

Energy Data Management

Past Year Accomplishments	Measurement	Savings Actual or Calculated	Cost	Funding Source
KPI data updated.	Yearly.		8 manhours.	
Update utility data and charts posted on UNCG website for energy.	Yearly.		8 manhours.	
Future Planned Activities	Measurement	Savings Estimated	Cost	Funding Source
Connect individual building electric meters to DDC system to track energy usage with new Tridium software system.	Monthly.		\$10,000 per building.	R&R funds.
Update KPI data.	Semi-annually.		8 manhours.	
Update utility data and charts posted on UNCG website for energy.	Yearly.		8 manhours.	
Replace and/or install new electric sub-meters in core campus buildings.	Monthly.		\$300,000	Bond funds.

Energy Supply Management

Past Year Accomplishments	Measurement	Savings Actual or Calculated	Cost	Funding Source
Work with electric utility to perform rate analysis.	Yearly.	\$500,000	8-16 manhours.	
Sub-meter irrigation and cooling towers to receive non-sewer water credits from City of Greensboro.	Read meters and report data to City monthly.	532,600 gallons of avoided water cost.	8 manhours per month.	
Work with natural gas marketer to purchase gas on wholesale market. Marketer negotiates interstate and local transportation costs.	Quarterly.	~5%		Utility Budget.
Future Planned Activities	Measurement	Savings Estimated	Cost	Funding Source
Work with electric utility to perform rate analysis.	Yearly.	~\$500,000.	Unknown.	
Continue to sub-meter irrigation and cooling towers to receive non-sewer water credits from City of Greensboro.	Read meters and report data to City monthly.	~1 million gallons of avoided water cost.	8 manhours per month.	
Work with electric utility to verify non-metered accounts such as parking lot lighting, etc.	Semi-annually.		~8 to 40 manhours.	
Continue to work with natural gas marketer to get the lowest gas rates possible.	Quarterly.			Utility Budget.
Replace older meters with new, electronic meters capable of connecting to energy management system.	Monthly.		\$10,000 per building.	R&R funds.
Replace 50-70 year old steam and condensate underground distribution piping from steam plant throughout campus.			~\$10-20,000,000	R&R funds.

Energy Use in Facilities

Past Year Accomplishments	Measurement	Savings Actual or Calculated	Cost	Funding Source
Performance Contract for four campus buildings and main chiller plant.	Annual.	~\$500,000 per year for 12 years.	~\$500,000 per year for 12 years.	Utility Budget (Performance Contract)
Lower hot water system enable setpoint used for building reheat.	Quarterly.		8 manhours.	
Lower condenser water setpoint for McIver Street Chiller Plant.	Quarterly.		8 manhours.	
Re-Commission HVAC Controls of Music Building.	Quarterly.		\$50,000	
Future Planned Activities	Measurement	Savings Estimated	Cost	Funding Source
Continue to upgrade DDC control system in conjunction with renovation projects.				R&R funds.
Continue to seek low/no cost ways to improve utility operations system.	Annual.			Utility Budget.
Continue to establish a commissioning/re-commissioning/retro-commissioning program.	Annual.	~5-25% energy per building.	\$50,000 per building.	R&R funds.
Benchmark energy usage in campus buildings and rank.	Annual.			

Equipment Efficiency

Past Year Accomplishments	Measurement	Savings Actual or Calculated	Cost	Funding Source
Performance Contract for four campus buildings and main chiller plant. (Completed construction in September 2008)				
Replace individual building chiller in Ferguson Building and connect to main chiller plant.			\$150,000	R&R Funds.
Future Planned Activities	Measurement	Savings Estimated	Cost	Funding Source
Boiler tune-up.	Annual.		\$5,000	O&M funds.
Upgrade and improve preventative maintenance program to include energy comparison and benchmarking of all facilities.	Quarterly.			R&R Funds.
Replace failed motors with high efficiency motors, and if possible, install a VFD.				O&M funds.
Replace exit signs with LED signs in renovation projects.				R&R Funds.
Install occupancy sensors in office renovation projects.				R&R Funds.
Install electronic ballasts and T8 lamps in renovation projects.				R&R Funds.
Install water-side economizer at Jackson Library chiller plant.			\$75,000	R&R Funds.

Organization Integration

Past Year Accomplishments	Measurement	Savings Actual or Calculated	Cost	Funding Source
Organized a University Committee on Sustainability with working groups for Dining Services, Health & Safety, Green Building, Transportation & Campus Access, Academics & Culture, Communication & Outreach, and Grounds Management.	Quarterly meetings.			
Update Energy Mandate.	Annual.			
Future Planned Activities	Measurement	Savings Estimated	Cost	Funding Source
Establish a new Energy & Climate working group for University Committee on Sustainability.	Quarterly meetings.			
Update Energy Mandate.	Annual.			
Attend Energy Conference sponsored by SEO.	Annual.			
Continue to participate in monthly USI meetings sponsored by SEO.	Monthly.			

Water Management

Past Year Accomplishments	Measurement	Savings Actual or Calculated	Cost	Funding Source
Implement education awareness program for faculty, staff, and students.	Quarterly meetings.		OWRR & Energy Manager staff salaries.	
Install low flow flush devices, low flow faucets, and building water meters for buildings undergoing total renovation.				Bond project.
Sub-meter irrigation and cooling towers to receive non-sewer water credits from City of Greensboro.	Monthly.	532,600 gallons of avoided water cost.	8 manhours per month.	
Future Planned Activities	Measurement	Savings Estimated	Cost	Funding Source
Implement education awareness program for faculty, staff, and students.	Quarterly meetings.		OWRR & Energy Manager staff salaries.	
Install low flow flush devices, low flow faucets, and new water meters for buildings undergoing total renovation.				Bond project.
Sub-meter irrigation and cooling towers to receive non-sewer water credits from City of Greensboro.	Monthly.	~0.5 million gallons of avoided water cost.	8 manhours per month.	
Upgrade water meters for automated metering or purchase new software system for better evaluating water usage data.			\$10,000 per building.	R&R funds or include with Capital Projects.