

ANNUAL REPORT

STRATEGIC ENERGY & WATER PLAN

of

UNCW

This strategic plan was developed **October 1, 2013** by
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Purpose

The purpose of this report is to summarize UNCW's utility performance (energy and water) for FY 2012, and to list objectives and strategies for the next fiscal year. Energy usage is compared to the 2002-2003 FY as a baseline.

NC Legislative Basis for this Plan

(a.) Session Law 2007-546 / Senate Bill 668 requires that energy consumption per gross square foot be reduced 20% by 2010 and 30% by 2015 based on the 2002-2003 fiscal year as a baseline. Each State of NC institution of higher learning is to update its management plan annually and include strategies for supporting consumption reduction requirements.

(b.) Session Law 2008-203 / Senate Bill 1946 - Energy Efficiency Improvement requires an energy reduction of 30% for major construction projects and 20% for major renovation projects based on 2004 codes. Similarly, indoor potable water use for major construction or renovation projects must be 20% less, and sum of outdoor potable water use and harvested storm water use must be at least 50% less based on 2006 NC Building Code.

Existing Conditions

We own and operate a total of 155 buildings, varying in age and totaling 3.83 million square feet. In addition to the buildings, we also maintain related facilities.

Key Elements and Focus Areas of the Plan

- Data collection including accurate measurement and analysis of electricity, fossil based fuels, and water usage to benchmark and to allow for regular review of costs and performance.
- Annual summary that reviews activity related to Energy Supply, Energy Demand, Communication and Training, and Water consumption.
- Initiating activity for a 2nd Performance Contract project was the major energy focus of this year's plan.
- Displacing purchased water for irrigation with well water and maximizing sewer credits were the water/sewer focus of this year's plan.

Summary of FY 2013 accomplishments

Energy consumption per gross square foot dropped for the 10th consecutive year. UNCW energy consumption has now been reduced by 36% compared to the FY 2002-2003 baseline (last year's report was at 36%), again exceeding our 30% reduction target mandated to occur by June 30, 2015. Significant accomplishments this year include:

- Replacement of 500 ton constant speed chiller with new high efficiency 500 ton VSD chiller
- Replacement of an inefficient boiler and domestic hot water system at Galloway Residence Halls with a high efficiency condensing boiler and modular condensing water heaters.
- Renovation of the mechanical system at Wagoner Dining Hall to include replacing inefficient equipment (boiler, chiller, water heater, exhaust hoods, dishwasher), new windows, new skylights, and new lighting.
- Optimization of UNCW's 3rd Regional Energy Plant (Wagoner Hall) by improving control package and increasing load.
- Completion of MARBIONC Laboratory Building at the Center for Marine Science Campus
- Completion of Student Recreation Center Addition
- Performance Contract # 2 in Investment Grade Audit Phase
- Optimization of irrigation systems
- Expand use of well water to displace purchased water from the City of Wilmington

Summary of FY 2014 plans

- Continue Performance Contract #2
- Investigate with local water authority possibility of a reclaim water supply for non-potable water use.
- Replace aged boiler at Alderman Hall

DECLARATION & MANDATE

Declaration

I have read the Strategic Energy & Water Plan for my organization. The plan, as presented, supports reductions required in G.S.143-64.12a.

Implemented October, 2013

Commitment

- We recognize that energy and water consumption can be managed to our benefit. Energy and water management is a responsibility of the occupants at each facility, guided and supported by the Energy Manager and/or the USI (Utility Savings Initiative) liaison.
- The attached plan outlines the activities and expenditures required to reduce energy and water consumption to achieve the goals of the program.

Strategic Energy & Water Plan Mandate - Goals

(In accordance with the NC legislative basis previously described herein)

Reduce annual Total Energy Consumption by a minimum of 30% by fiscal year 2015-2016 from a baseline fiscal year of 2003.

Strategic Energy & Water Plan Mandate - Measures

Our tracking measures will be

Total Energy Use in BTU per Square Foot per Year

Strategic Energy & Water Plan Mandate - Commitment

I have read and support the Strategic Energy & Water Plan for my organization implemented October 2013.

Approval Signature(s)

(Approval is for both the Declaration and the Mandate above)

_____ Energy Manager

_____ Assoc. VC, Facilities

_____ Vice Chancellor, Business Affairs