



District Energy Report

For period 1/13 through 6/13

Kim Melander

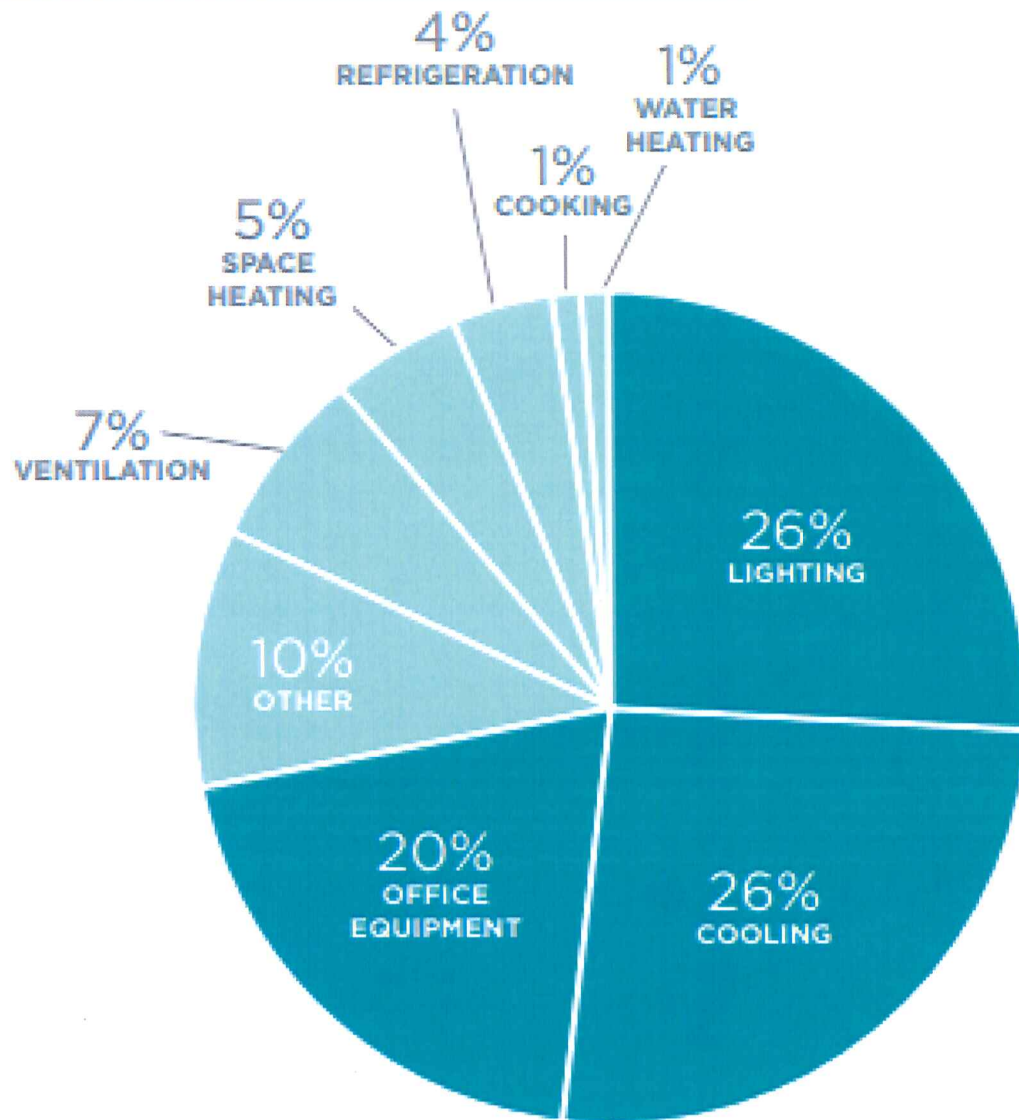
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<http://www.rock-hill.k12.sc.us/departments/energymanagement>

Energy Consumption:

- HVAC = 38%
- Lighting = 26%
- Plug Loads = 20%





EPA estimates that up to 25% is wasted!

- RHSD Energy for 2009 = \$3,991,667.00
- 25% = \$997,916 potentially wasted.
- Saved 28% in 2012 = \$1.25 million.

2009 Estimated Energy Categories

<u>Type</u>	<u>% Total</u>	<u>Cost</u>
HVAC	38%	\$1,516,833
Lighting	26%	\$1,037,833
Plug Loads	20%	\$798,333
Other	16%	\$638,667
Total		\$3,991,667



<http://www.centerforgreenschools.org/resources.aspx>



Jan – Jun 2013

Actual Use and Cost for Base Period Jan - Jun 2009				
Energy Type	Base Use Recorded	Units	Avg Unit Cost	Energy Cost
Electric	17,393,040	kWh	0.1046	\$1,819,806.00
Natural Gas	200,541	Therm	1.2704	\$254,771.00
Total Energy:	79,416,546	kBtu	Total Cost	\$2,074,577.00

Actual Use and Cost With Energy Management Program Jan - Jun 2013				
Energy Type	Current Use Recorded	Units	Avg Unit Cost	
Electric	13,089,355	kWh	0.1183	\$1,548,927.00
Natural Gas	165,782	Therm	0.9765	\$161,888.00
Total Energy:	61,252,169	kBtu	Total Cost	\$1,710,815.00

Energy Saved Jan - Jun 2013 Compared to Base Period				
Energy Type	Base - Current	Units	Percent Saved	Total Cost
Electricity	4,303,685	kWh	24.7%	\$270,879.00
Natural Gas	34,759	Therm	17.3%	\$92,883.00
Total Energy Saved:	18,164,377	kBtu	Unadjusted Account Savings:	\$363,762.00
				17.5%

Cost Avoidance - Without Our Energy Program:

Rates:	Base period consumption at current period rates would be an additional:	\$179,457.00
"Load Creep":	Additional equipment, operating hours and efficiency lost due to age would cost:	\$82,328.00
Weather:	Difference in daily temperatures from 2009-2013 would cost:	(\$135,558.00)

TOTAL COST AVOIDANCE: \$489,988.64
22.3%



Quarterly Savings since Jan. 2010



Energy Efficiency Misconceptions

- 
- Cold in winter
 - Hot in summer
 - Dimly lit room



Sustainable Energy Efficiency Measures

- Economically efficient
- Promotes occupant well being
- Responsive to the environment

**Real energy efficiency in schools
does not take away from safety,
health, security, or comfort.**





Accomplishments:

<u>Project</u>	<u>Cost</u>	<u>Savings/Yr.</u>	<u>PB Yrs.</u>	<u>LC Yrs.</u>	<u>ROI</u>	<u>IRR</u>
Saluda Trail Great Hall Light Upfit	\$26,000	\$4,419	5.9	10	70%	14%
Castle Heights Auditorium Light Upfit	\$12,500	\$1,135	11.0	20	82%	7%
Old Pointe Hall Light Upfit	\$26,000	\$2,848	9.1	20	119%	10%
RHHS Band Room Light Upfit	\$12,000	\$1,441	8.3	30	260%	13%
NWHS Band Room Light Upfit	\$12,000	\$1,441	8.3	30	260%	13%
Total	\$88,500	\$11,284				
Average	\$17,700	\$2,257	8.5	22	158%	12%

Planned:

- RHHS chiller replacement. High efficiency unit will save over \$250k in utility costs.
- Black-out lighting. Interior lights off when the building security system is armed.
- Efficient lighting upgrades for RHHS and NHS Gyms. Replace 1500 Watt fixtures with 600W. Expected bulb life of 25 years.
- Exterior lighting controls enhancements - RHHS and NHS. Currently operating on limited time clock controllers.
- (BAS) Building Automation System at Transportation center.
- HVAC control enhancements to improve efficiency and comfort levels.

Green Apple Award

Certificate of Appreciation to:



Castle Heights
MIDDLE SCHOOL

89% of the spaces we visited earned this awarded

This certificate is awarded for conserving energy by turning off, unplugging and disconnecting power consuming appliances and devices during nights, weekends and holidays.

Tuesday, October 8, 2013

in recognition of valuable contributions to:



Thank you for your support!

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For Rock Hill:

- Citizens!
- Non-Profit Orgs!
- Businesses!
- Churches!
- Anyone with a meter and a bill!



Welcome to GreenQuest A free service of Rock Hill Schools!

In today's world of rising energy prices and global concerns for the environment and sustainability, there's never been a better time to get a handle on your energy usage and cost. The old adage "What gets measured, gets managed" is very true, and your first step towards energy efficiency and cost savings is to simply track your bills. GreenQuest, your personal energy information website, does that and much more!

Start by entering your energy and water bills. From there, GreenQuest does all the work! You'll see how you compare with other similar users in your area, spot costly utility bill errors, get an accurate carbon footprint... even learn how much of an impact the weather has on your electricity and fuel consumption. As GreenQuest brings your boring utility bill data to life, don't be surprised if a few money and environment-savings ideas sprout up!

We are dedicated to helping our customers conserve energy, save money, and sustain a clean environment. We encourage you to start using GreenQuest today and see firsthand how your energy use measures up and, more importantly, how your efforts to conserve really do pay off.

GREENQUEST

free energy tracking
for your household
or building



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GreenQuest™ Benefits:

- Analyze energy use and cost for multiple years.
- Compare energy use to similar buildings or homes within your local geographic region.
- Track greenhouse gas emissions quickly & easily.
- View weather data from AccuWeather.com to learn if weather affects your energy use.
- See the results of your energy conservation efforts on easy-to-read charts and graphs.
- Motivate and educate family members or co-workers by sharing your GreenQuest data.
- Submit your commercial building data to ENERGY STAR® to receive an official energy rating.



Helpful Links:

- US Green Building Council <http://www.usgbc.org/>
- USGBC Center for Green Schools <http://www.centerforgreenschools.org/home.aspx>
- EPA Energy Star <http://www.energystar.gov/>
- International Organization for Standardization, Energy Management <http://www.iso.org/iso/home/standards/management-standards/iso50001.htm>
- South Carolina Energy Office <http://www.energy.sc.gov/>
- Association of South Carolina Energy Managers <http://www.energy.sc.gov/ascem>



USGBC

THE CENTER
FOR GREEN SCHOOLS

