



North Carolina Department of Environment and Natural Resources

MEMORANDUM

TO: The Joint Legislative Commission on Governmental Operations

FROM: J. Neal Robbins
Director of Legislative and Intergovernmental Affairs

SUBJECT: 2013 Utility Savings Initiative (USI) Annual Report

DATE: November 1, 2013

Attached for your information is the Department of Environment and Natural Resources report on the Utility Savings Initiative. This report is provided to you pursuant to § 143-64.12, which states: "(j) The State Energy Office shall submit a report by December 1 of each year to the Joint Legislative Commission on Governmental Operations describing the comprehensive program to manage energy, water, and other utility use for state agencies and state institutions of higher learning required by subsection (a) of this section. The report shall also contain the following:

- (1) A comprehensive overview of how state agencies and state institutions of higher learning are managing energy, water, and other utility use and achieving efficiency gains.
- (2) Any new measures that could be taken by state agencies and state institutions of higher learning to achieve greater efficiency gains, including any changes in general law that might be needed.
- (3) A summary of the state agency and state institutions of higher learning management plans required by subsection (a) of this section and the energy audits required by subsection (b1) of this section.
- (4) A list of the state agencies and state institutions of higher learning that did and did not submit management plans required by subsection (a) of this section and a list of the state agencies and state institutions of higher learning that received an energy audit.
- (5) Any recommendations on how management plans can be better managed and implemented." The attached study report is submitted to fulfill this requirement.

If you have any questions or need additional information, please contact me by phone at 919.707.8618 or via e-mail at neal.robbs@ncdenr.gov.

cc: John E. Skvarla, III, Secretary, NC DENR
Joe Harwood, Ombudsman, NC DENR

Mitch Gillespie, Assistant Secretary for Environment, NC DENR
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Department of Administration State Construction Office

**Annual Report for the Utility Savings Initiative
for
Fiscal Year July 1, 2012 – June 30, 2013**

Citation of Law or Resolution:	GS: 143-64.12
Section Number:	Section J
Due Date:	Dec. 1, 2013
Submission Date:	November 1, 2013

Receiving Entities:

The Joint Legislative Commission on Governmental Operations

Submitting Entity:

Division of Environmental Assistance and Customer Service – Utility Savings Initiative (USI) [Formerly within the State Energy Office, NC Department of Commerce]
Department of Environment and Natural Resources

ANNUAL REPORT FOR THE UTILITY SAVINGS INITIATIVE FOR FISCAL YEAR 2012-13

EXECUTIVE SUMMARY:

The Utility Savings Initiative (USI) is North Carolina's comprehensive, lead-by-example program to manage utility consumption and costs in the public sector. For fiscal year 2012-13, total utility expenditures for state agencies and UNC institutions were more than \$330 million dollars. Had the Utility Savings Initiative not been in place to control expenditures, taxpayers would have paid an additional \$114 million for utilities. These state facilities avoided emitting an additional 431,211 metric tons of carbon dioxide air emissions as a result of their energy use reductions.

State agencies and universities have a goal to reduce energy consumption by 30 percent by 2015 based on the 2002-03 fiscal year. Through fiscal year 2012-13, state facilities have reported an energy use reduction, based on an energy use per square foot basis, of 26 percent.

One important strategy used by state units to achieve energy savings is through Energy Saving Performance Contracting, which is overseen by the USI program. This year, the state invested \$27.9 million in performance contracts, financed through private banks that upgraded facilities to better manage energy use.

The primary responsibility of the Utility Savings Initiative is to coordinate and support the activities of the state agencies and UNC system institutions to manage and reduce utility consumption and costs. USI services are now available to all public sectors: state agencies, UNC institutions, community colleges, K-12 public schools, county governments and municipal governments. These services include communication and training, preliminary energy audits, data collection and analysis, assistance to participants with their energy plan implementation and overseeing the Energy Performance Contracting process.

During the 2013 legislative session, the State Energy Office and its USI program was moved from the Department of Commerce to the Department of Environment and Natural Resources (DENR). The USI program is now managed by DENR's Division of Environmental Assistance and Customer Service (DEACS). Today, a six-person staff oversees implementation of the program through the execution of the USI Strategic Energy Plan included at the end of this document.

Recommendations: Program improvements and legislative recommendations are provided that: 1) explore the creation of an incentive based system to encourage continual improvement of utility management programs as use reduction goals are achieved, 2) allow available grants and utility rebates to be used within the performance contracting process and 3) expand the UNC system's current ability to carry forward energy cost savings to also include state agencies. Carry forward savings could be used to finance additional energy saving measures and other projects in subsequent years.

Since the USI program began in fiscal year 2002-03, a total investment of approximately \$12.6 million in state appropriated funds, to support program operations, has produced more than \$665 million in avoided utility costs for North Carolina's state agencies and universities.

STATUTORY BASIS:

§ 143-64.10. Findings; policy...

(6) That state government shall undertake a program to reduce the use of energy, water, and other utilities in state facilities and facilities of the state institutions of higher learning and equipment in those facilities in order to provide its citizens with an example of energy use, water use, and utility use efficiency.

§ 143-64.12. Authority and duties of the Department; State agencies and State institutions of higher learning.

(a) The Department of Commerce through the State Energy Office shall develop a comprehensive program to manage energy, water, and other utility use for state agencies and state institutions of higher learning and shall update this program annually. Each state agency and state institution of higher learning shall develop and implement a management plan that is consistent with the state's comprehensive program under this subsection to manage energy, water, and other utility use. The energy consumption per gross square foot for all state buildings in total shall be reduced by 20 percent by 2010 and 30 percent by 2015, based on energy consumption for the 2002-2003 fiscal year. Each state agency and state institution of higher learning shall update its management plan annually and include strategies for supporting the energy consumption reduction requirements under this subsection. Each community college shall submit to the State Energy Office an annual written report of utility consumption and costs.

HISTORY:

In September 2001, the General Assembly enacted N.C.G.S. 143-64 requiring each state agency and university to develop and implement an energy management plan. In February 2002, The Governor's Commission to Promote Government Efficiency and Savings on State Spending was created. Flowing out of the work of the commission, in July 2002, the initiative was launched to fulfill the requirements established in G.S. 143-64.

USI's primary responsibility is to coordinate and support the activities of the state agencies and UNC system institutions to manage and reduce utility consumption and cost. Our services are now available to all public sectors: state agencies, UNC institutions, community colleges, K-12 public schools, county governments and municipal governments. These services are provided by a six-person staff oversees implementation of the program through the execution of the USI Strategic Energy Plan included at the end of this document.

AGENCY STATUS:

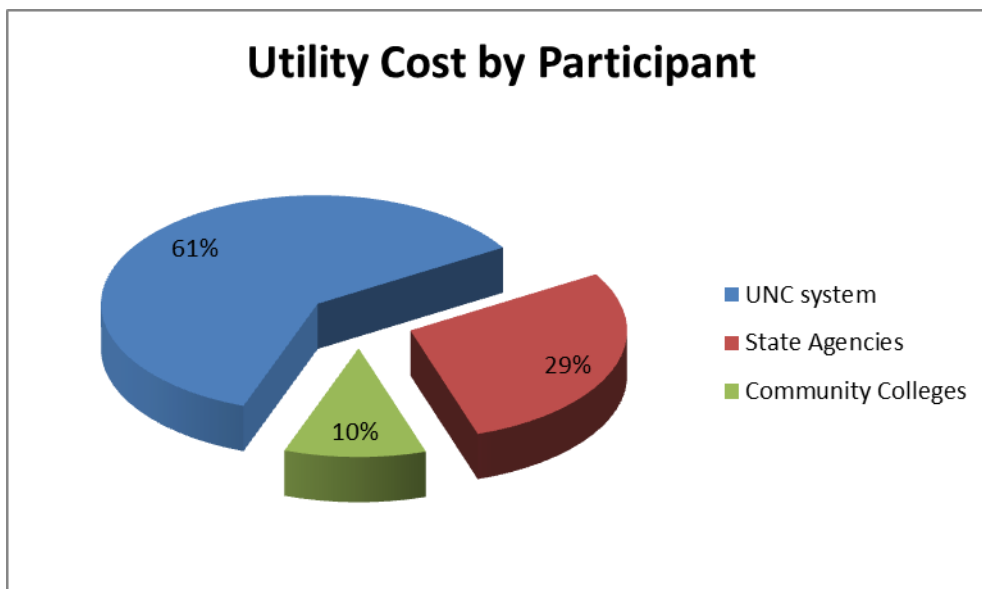
As of July 1, 2013, the General Assembly moved the State Energy Office from the Department of Commerce into DENR. The USI section has been placed in DEACS working under the direction of Waste Reduction Partners (WRP). A key focus area has been added to the USI strategic plan outlining activities for the coming year to integrate NCDEACS, WRP and USI functions.

Due to departmental reorganizations, there are now 14 state agencies and 21 UNC institutions required to submit an annual update to their strategic energy plan, and their annual consumption and cost report. The 58 community colleges are only required to submit consumption and cost reports.

UTILITY MANAGEMENT COSTS AND TRENDS:

During fiscal year 2012-13, state agencies, universities and community colleges spent \$371 million on energy and water-related utilities costs. While state buildings have been making significant strides in energy use reduction, total utility expenditures have been increasing at approximately 3.6 percent per year due to the increasing unit cost of energy and water utilities, facilities expansions and new construction.

More than 50 percent of these utility costs are for electricity purchases. Water and steam costs are the second and third highest utility cost categories for state facilities. See Chart 1 in the appendix for a breakdown of all utilities procured.



Participant	Amount	Percent
UNC system	\$224,291,905	61%
State Agencies	\$105,727,612	29%
Community Colleges	\$41,164,806	10%
Total Dollars	\$371,184,322	

During the past 10 years, state buildings have experienced a 42 percent increase in the unit cost of energy. The unit cost of water and sewer utilities have risen by 141 percent over the same period for state agencies and universities (see Graphs 2 and 3 in Appendix).

ENERGY AND WATER EFFICIENCY ACHIEVEMENTS AND AVOIDED EXPENDITURES

State agencies and universities have a goal to reduce energy usage, on a per square foot basis, by 30 percent by the 2015 based on the fiscal year 2002-03. Through fiscal year 2012-13, state agencies and universities report a 26 percent reduction in energy use on a per square foot basis. This reduction has helped state buildings avoid nearly \$102 million in energy expenditures during FY2012-13. Over a 10-year period since the start of the Utility Saving Initiative, the accumulative avoided expenditures for energy are \$598 million. Thus, alternatively stated, if the USI program was not in place, the state would have paid an additional \$598 million in energy utility costs. State agency and universities are on track to meet the state's 30 percent reduction goal if state programs continue the same level for activity to reduce energy use and vigilance to control cost (see Graph 4 in Appendix).

energy evaluation for agencies and universities						
year	energy \$ avoided	energy \$/gross square foot	\$/million Btu	\$/million Btu %change	Btu/square foot	Btu/square foot %change
2002-03		\$2.06	\$12.58		164,109	
2003-04	\$26,194,202	\$1.89	\$13.15	5%	143,622	-12%
2004-05	\$27,833,735	\$2.00	\$13.85	10%	144,354	-12%
2005-06	\$39,366,947	\$2.27	\$16.05	28%	141,380	-14%
2006-07	\$43,247,249	\$2.19	\$15.70	25%	139,258	-15%
2007-08	\$59,558,326	\$2.34	\$17.35	38%	134,571	-18%
2008-09	\$55,207,761	\$2.43	\$17.64	40%	137,832	-16%
2009-10	\$61,539,754	\$2.39	\$17.64	40%	135,375	-18%
2010-11	\$77,033,141	\$2.31	\$17.86	42%	129,582	-21%
2011-12	\$106,139,126	\$2.20	\$18.43	47%	119,493	-27%
2012-13	\$101,973,172	\$2.16	\$17.86	42%	120,991	-26%
2013-14	\$0	\$0.00	\$0.00	0%	0	0%
2014-15	\$0	\$0.00	\$0.00	0%	0	0%
2015-16	\$0	\$0.00	\$0.00	0%	0	0%
2016-17	\$0	\$0.00	\$0.00	0%	0	0%
2017-18	\$0	\$0.00	\$0.00	0%	0	0%
2018-19	\$0	\$0.00	\$0.00	0%	0	0%
2019-20	\$0	\$0.00	\$0.00	0%	0	0%
	\$598,093,412	Total Avoided Energy Costs				

Btu = British thermal unit

State agencies and universities have reduced water usage, on a per square foot basis, by 22 percent since the start of the USI program. Accumulative avoided expenditures equate to \$67 million over the program's 10-year history. The following chart shows annual water/sewer costs, unit costs and use reductions. Graph 5 in the Appendix show historical trends.

water/sewer evaluation					
year	water \$ avoided	\$/kgal	\$/kgal %change	gal/sf	gal/sf %change
2002-03		\$3.60		48.89	
2003-04	-\$13,294	\$4.99	39%	48.92	0%
2004-05	-\$1,550,244	\$4.87	35%	52.02	6%
2005-06	-\$208,934	\$5.03	40%	49.27	1%
2006-07	\$4,116,690	\$6.35	76%	43.04	-12%
2007-08	\$5,751,424	\$6.71	87%	41.51	-15%
2008-09	\$8,174,739	\$7.36	105%	39.57	-19%
2009-10	\$10,921,583	\$8.27	130%	38.01	-22%
2010-11	\$12,938,522	\$8.96	149%	37.33	-24%
2011-12	\$14,892,863	\$9.49	164%	36.73	-25%
2012-13	\$12,273,255	\$8.68	141%	38.20	-22%
2013-14	\$0	\$0.00	0%	0.00	0%
2014-15	\$0	\$0.00	0%	0.00	0%
2015-16	\$0	\$0.00	0%	0.00	0%
2016-14	\$0	\$0.00	0%	0.00	0%
2017-18	\$0	\$0.00	0%	0.00	0%
2018-19	\$0	\$0.00	0%	0.00	0%
2019-20	\$0	\$0.00	0%	0.00	0%
\$67,296,603		Total Water Costs Avoided			

Total avoided energy and water costs are \$114 million for fiscal year 2012-13 and \$665 million over the 10-year history of the program.

Summary of Avoided Costs for Agencies and Universities

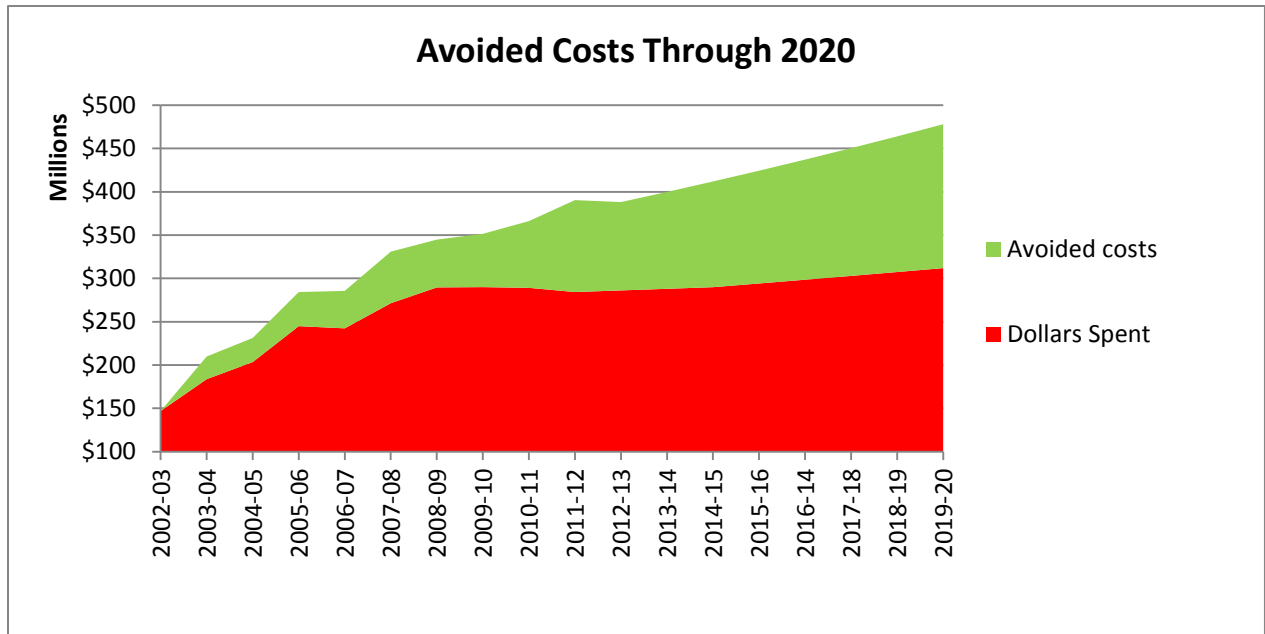
\$598,093,412	Total Energy Costs Avoided
\$67,296,603	Total Water Costs Avoided
\$665,390,015	Total Utility Costs Avoided

The \$665 million in avoid expenditures was realized from an investment of approximately \$12.6 million in state appropriated funds which have supported the Utility Savings Initiative since fiscal year 2002-03. Over the years the USI program also has received partial support funding from the US Department of Energy. This return on investment for state appropriate funds is 53 to 1.

Future Utility Costs and Avoidance Projection

The USI program projects that through the year 2020, total (accumulative) avoided utility expenditures of the state will approach \$1.57 billion. Total annual utility costs for state facilities are expected to surpass \$450 million by the year 2020.

The below projections show a 30 percent reduction by 2015 (statutory requirement) and 35 percent reduction by 2020. Authors assume a 2 percent increase per year in energy cost, a 1.5 percent decrease per year in energy intensity (Btu/square foot) and 1 percent increase in gross square feet of facility space.



Air Emission Reductions: Energy use reductions have the added environmental benefit of reducing or avoiding air emissions. These state facilities avoided emitting an additional 431,211 metric tons of carbon dioxide air emissions as a result of their energy use reductions reported through FY2012-13. See Chart 6 in the Appendix for total state facility carbon dioxide emissions and avoided tonnages.

PARTICIPANT PERFORMANCE:

The state is required to report which agencies and universities have complied with the annual submission of utility consumption and cost, as well as their submissions of an annually updated strategic energy plan.

State Agencies: All 14 state agencies, except for the N.C. Department of Agriculture and Consumer Services, have submitted utility data and updated energy plans for the fiscal year 2012-13. See Appendix Chart 7 for a complete list.

The reorganization of the state departments of Public Safety, Environment and Natural Resources, Agriculture and Consumer Services and Transportation along with moving the schools for the deaf into the N.C. Department of Public Instruction has reduced the number of agencies to 14. The USI team continues to work closely with those agencies affected by the reorganization to make sure all reporting remains accurate and meets the requirements of the consolidated departments.

Universities: Twenty-one University of North Carolina institutions participate in the Utility Savings Initiative program. All have submitted utility data and an energy plan for FY2012-13. The 21 institutions include the 16 university campuses, UNC Hospital, UNC General Administration, the School of Science and Mathematics, UNC TV and the N.C. Arboretum. See Appendix Chart 8 for complete list.

Community Colleges: Beginning with the 2007-08 fiscal year, community colleges were required to submit annual energy consumption and cost reports to the State Energy Office. Unlike state agencies, community colleges do not have the reduction target. This year, 54 of the 58 community colleges submitted reports. For the previous four years, there had been 100 percent participation. However, there were numerous personnel changes at some of the community colleges that contributed to not achieving 100 percent submissions this past year. The USI team will concentrate on helping all community colleges stay active in their energy management and data tracking programs. Chart 9 in the Appendix shows the list of community colleges participating in the Utility Savings Initiative program.

Appendix Charts 10 and 11 illustrate the performance of individual state agency and universities in terms of energy use per square foot compared to their percentage of energy reductions already achieved.

ACTIVITIES OF THE UTILITY SAVINGS INITIATIVE:

The technical staff of the Utility Saving Initiative provide two main functions: 1) provide technical assistance to state and public agencies to reduce energy consumption while achieving cost savings and cost avoidance and 2) assist, review, oversee and report large public facility upgrade contracts through performance contracting which saves energy. USI services include training, preliminary energy audits, strategic energy plan creation, data collection and analysis, energy project identification and implementation assistance. The following chart shows the quantifiable activities of the program staff for the year.

USI Team Activities for 2012-13			
Strategic Energy Plan assistance	65	Preliminary energy audits	64
Standard USI visits	272	Workshops / presentations	79
Performance Contract assistance	247	Focus group meetings	29
Technical assistance	108		
Total Site Visits 864			
Total Counties visited 67			

Better Buildings Challenge: In April 2012, the N.C. Energy Office joined the U.S. Department of Energy’s (DOE) Better Buildings Challenge, a voluntary program to improve building energy efficiency. This commitment is complementary to our USI objectives and provides a stretch goal for state agencies and other public facilities. The challenge is for existing buildings to reduce energy consumption 20 percent from a 2008-09 baseline by the year 2019-20. State buildings are currently at a 12 percent reduction as calculated from the DOE baseline of 2008-09.

Improving Utility Data Management: To facilitate the collection and analysis of monthly data, USI is providing assistance to any participant that wishes to use the EPA's Portfolio Manager utility data collection tool. Currently, 12 community colleges, eight K-12 public schools, four local governments and one university are using this tool and sharing their data with the State Energy Office.

Small Performance Contracting Pilot Project: The DOE awarded a competitive grant to the State Energy Office to simplify our performance contracting process and documents to make the implementation of small contracts practical. The USI team is responsible for the execution of these tasks.

Local Government Assistance: K-12 public schools, county governments and municipal governments have no statutory reporting requirements under the Utility Savings Initiative. However, USI services are available to assist them with managing their utility consumption and costs, identifying energy conservation measures and implementing performance contracts. An increased number of local governmental units are using performance contracting to fund capital improvements. USI was recently awarded a U.S. Department of Energy grant to identify and remove the barriers preventing smaller governmental units from participating in performance contracting. USI has a statutory requirement to review and comment on all local government performance contracts prior to LGC approval. USI continues to be approached by local governmental units to assess whether they are candidates for performance contracting and to assist them through the process.

UNC Energy Leadership Challenge: The Appalachian Energy Summit was the inaugural event with representatives from all the UNC System institutions and affiliates in attendance. The focus of this event was to foster dialogue and share best practices among participants with an emphasis on meeting their statutory requirements and establishing stretch goals that will extend beyond 2015.

The USI team has developed a strong collaboration with UNC General Administration. Through this collaboration, USI will continue to support all UNC institutions and affiliates with their efforts to effectively manage their energy consumption and costs.

Utility Savings Initiative Strategic Plan for 2013-14: The Utility Savings Initiative Strategic Energy Plan (found in the Appendix) lays out strategies to reach our 2015 legislative requirements and the 2020 Better Buildings Challenge commitment. Specific annual activities are detailed to be employed to accomplish these goals. The key focus area of the plan include: 1) Communication and Training, 2) Participant Plan Implementation, 3) Performance Contracting Assistance and Oversight and 4) USI Integration into Division of Environmental Assistance and Customer Service with Waste Reduction Partners.

RECOMMENDATIONS FOR IMPROVEMENT:

1. Explore incentive-based strategies to encourage the continual improvement of utility management across all state and public buildings to sustain energy saving activities after the 2015, 30 percent goal is met.

Explanation: The USI program support for state and local government buildings has shown tremendous benefit in controlling utility costs. Most agencies can continue to reduce energy use

beyond 30 percent. Continual improvement on energy and water efficiency strategies is further justified by the increasing unit cost of energy, water and sewer costs.

2. Allow the public facilities to use utility rebates, grant funds or other local funds in the performance contracting process.

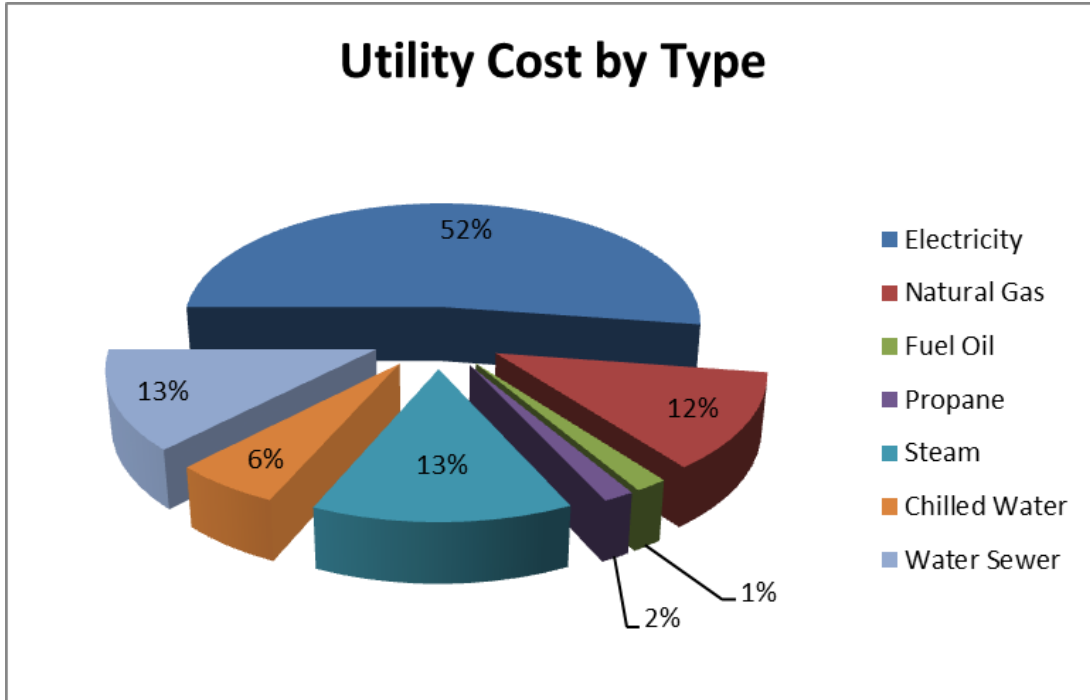
Explanation: Energy Saving Performance Contracts are a significant opportunity for public facility to invest in facility upgrades and energy saving projects with a guaranteed utility cost savings. Traditionally, the state treasurer, who must approval all performance contract projects, has not allowed local funds, public utility rebates or grant funds to be included in the financial balance sheet to reduce the total cost of the project. By allowing secure monetary match within the financial approach, additional facility upgrades and energy savings can be accomplished under the terms and guarantees of the project.

3. Expand the current state authorization of UNC system, to carry forward documented energy savings, to state agencies. Universities can carry over energy project cost savings into the subsequent years to finance additional energy savings measures and other projects.

State agencies should be afforded the same opportunities to retain the savings achieved through energy efficiency measures and investments.

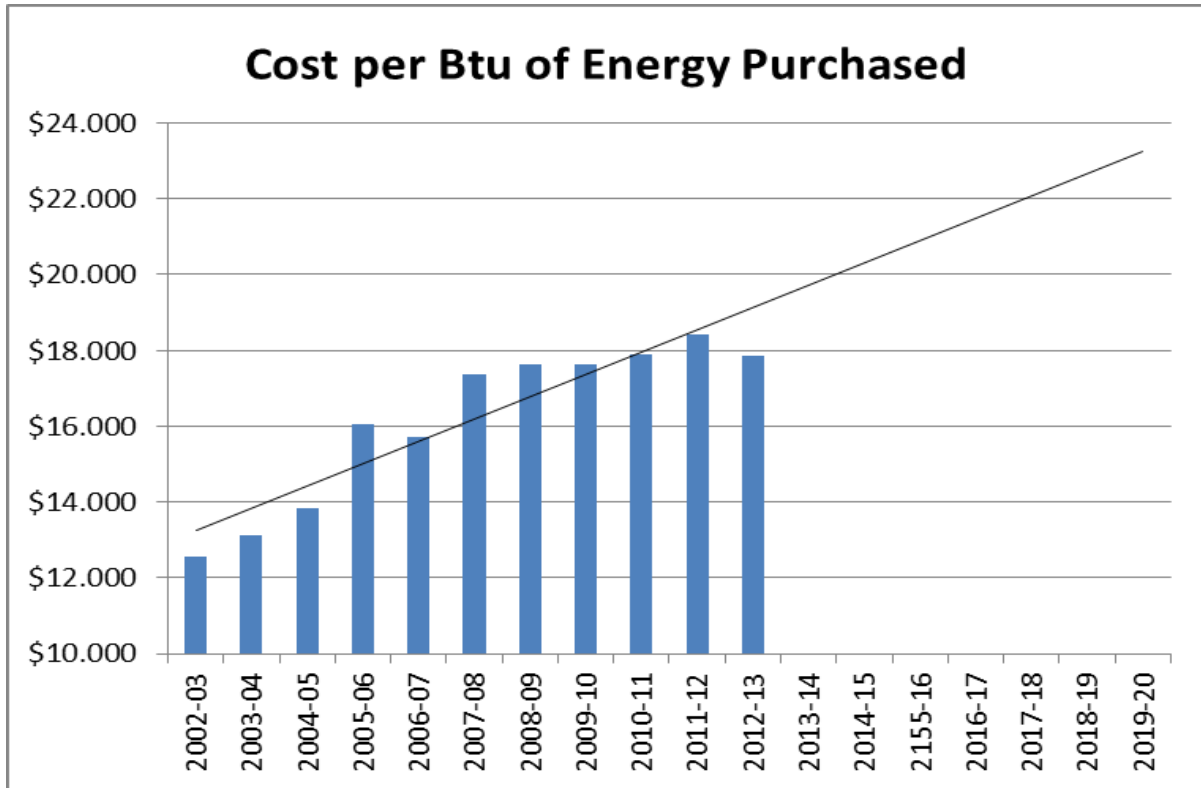
APPENDIX

Chart 1

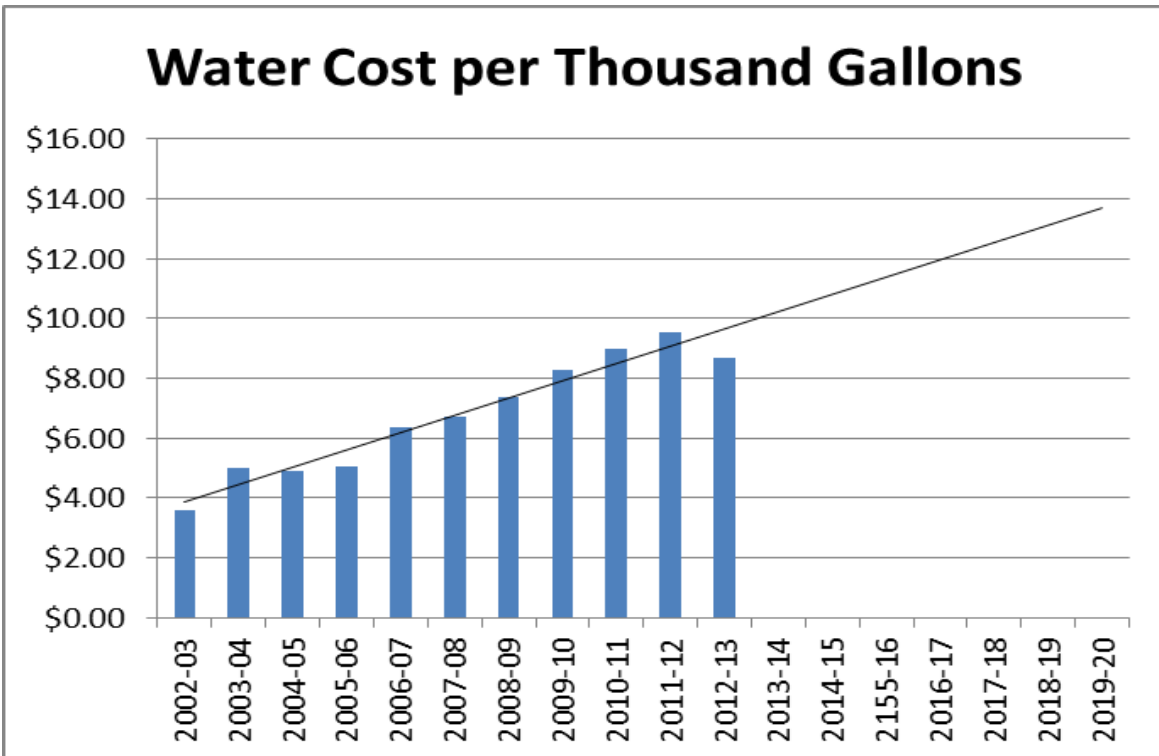


Electricity	\$194,486,036	52%
Natural gas	\$45,602,521	12%
Fuel oil	\$6,453,727	1%
propane	\$6,014,474	2%
steam	\$50,459,719	13%
chilled water	\$21,078,810	6%
water sewer	\$47,089,035	13%
Total Dollars	\$371,184,322	

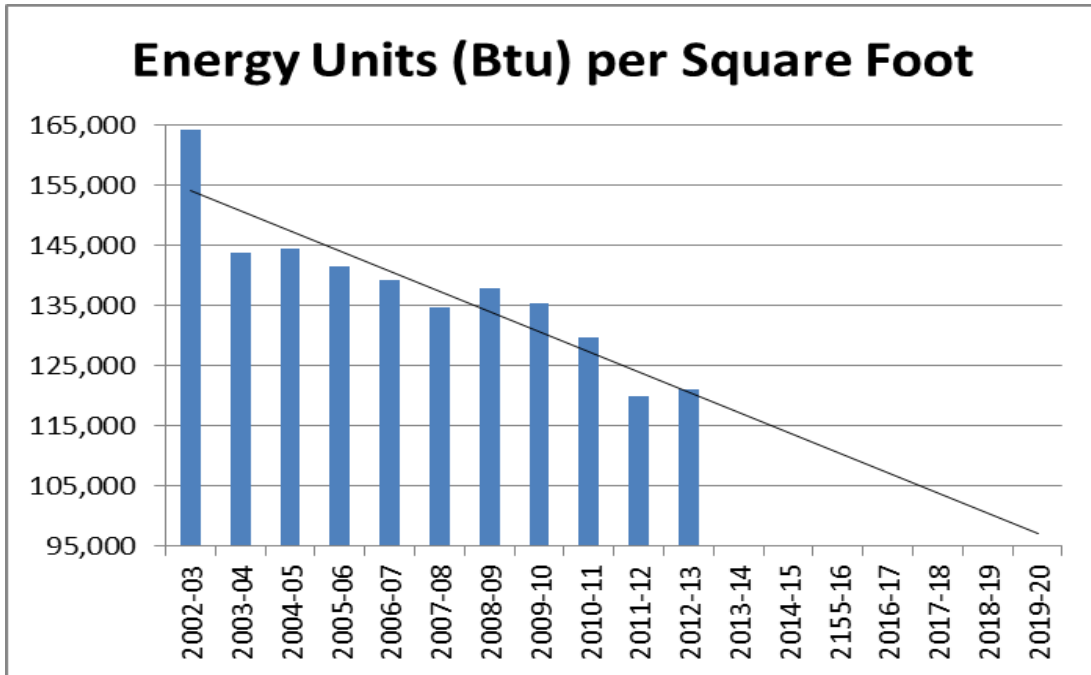
Graph 2



Graph 3



Graph 4



Graph 5

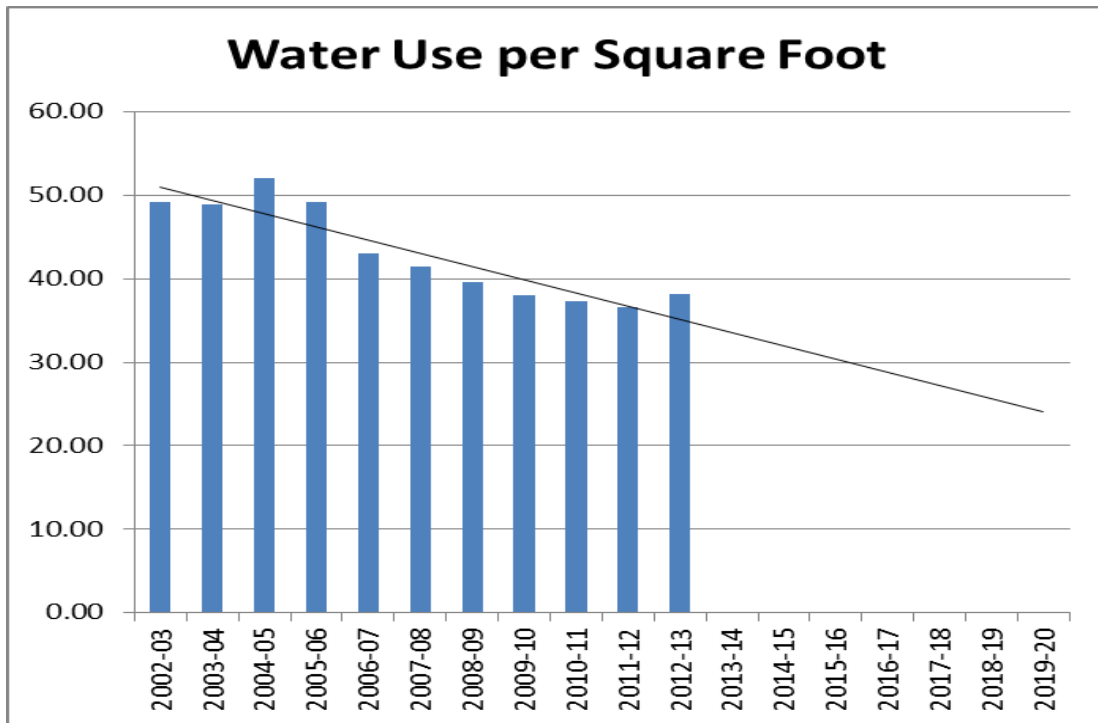


Chart 6

GHG evaluation						
year	Metric Tons Avoided	metric tons/ thousand sf	%change	CO2e Metric Tons	% change	
2002-03		14.85	0%	1,057,007		
2003-04	129,282	13.52	-9%	1,314,998	24%	
2004-05	134,209	13.53	-9%	1,376,223	30%	
2005-06	144,963	13.51	-9%	1,457,732	38%	
2006-07	183,611	13.19	-11%	1,461,894	38%	
2007-08	222,048	12.94	-13%	1,503,222	42%	
2008-09	215,852	13.04	-12%	1,553,246	47%	
2009-10	234,268	12.92	-13%	1,568,874	48%	
2010-11	290,608	12.52	-16%	1,564,039	48%	
2011-12	388,438	11.84	-20%	1,530,928	45%	
2012-13	431,211	11.59	-22%	1,534,873	45%	
2013-14	0	0.00	0%	0	0%	
2014-15	0	0.00	0%	0	0%	
2015-16	0	0.00	0%	0	0%	
2016-17	0	0.00	0%	0	0%	
2017-18	0	0.00	0%	0	0%	
2018-19	0	0.00	0%	0	0%	
2019-20	0	0.00	0%	0	0%	
	2,374,491	Total Metric Tons CO2e Avoided				

Chart 7

STATE AGENCIES	Abbreviation	Annual Strategic Energy Plan Submitted	Annual Utility Use Submitted
ABC COMMISSION	ABC	yes	Yes
AGRICULTURE AND CONSUMER SERVICES	AGR		
CRIMINAL JUSTICE TRAINING west	JACADW	yes	Yes
CULTURAL RESOURCES	CRES	yes	Yes
DEPARTMENT OF PUBLIC INSTRUCTION	DPI	yes	Yes
DEPT HEALTH HUMAN SVCS	DHHS	yes	Yes
DEPT OF ADMINISTRATION	DOA	yes	Yes
DEPT OF ENVIRONMENT NATURAL RES	DENR	yes	Yes
DEPT OF TRANSPORTATION	DOT	yes	Yes
DEPT PUBLIC SAFETY	DPS	yes	Yes
DIVISION OF EMPLOYMENT SECURITY	DES	yes	Yes
INFORMATION TECHNOLOGY SERVICES	ITS	yes	Yes
JUSTICE ACADEMY east	JACADE	yes	Yes
WILDLIFE RESOURCES	WR	yes	Yes

Chart 8

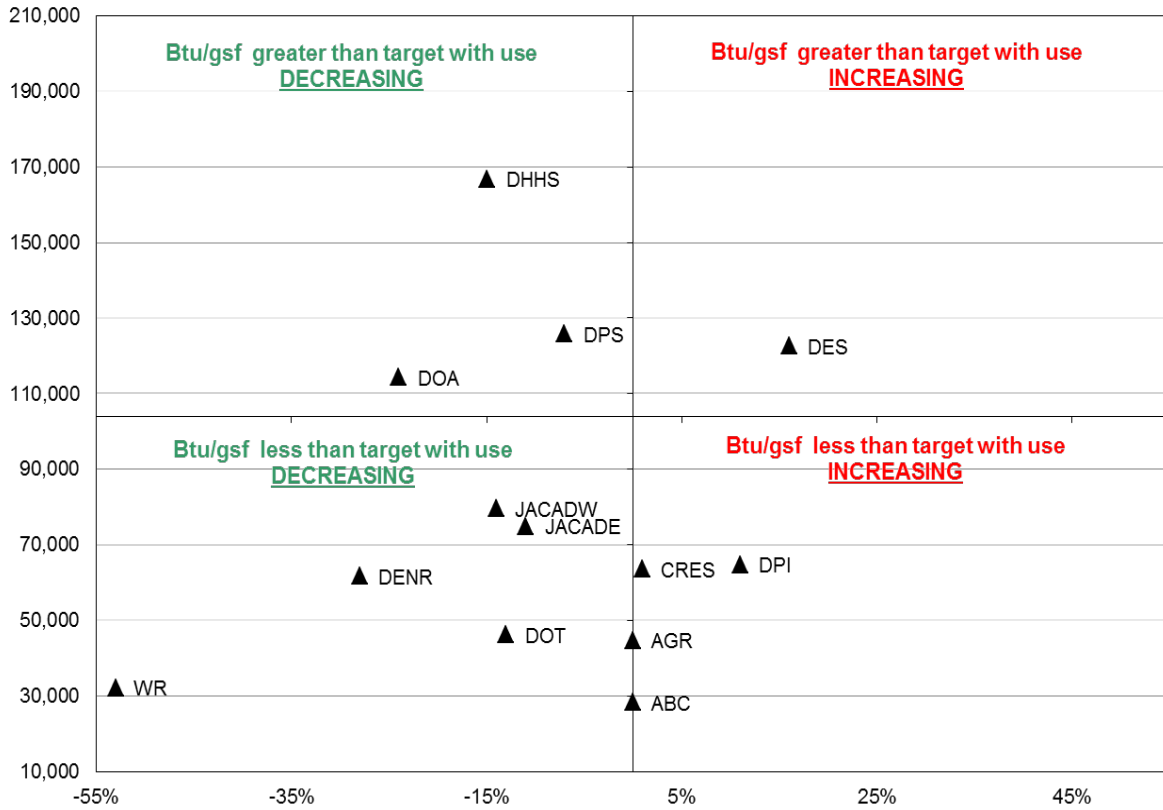
UNC INSTITUTIONS	Abbreviation	Annual Energy Plan Submitted	Annual Utility Use Submitted	Reached 30%
APPALACHIAN STATE UNIVERSITY	ASU	yes	Yes	
ARBORETUM	TNCA	yes	Yes	yes
EAST CAROLINA UNIVERSITY	ECU	yes	Yes	
ELIZABETH CITY STATE UNIVERSITY	ECSU	yes	Yes	
FAYETTEVILLE STATE UNIVERSITY	FSU	yes	Yes	yes
NC A & T STATE UNIVERSITY	NC A&T	yes	Yes	
NC CENTRAL UNIVERSITY	NCCU	yes	Yes	
NC SCHOOL OF MATH & SCIENCE	NCSSM	yes	Yes	
NC SCHOOL OF THE ARTS	NCSA	yes	Yes	
NC STATE UNIVERSITY	NCSU	yes	Yes	
UNC ASHEVILLE	UNC A	yes	Yes	
UNC CHAPEL HILL	UNC CH	yes	Yes	yes
UNC CHARLOTTE	UNC C	yes	Yes	
UNC GENERAL ADMINISTRATION	UNC GA	yes	Yes	yes
UNC GREENSBORO	UNC G	yes	Yes	
UNC HOSPITALS	UNC H	yes	Yes	
UNC PEMBROKE	UNC P	yes	Yes	yes
UNC-TV	UNC TV	yes	Yes	yes
UNC WILMINGTON	UNC W	yes	Yes	yes
WESTERN CAROLINA UNIVERSITY	WCU	yes	Yes	yes
WINSTON-SALEM STATE UNIVERSITY	WSSU	yes	Yes	

Chart 9

COMMUNITY COLLEGE	Annual Utility Use Submitted	COMMUNITY COLLEGE	Annual Utility Use Submitted
A-B Tech	Yes	Alamance	Yes
Beaufort	Yes	Bladen	Yes
Blue Ridge	Yes	Brunswick	Yes
Caldwell	Yes	Cape Fear	Yes
Carteret	Yes	Catawba Valley	Yes
Central Carolina	Yes	Central Piedmont	Yes
Cleveland	Yes	Coastal Carolina	Yes
College of the Albemarle		Craven	Yes
Davidson	Yes	Durham Tech	Yes
Edgecombe	Yes	Fayetteville Tech	Yes
Forsyth Tech	Yes	Gaston	Yes
Guilford Tech	Yes	Halifax	Yes
Haywood	Yes	Isothermal	Yes
James Sprunt	Yes	Johnston	Yes
Lenoir	Yes	Martin	Yes
Mayland	Yes	McDowell Tech	Yes
Mitchell		Montgomery	Yes
Nash	Yes	Pamlico	
Piedmont	Yes	Pitt	Yes
Randolph	Yes	Richmond	Yes
Roanoke-Chowan		Robeson	Yes
Rockingham	Yes	Rowan-Cabarrus	Yes
Sampson	Yes	Sandhills	Yes
South Piedmont	Yes	Southeastern	Yes
Southwestern	Yes	Stanly	Yes
Surry	Yes	Tri-County	Yes
Vance-Granville	Yes	Wake Tech	Yes
Wayne	Yes	Western Piedmont	Yes
Wilkes	Yes	Wilson	Yes

Chart 10

STATE AGENCY Btu/gsf and % REDUCTION



ITS values do not plot within chart. Their Btu per gsf = 377,583

Chart 11

UNC SYSTEM Btu/gsf and % REDUCTION



UNC TV values do not plot within chart. Their Btu per gsf = 625,147.

THE UTILITY SAVINGS INITIATIVE STRATEGIC ENERGY PLAN FOR 2013-14

MISSION:

The mission of the Utility Savings Initiative (USI), within the Division of Environmental Assistance and Customer Service (DEACS), is to protect and improve North Carolina's environment and economy through the effective identification and application of energy, water and other utility conservation and efficiency measures.

OVERVIEW:

§ 143-64.10. Findings; policy...

(6) That state government shall undertake a program to reduce the use of energy, water, and other utilities in state facilities and facilities of the State institutions of higher learning and equipment in those facilities in order to provide its citizens with an example of energy use, water use, and utility use efficiency.

The Utility Savings Initiative (USI) was created to coordinate and support the activities of governmental units to manage and reduce energy consumption and cost. Our services are available to all public sectors: state agencies, UNC institutions, community colleges, K-12 public schools, county governments and municipal governments. Services include training, provided by USI staff and subject matter experts, energy audits, strategic energy plan creation, data collection and analysis, project identification and implementation.

§ 143-64.17 Energy Saving Measures for Governmental Units.

The USI staff has statutory responsibility for overseeing Performance Contracting in all governmental units. Performance Contracting provides an effective means to design, build and fund energy efficiency projects. USI involvement provides consistency throughout the process for all governmental units desiring to enter into a performance contract.

PURPOSE:

§ 143-64.12. Authority and duties of the Department; State agencies and State institutions of higher learning.

(a) ... The energy consumption per gross square foot for all State buildings in total shall be reduced by 20 percent by 2010 and 30 percent by 2015 based on energy consumption for the 2002-2003 fiscal year. Each state agency and state institution of higher learning shall update its management plan annually and include strategies for supporting the energy consumption reduction requirements under this subsection. Each community college shall submit to the State Energy Office an annual written report of utility consumption and costs.

The statute referenced above clearly defines the purpose of the USI program. The key performance indicators in Table I are used to track the program's performance in reaching the statutory requirements.

KEY PERFORMANCE INDICATORS

energy evaluation							water/sewer evaluation				
year	energy \$ avoided	energy \$/gsf	\$/mmbtu	\$/mmbtu %change	btu/sf	btu/sf %change	water \$ avoided	\$/kgal	\$/kgal %change	gal/sf	gal/sf %change
2002-03		\$2.06	\$12.58		164,109			\$3.60		48.89	
2003-04	\$26,194,202	\$1.89	\$13.15	5%	143,622	-12%	-\$13,294	\$4.99	39%	48.92	0%
2004-05	\$27,833,735	\$2.00	\$13.85	10%	144,354	-12%	-\$1,550,244	\$4.87	35%	52.02	6%
2005-06	\$39,366,947	\$2.27	\$16.05	28%	141,380	-14%	-\$208,934	\$5.03	40%	49.27	1%
2006-07	\$43,247,249	\$2.19	\$15.70	25%	139,258	-15%	\$4,116,690	\$6.35	76%	43.04	-12%
2007-08	\$59,558,326	\$2.34	\$17.35	38%	134,571	-18%	\$5,751,424	\$6.71	87%	41.51	-15%
2008-09	\$55,207,761	\$2.43	\$17.64	40%	137,832	-16%	\$8,174,739	\$7.36	105%	39.57	-19%
2009-10	\$61,539,754	\$2.39	\$17.64	40%	135,375	-18%	\$10,921,583	\$8.27	130%	38.01	-22%
2010-11	\$77,033,141	\$2.31	\$17.86	42%	129,582	-21%	\$12,938,522	\$8.96	149%	37.33	-24%
2011-12	\$106,139,126	\$2.20	\$18.43	47%	119,493	-27%	\$14,892,863	\$9.49	164%	36.73	-25%
2012-13	\$101,973,172	\$2.16	\$17.86	42%	120,991	-26%	\$12,273,255	\$8.68	141%	38.20	-22%
2013-14	\$0	\$0.00	\$0.00	0%	0	0%	\$0	\$0.00	0%	0.00	0%
2014-15	\$0	\$0.00	\$0.00	0%	0	0%	\$0	\$0.00	0%	0.00	0%
2015-16	\$0	\$0.00	\$0.00	0%	0	0%	\$0	\$0.00	0%	0.00	0%
2016-17	\$0	\$0.00	\$0.00	0%	0	0%	\$0	\$0.00	0%	0.00	0%
2017-18	\$0	\$0.00	\$0.00	0%	0	0%	\$0	\$0.00	0%	0.00	0%
2018-19	\$0	\$0.00	\$0.00	0%	0	0%	\$0	\$0.00	0%	0.00	0%
2019-20	\$0	\$0.00	\$0.00	0%	0	0%	\$0	\$0.00	0%	0.00	0%
	\$598,093,412				114,876	-30%	\$67,296,603				
	\$665,390,015				110,266	-33%					

TABLE I

Legend:

gsf = gross square feet (building size)

Btu = British thermal unit (standard unit of energy)

mmbtu = millions of btus

kgal = thousands of gallons

Notes:

- For an approximate investment of \$12.6 million in state appropriated funds over the ten years the program has been in place we have achieved in excess of \$665 million in avoided utility costs.

KEY FOCUS AREAS OF THE PLAN:

- 1) **Communication and Training** – a core component of the USI program’s success has been our ability to provide relevant training to the participants. This training includes the Energy Management Diploma series, Strategic Energy Plan creation and half day technical classes on specific building systems and programs. The USI team routinely participates as invited speakers at conferences and workshops that target our program participants. We will continue to engage community ‘user groups’ to foster dialogue among regional participants and share best practices.
- 2) **Participant Plan Implementation** – site visits remain the cornerstone of our support to USI participants. The USI team will be available to provide participants technical assistance with audits, project evaluations and implementation. The USI team will monitor and encourage participants to engage in current programs to reduce energy consumption including, the DOE Better Buildings Challenge and UNC Energy Initiative and assist in setting up new programs. USI will continue to seek additional resources to expand services.
- 3) **Performance Contracting** – Improve performance contracting process and extend its applicability. Partnerships will be used to continue to improve the process, disseminate best practices, and promote the use of the contracting process. The USI team will continue to provide technical assistance and guidance for USI participants through the entire contract process. To satisfy the terms of the DOE PC Grant the USI team and their partners will develop a program for making Performance contracting cost effective for small projects and continue to improve the traditional performance contracting process.
- 4) **Integration into Division of Environmental Assistance and Customer Service with Waste Reduction Partners** – assess and combine the strengths of each organization to improve the level of service to all participants.

2012-2013

Focus Area 1: Communication and Training				
Strategy 1.	Provide USI partners with the skills necessary to identify and implement energy efficiency measures			
Strategy 2.	Data review, analysis and reporting of energy use and energy plan information submitted by partners and as required by statute			
Strategy 3.	Create, publish, update annually and implement a state level energy management plan that supports program requirements			
Strategy 4.	Establish regional user groups to foster participant dialogue on best practices			
Strategy 5.	Participate as speakers in relevant workshops and conferences to generate program awareness and participation			
2012-2013 Planned Activities	Expected Measurement	Investment	Assigned to	Funding Source
Measure success of EMD classes	Interviews to assess application of knowledge	Staff time	USI	Salary
Conduct half day training sessions	Assess effectiveness of workshops	Staff time	USI	Salary
Expand EPA Portfolio Manager program	Increased usage of Portfolio Manager by USI participants	Staff time	Keith Bradshaw and USI team	Salary
Expand user groups and their activities within their regions	Publication of best practices identified during meetings	Staff time	USI team	Salary
Targeted technical assistance provided through site visits to upgrade energy plans and consumption reports	100% participation by agencies, universities and community colleges	Staff time	USI team	Salary
Develop and regularly review state level strategic energy plan	Quarterly reviews of plan	Staff time	USI team	Salary
2012-2013 Actual Activities	Actual Measurement	Investment	Assigned to	Funding Source
Measure success of EMD classes	Interviews were conducted and EMD practices are being implemented as observed during USI site visits.	Staff time	Len Hoey / USI team	State
Conduct half day training sessions	Conducted 76 workshops.	Staff time	USI	Salary
Expand EPA Portfolio Manager program	Training is being provided and participants are being assisted. 15 community colleges, 10 K-12 schools and 5 local governments are using PM.	Staff time	Keith Bradshaw / USI team	DOE grant
Expand user groups and their activities within their regions	4 user groups have been formed and are meeting on a regular basis.	Staff time	USI team	Salary
Targeted technical assistance provided through site visits to upgrade energy plans and consumption reports	93% of all sectors submitted required reports (1 agency, 2 universities and 4 com. Col. Late)	Staff time	USI team	Salary
Develop and regularly review state level strategic energy plan	Conducted quarterly reviews to assess implementation progress	Staff time	USI team	Salary

2013-2014

Focus Area 1: Communication and Training				
Strategy 1.	Provide USI partners with the skills necessary to identify and implement energy efficiency measures			
Strategy 2.	Data review, analysis and reporting of energy use and energy plan information submitted by partners and as required by statute			
Strategy 3.	Engage regional community user groups to foster participant dialogue on best practices			
Strategy 4.	Participate as speakers in relevant workshops and conferences to generate program awareness and participation			
2013-2014 Planned Activities	Expected Measurement	Investment	Assigned to	Funding Source
Measure success of EMD classes	Interviews to assess application of knowledge	Staff time	Len, Keith, Reid, Renee, Lyn & Kathy	Salary
Conduct training sessions on M&V protocols and proper modeling techniques	Assess effectiveness of workshops	Staff time	Len, Keith, Reid, Renee, Lyn & Kathy	State funds
Expand EPA Portfolio Manager program must be used by DOE PC grant recipients	Increased usage of Portfolio Manager by USI participants	Staff time	Len, Keith, Reid, Renee, Lyn & Kathy	DOE grant
Expand user groups and their activities within their regions	Publication of best practices identified during meetings	Staff time	Len, Keith, Reid, Renee, Lyn* & Kathy	Salary
Targeted technical assistance provided through site visits to upgrade energy plans and consumption reports	100% participation by agencies, universities and community colleges	Staff time	Len, Keith, Reid, Renee, Lyn & Kathy	Salary
Review and report on energy performance of new construction	Develop reporting and analysis tool for participants to use	Staff time	Len, Keith, Reid, Renee*, Lyn & Kathy	Salary
Research data collection systems to provide participants a standard platform to collect at least monthly data and that can also interface with building automation systems to collect real time data.	Release RFI to collect information on available systems and review findings with ITS to determine best course of action	Staff time	Len*, Keith*, Reid, Renee, Lyn & Kathy	Salary

2012-2013

Focus Area 2: Participant Plan Implementation				
Strategy 1.	Provide USI participants with onsite technical assistance in evaluating and implementing energy efficiency projects			
Strategy 2.	USI will continue to seek additional resources to expand services			
Strategy 3.	Review new technologies for applicability to USI program			
2012-2013 Planned Activities	Expected Measurement	Investment	Assigned to	Funding Source
Site specific technical assistance in the form of audits and review of audit findings	Determine level of implementation through interview process and SEP review	Staff time	USI team	Salary
Partner with other agencies to achieve program success with BBC and UNC Energy Initiative	Establishment of protocols and practices to document the success of the programs	Staff time	USI team	Salary
Ensure universities follow procedures to qualify energy savings achieved for carry forward per SL 2010-196	All qualified documented savings carried forward in accordance with legislation	Staff time	USI team	Salary
Work with participants to develop and implement energy projects listed in their SEP's	Determine level of implementation of SEP projects by meetings with staff	Staff Time	USI team	Salary
Work with participants to help promote energy savings practices and policies	Determine level of implementation of practices and policies by meetings with staff	Staff time	USI team	Salary
Continue to look for additional funding opportunities to expand and support USI programs	Amount of funding that is acquired	Staff time	USI team/Kathy Walters	Salary
2012-2013 Actual Activities	Actual Measurement	Investment	Assigned to	Funding Source
Site specific technical assistance in the form of audits and review of audit findings	242 technical assistance and audit site visits conducted, reports generated	Staff time	USI team	Salary
Partner with other agencies to achieve program success with BBC and UNC Energy Initiative	Randolph CC committed to BBC via USI. Randolph CC, UNC W and ASU are supplying showcase project information. Participated in second annual summit.	Staff time	USI team	Salary
Ensure universities follow procedures to qualify energy savings achieved for carry forward per SL 2010-196	10 universities submitted proper documents in accordance with legislation	Staff time	USI team	Salary
Work with participants to develop and implement energy projects listed in their SEP's	Most of the work centered on re-investing last year's 1292 funds and preparing for this year's submission	Staff time	USI team	Salary
Work with participants to help promote energy savings practices and policies	Recognition of best practices at SEO annual conference, assist with participant staff training	Staff time	USI team	Salary
Continue to look for additional funding opportunities to expand and support USI programs	Federal sequester has severely limited funding opportunities	Staff time	Kathy Walters	Salary

2013-2014

Focus Area 2: Participant Plan Implementation				
Strategy 1.	Provide USI participants with on-site assistance in evaluating and implementing energy efficiency projects			
Strategy 2.	USI will continue to seek additional resources to expand services			
Strategy 3.	Review new technologies for applicability to USI program			
2013-2014 Planned Activities	Expected Measurement	Investment	Assigned to	Funding Source
Site specific technical assistance in the form of audits and review of audit findings	Determine level of implementation through interview process	Staff time	Len, Keith, Reid, Renee, Lyn & Kathy	Salary
Continue to implement the BBC and UNC Energy Leadership Challenge	Document progress and level of participation in both initiatives	Staff time	Len, Keith, Reid, Renee*, Lyn & Kathy	Salary
Ensure universities follow procedures to qualify energy savings achieved for carry forward per SL 2010-196	All qualified documented savings reported to OSBM for carry forward	Staff time	Len, Keith, Reid, Renee, Lyn & Kathy	Salary
Work with participants to develop and implement energy projects listed in their SEP's	Determine level of implementation of SEP projects by meetings with participants	Staff Time	Len, Keith, Reid, Renee, Lyn & Kathy	Salary
Work with participants to help promote and implement energy savings practices and policies	Determine level of implementation of practices and policies by meetings with participants	Staff time	Len, Keith, Reid, Renee, Lyn & Kathy	Salary
Continue to look for additional funding opportunities to expand and support USI programs	Amount of funding that is acquired	Staff time	Len, Keith, Reid, Renee, Lyn & Kathy*	Salary

2012-2013

Focus Area 3: Performance Contracting				
Strategy 1.	Provide technical assistance to participants as needed to ensure all statutory requirements are met and the process moves efficiently			
Strategy 2.	Review and edit primary PC documents for use in the specific sectors that are eligible to participate			
Strategy 3.	Re-qualify ESCOs that wish to remain a part of the program, pre-qualify additional companies that wish to provide services.			
Strategy 4.	Guide implementation of DOE Small PC Grant			
2012-2013 Planned Activities	Expected Measurement	Investment	Assigned to	Funding Source
Train USI team members on the PC process and technical requirements	Team members capable of reviewing IGA, ESA and associated schedules	Staff time	Len Hoey	Salary
Review and edit PC documents	IGA and ESA edited, formatted, approved and published for use	Staff time	Len Hoey / USI staff	DOE grant
Provide technical assistance to PC projects	100% of projects that issue RFP receive COS and/or LGC approval	Staff time	USI team	Salary
Review the documents for pre-qualification and re-qualification of ESCOs	Re-qualification to occur in October 2012	Staff time	Evaluation team	Salary
Begin implementation of small PC grant	Define small PC, review standard documents, identify potential participants	Grant / staff time	Kathy Walters / Len Hoey / Partners	Grant / match
2012-2013 Actual Activities	Actual Measurement	Investment	Assigned to	Funding Source
Train USI team members on the PC process and technical requirements	Team provides input on RFP responses and IGA technical documents	Staff time	Len Hoey	Salary
Review and edit PC documents	RFP completed and reviewed by AG's office IGA and ESA schedules being edited	Staff time	Len Hoey / USI staff	DOE grant
Provide technical assistance to PC projects	Technical assistance was provided to 100% of participants that contacted USI	Staff time	USI team	Salary
Review the documents for pre-qualification and re-qualification of ESCOs	All existing ESCOs were re-qualified and one new applicant was pre-qualified	Staff time	Evaluation team	Salary
Begin implementation of small PC grant	Entered into contracts with partners, began selecting participants, supported SB547	Grant / staff time	Kathy Walters / Len Hoey / Partners	Grant / match

2013-2014

Focus Area 3: Performance Contracting				
Strategy 1.	Provide technical assistance to participants as needed to ensure all statutory requirements are met and the process moves efficiently			
Strategy 2.	Review and edit primary PC documents for use in the specific sectors that are eligible to participate to align with new statutory requirements			
Strategy 3.	Guide implementation of DOE Small PC Grant			
2013-2014 Planned Activities	Expected Measurement	Investment	Assigned to	Funding Source
Train USI team members on the PC process and technical requirements	Team members capable of reviewing RFP responses, IGA, ESA and associated schedules	Staff time	Len*, Keith, Reid, Renee, Lyn & Kathy	Salary
Review and edit PC documents	Edit, receive AG approval and implement primary documents	Staff time	Len*, Keith, Reid, Renee, Lyn & Kathy	Salary
Provide technical assistance to PC projects	Review and comment on primary PC documents in accordance with new statutory requirements	Staff time	Len, Keith, Reid, Renee, Lyn & Kathy	Salary
Schedule and conduct training sessions on new legislation and availability of DOE grant	Conduct regional training to meet requirements in grant	Staff time	Len, Keith, Reid, Renee, Lyn & Kathy*	Grant / Salary
Continue implementation of small PC grant	Identify additional participants and document best practices for most efficient project implementation	Grant / staff time	Len, Keith, Reid, Renee, Lyn & Kathy*	Grant / match

2013-2014

Focus Area 4: Integrate Operations with DEACS				
Strategy 1.	Improve and define brand and service offerings			
Strategy 2.	Develop efficient data and information sharing processes			
Strategy 3.	Identify organizational roles, responsibilities and improvements needed to better serve customers			
Strategy 4.	Streamline administrative processes			
2013-2014 Planned Activities	Expected Measurement	Investment	Assigned to	Funding Source
Shared access to individual data sources to identify the most efficient method to aggregate data	Data base structure(s) defined	Staff time / WRP \$ TBD	DEACS IT/Dee and Keith	Salary and WRP grant funds
Develop internal expertise contact list with areas served and staff schedules	Contact list in use	Staff time	Cross functions for all of DEACS	salary
Website development	Website framework in operation	Staff time	Len / Keith, Lisa, Dee & DEACS IT	salary
Develop marketing materials	Materials ready for distribution (USI / WRP provide content)	Staff time	Jamie Ragan / Lisa Shanklin / Kathy	salary
Review organization structure concentrating on employee assignments	Eliminate redundant tasks, improve customer interface	Staff time	Terry / Len	salary
Revise statutory references to State Energy Office as necessary	Statutes corrected	Staff time	Terry / Len	salary

* Denotes staff person with primary responsibility