



Strategic Energy and Water Plan for 2011 - 12

Executive Summary

Elizabeth City State University maintained focus on conservation practices over the past year. Students competed in their first energy challenge, “Green Off”, with one resident hall reducing their energy consumption by 22%. Our Center for Green Research assisted local green businesses grow their operations in conjunction with our Small Business & Technology Development Center. On the academic research side, we installed a Sadar unit which measures wind speed. Data is being gathered in a study of wind energy as an alternative energy source. We’re also working to develop curriculum for the skills needed to run the wind turbines coming to our region. As we move forward, it is a priority to monitor and take action to reduce the energy and water we consume. R&R funds were not received to install water meters at the building level. We remain hopeful for the coming year. The installation of building level sub-meters for both electricity and water is paramount to our success. We will continue our outreach to educate the public in this region as well as our students, faculty and staff on conservation practices.

We undertook other initiatives during the 2010 – 11 fiscal year as highlighted below:

- No #2 fuel was purchased. Enough #2 fuel existed in storage to meet the heating demand of the last remaining building which utilizes #2 fuel for heat. The plan is to link this building to the Central Plant.
- Installation of 40 solar modules on the roof of the Student Center. This installation is expected to produce 13.2KW which will reduce the need for electrical power to light the building. A kiosk demonstrates the impact of the solar installation.
- Work on a regional economic development plan through the Center for Green Research and 4th Sector Financial. The plan focuses on a green economy.
- Collaboration with the Camden Eco Industrial Park through the Center for Green Research.
- Identification of excess water use for landscaping purposes at the Roebuck Stadium. Alternative water sources are under discussion.

Key features of our upcoming plan include:

- Hold 2nd “Green Off” challenge in residence halls. During the first two weeks of April 2011, resident halls were challenged to reduce their use of energy in comparison with the same period the previous year. Fifty percent of the buildings reduced their consumption from 1% up to 22%. Plans are underway for the next energy challenge;

- The Center for Green Research is working with the Albemarle Resource Conservation & Development Council as wind energy becomes a reality in our region; they will also continue collaborative efforts in the development of the Camden Eco Industrial Park;
- The Community Development Office has grant funds to establish one-on-one energy education with home owners. Students will be trained to provide the education. In addition, they plan to work in partnership with the City of Elizabeth in retrofit projects for 25 homes in the city. They also partner with the City for annual energy fairs;
- Faculty research will continue in the area of wind research and involvement with COA, Appalachian State University and the Northeast Workforce Development Board to core curriculum to train the workforce needed to work on the wind turbines coming to our area;
- The ARRA/Grant funded project at Moore Hall Auditorium continues. In addition, with this building is slated for performance contracting to have a complete HVAC upgrade and be connected to our Central Plant;
- Performance Contracting is about to kick off on campus. The contracts are signed - we await the work to begin to increase efficiency in six campus buildings;
- With the addition of an Energy Manager provided by grant funding, we look to develop plans to reduce energy and water consumption in campus buildings;
- Research alternative water sources for the football field;
- Research possible cost savings for sewer charges at the Central Plant.

Focus A: Supply Side

Strategy 1.	We will continue regular review of utility invoices to ensure appropriate billing.							
Strategy 2.	We will continue to review rate schedules to ensure appropriate billing.							
Strategy 3.	We will monitor proposed rate change and use of the emergency generator located on campus (Performance Contracting).							
Past Year Activities (2010 - 2011)	Measurement		Savings		Cost	Jobs	Accountability	Funding Source
	Expected	Actual	Expected	Actual				
Monthly Review of utility invoices	Errors found	Excess Water Use		In Process			University Program Specialist – Design & Construction	Salary
Review of utility rate structures for campus buildings	Changes Made	Variety of rates used for area lighting		In Process			University Program Specialist, Design & Construction	Salary

2011 - 2012 Activities	Measurement		Savings		Cost	Jobs	Assigned to	Funding Source
	Expected	Actual	Expected	Actual				
Monthly Review of utility invoices	Errors found						University Program Specialist – Design & Construction	Salary
Review of utility rate structures for campus buildings	Changes Made						University Program Specialist, Design & Construction	Salary
Monitor proposed changes with implementation of Performance Contracting	Identification of rate changes and impact of generator use						University Program Specialist, Design & Construction	Salary

Focus B: Demand Side

Strategy 1.	We begin implementation of performance contracting for six (6) campus building.							
Strategy 2.	We will continue the ARRA funded projects in Moore Hall Auditorium							
Strategy 3.	We will invest in submeters to measure utility usage at the building level when R&R funds become available.							
Past Year Activities (2010 – 2011)	Measurement Expected Actual		Savings Expected Actual		Cost	Jobs	Accountability	Funding Source
Butler Hall – replace fan coil units	Reduced # of complaints	Study underway			162,347		Facilities Mgmt/ Design & Construction	ARRA
Performance Contracting – present Investment Grade Audit to ECSU Board of Trustees in December 2010 Meeting	Approval to proceed	Approval Received			na		Director, Design & Construction	Bond

2010 - 2011 Activities	Measurement		Savings		Cost	Jobs	Assigned to	Funding Source
	Expected	Actual	Expected	Actual				
Moore Hall – restoration of auditorium including window replacements	Improved efficiency				565,000		Director, Design & Construction	ARRA & Grant Funding ARRA
Performance Contracting – Sign Contract; Begin Projects	Improved efficiency				5,382,647		Director, Design & Construction	Bond
Purchase and Install utility meters	# of meters installed				\$55,000		Facilities Mgmt/ Design & Construction	R & R

Focus C: Communication and Training

Strategy 1.	We will continue working with the ECSU student government association on “Green” campus initiatives.
Strategy 2.	We will have an active Sustainability Committee
Strategy 3.	We will develop a tool to illustrate utility consumption at the building level.

Strategy 4.	We will educate campus personnel on the importance of energy conservation.							
Strategy 5.	We will continue to partner with others to educate a broader audience on the importance of conservation and sustainability							
Past Year Activities (2010 - 2011)	Measurement		Savings		Cost	Jobs	Accountability	Funding Source
	Expected	Actual	Expected	Actual				
Establish Sustainability Committee	Management Approval	Approved			NA		Office of the Chancellor	Salary
Establish relationship with Student Government Association to increase conservation awareness	# of meeting	3 meetings			NA		University Program Specialist, Facilities	Salary
Conduct professional development workshops to focus on sustainability issues	Survey Results	No workshops held			\$500		University Program Specialist, Facilities	Salary
Outreach projects through the Center for Green Research	# of projects funded	2 projects funded			\$30,000		Director, Center for Green Research	Grant
Partnership with City of Elizabeth City and EIC for Retrofit Projects	# of projects funded	No funding received			NA		Director, Community Development	Grant

2011 - 2012 Activities	Measurement		Savings		Cost	Jobs	Assigned to	Funding Source
	Expected	Actual	Expected	Actual				
Hire Director of Sustainability					\$68,000		Office of the Chancellor	Salary
Identify Sustainability on campus website	Completion of work by IT				NA		University Program Specialist/Design & Construction; WEB Master/IT; Energy Manager/Design & Construction; Green Ambassadors	Salary

Continue involvement with Student Government Association/ Green Ambassadors to increase conservation awareness	# of meeting				NA		University Program Specialist, Facilities	Salary
Develop "Installment" sheet to educate faculty and staff on conservation practices	# of editions				\$500		University Program Specialist, Facilities	Salary
Outreach projects through the Center for Green Research	# of projects				NA		Director, Center for Green Research	Salary
Partnership with City of Elizabeth City and EIC for Retrofit Projects	# of projects funded				\$75,000		Director, Community Development	Grant

Focus D: Water

Strategy 1.	We will implement a program to measure water usage at the building level.							
Strategy 2.	We will research possibility of sewer credit at the Central Plant.							
Strategy 3.	We will research alternative water sources for the Roebuck Stadium football field.							
Strategy 4.	We will develop and implement a water conservation policy.							
Past Year Activities (2010 - 2011)	Measurement		Savings		Cost	Jobs	Accountability	Funding Source
	Expected	Actual	Expected	Actual				
Surveyed campus water meters to determine whether meters worked or not.	# of readable meters				NA	NA	Plumbing Supervisor	Salary
Identified excessive water use at Roebuck Stadium		Months of excess use					University Program Specialist/Design & Construction; Plumbing Supervisor	Salary

2011 - 2012 Activities	Measurement		Savings		Cost	Jobs	Assigned to	Funding Source
	Expected	Actual	Expected	Actual				
Implement monthly water meter reading on readable meters	Monthly meter readings				NA	NA	Plumbing Supervisor / University Program Specialist - Facilities	Salary
Install readable meters at all campus buildings (part of meter project in demand side projects)	# of meters installed				\$55,000		Facilities Management/ Design & Construction	R & R
Research possibility of sewer credit for Central Plant	Revision of billing						University Program Specialist, Design & Construction	Salary
Research alternative water source for football field watering	Change accepted & implemented						University Program Specialist/Design & Construction & Plumbing Supervisor/Fac. Mgmt	Salary/Funds to be determined