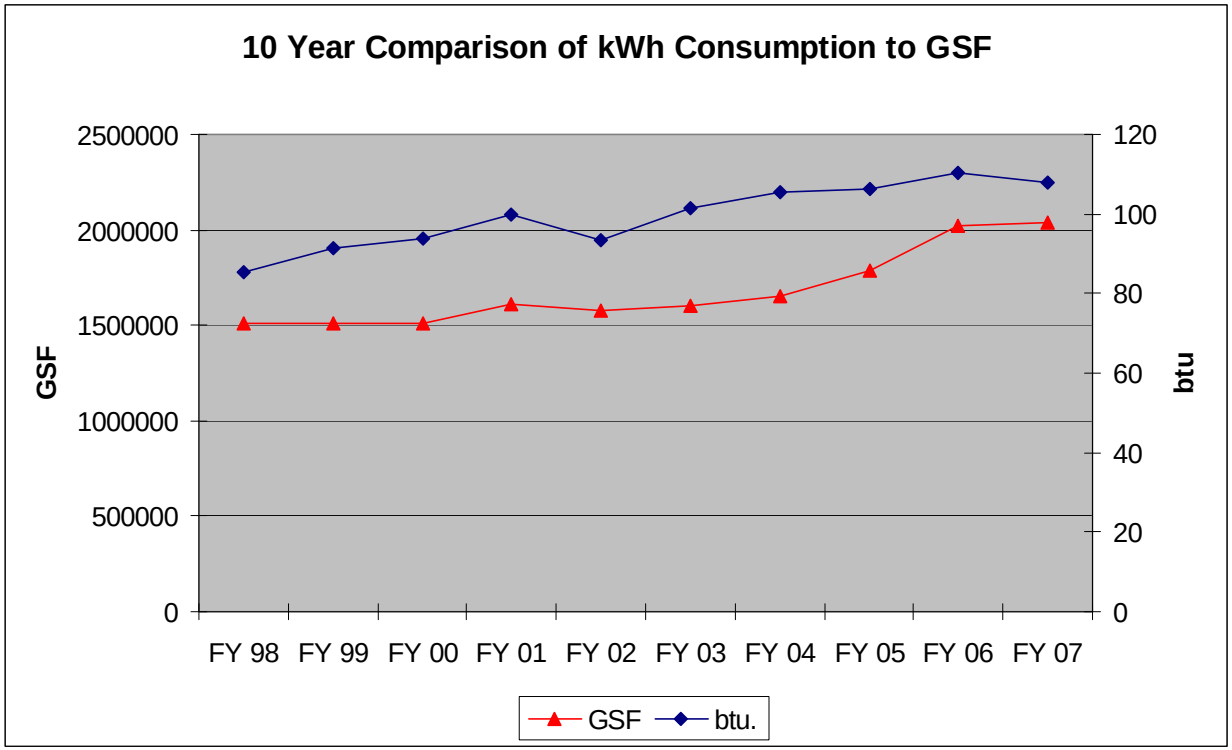
Adjusting Electric Usage for Comparisons



Year	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07
GSF	1,507,778	1,507,778	1,507,778	1,614,000	1,581,204	1,605,278	1,653,648	1,787,881	2,022,445	2,035,483
btu*	85.348	91.238	93.753	99.953	93.343	101.644	105.644	106.298	110.381	107.792

*Note: btu's are displayed in abbreviation of billions

Electric usage to historical data is monitored to determine if energy efficiency measures are being effective and to identify sudden increases in usage. However, direct comparisons to previous months and years are not always adequate because of:

- differences in weather conditions
- the number of days over which bills are calculated
- campus expansions which require additional electricity

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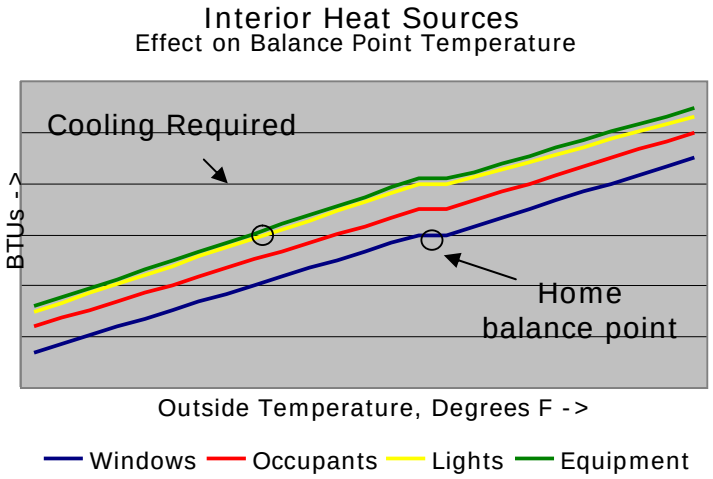
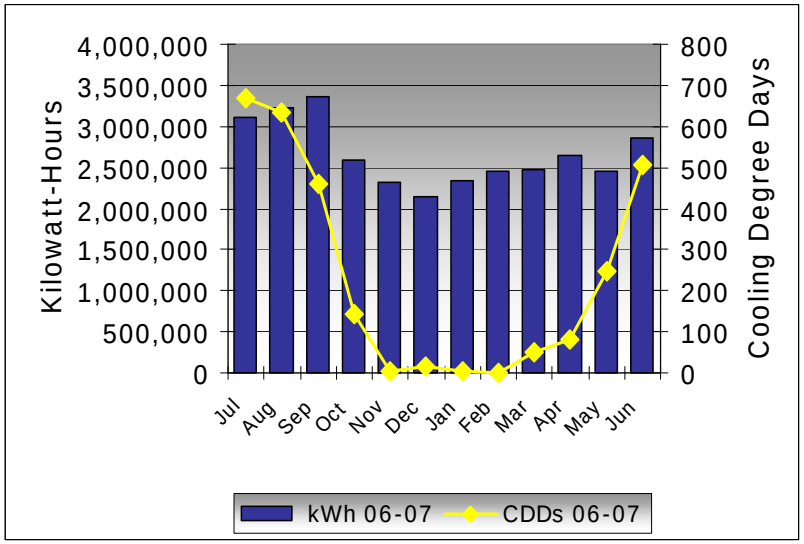
Cooling Degree Days (CDDs)

- A cooling degree day is a unit which relates a day's temperatures to that day's energy demands for air conditioning.
- A building's "balance point" is the temperature at which air conditioning is turned on.
- CDDs are calculated by subtracting a building's balance point (UWG's balance point is 60 °F) from a day's average outside temperature. For example, if the day's high is 90°F and the day's low is 70°F, the day's average is 80°F. Eighty minus 60 is 20 CDDs.
- Cooling degree days can be used to compare the current summer to past summers and to "normalize" energy consumption data.



- The greater the internal heat sources, the lower the balance point, that is, the lower the temperature at which air conditioning is turned on. Home air conditioners are typically turned on at outside temperatures of about 70°F. However, classroom buildings have large internal heat sources from lights, electrical equipment such as computers, and people, requiring air conditioning at lower outside temperatures.



Number of Cold Degree Days

May 2008	174
May 2007	248

The University's electricity consumption is dependent on weather for many months of the year. Air conditioning and fans represent a major use of electricity, so higher temperatures are likely to result in greater electric usage and higher electric bills.

The graph at the left illustrates the relationship between Cooling Degree Days and kWh usage for FY 2007.