

2013 - 2014 Strategic Energy Plan Summary

NORTH CAROLINA A&T STATE UNIVERSITY



1601 E. Market Street, Greensboro, NC 27411
Phone (336) 285-4524 Fax (336) -256-2575

<http://www.ncat.edu>

Assistant Vice Chancellor, Andrew Perkins

MaryAnn Ibeziako, Director of Energy Services & Sustainability



CONTENTS

Executive Summary	2
Supply Side Management	7
Demand Side Management	9
Water Management	12
Awareness and Training	13
Declaration of Support	15

Executive Summary

The North Carolina A & T State University (NC A&T) Strategic Energy Plan (SEP) was developed in accordance with the General Statute 143-64.10 - 12 'Energy Conservation in Public Facilities' - which mandates a comprehensive energy management program for the state government. It is in support of the State Utilities Savings Initiative (USI), established by the Governor's Efficiency Commission. The ultimate goal of the efficiency consumption is to ensure that energy consumption per gross square foot is reduced by 30% by 2015 compared to the base fiscal year 2002-2003.

Since 2003, the North Carolina A&T State University (NC A&T) has reduced its energy use by **19%**. For the fiscal year 2012-13, NC A&T avoided \$1,054,942 in energy costs and \$512,467 in water costs.

Our energy intensity was 121,568 Btu/sq.ft. for the 2012-2013 fiscal year. We are on target to meet the goal of [reducing energy use by 30% by 2015](#). Energy efficiency measures in place at the University include:

- A comprehensive energy auditing process to identify improvement areas
- Continuation of the retro-commissioning process for existing buildings
- Development of green network strategies
- Implementation of two energy performance contracts campus wide.

Looking forward, the NC A&T will continue to foster a culture of conservation by improving our understanding of how we use energy so we can continue to make informed decisions and invest in our buildings with energy efficient technology. By purposefully integrating our energy data collection tools to specific facility energy opportunities, along with educating and promoting employee energy awareness, we will strive to continuously drive behavioral change within the University.

This overall plan tracks and reports general NC A&T performance and highlights major activities and accomplishments:

- The total utility cost avoided by the University in 2012-2013 was **\$1,567,409** when compared to the baseline year of 2002-2003.
- The Facilities department continued to upgrade its metering systems and preventive maintenance systems. These upgrades will continue to ensure that the University is able to closely monitor its energy usage as well as take appropriate corrective action in the future to sustain energy savings.
- The University is completing the Investment Grade Audit on its two energy performance contracts. The contracts cover the energy efficiency upgrades on the 17 most energy consuming buildings as well as a campus wide lighting upgrade to the more efficient LED lighting technology.
 - The IGA has been submitted by NORESKO.
 - Projected savings of \$303,259/year and 8% reduction in utility consumption.
 - Johnson Controls to submit their IGA in November of 2013.
 - Projected Savings of \$400K in annual utility costs.
- Utilization of EPA's Portfolio Manager to benchmark the energy performance for the campus to track improvement
- Completion of the retro-commissioning of Williams Dining Hall as part of the ongoing campus master commissioning plan.
 - Project cost was \$42,231 with a projected annual savings in utilities of \$29,014.

Proposed key strategies of the 2013-2014 Strategic Energy Plan include:

- Enhancing the Energy Services and Sustainability website and information portal.
- Utilization of EPA's Portfolio Manager to benchmark the energy performance of the residence halls to track improvement, and apply for recognition from the EPA.
- Implementing sustainable living policies to reduce energy consumption:
 - Providing training to create faculty, staff and student awareness of need to change behaviors that waste energy.
 - Conducting business systems' audit campus-wide and recommending sustainable business practices.
 - Improving organizational capacity to implement these changes across the departments.
 - Implementing pilot Telework project to help improve faculty and staff's work/life balance.
 - Projected overall energy savings goal is 5% reduction in energy consumption.
- Reviewing utility billing rates with suppliers annually (*Utility Expense Management*), and conducting a monthly audit of each utility invoice.
- Continuing with the retro-commissioning master plan for two buildings. Projected savings of \$60,000/year.
- **Continuing with the Energy Savings Performance Contract Program** (*Energy Efficiency/Management and Student and Faculty Engagement*)
 - Negotiating the final Construction Contract
 - Obtaining financing for the Energy Savings Performance Contract
 - Negotiating the final measurement and verification protocol
 - Program Highlights and Goals
 - i. Reduction of energy consumption and operating costs in 17 buildings – additional 8% reduction in energy consumption by 2015.
 - ii. Integrated automation system between all 17 buildings to enable control and communications
 - iii. Sustainability initiatives and energy awareness
 - iv. Student involvement throughout the process
 - v. Sustainable asset management and maintenance
- **On-going University Sustainability Initiatives** (*Student and Faculty Engagement, Community Outreach*)
 - Highlights
 - i. Department of Civil and Architectural Engineering Students - ongoing Building Energy Audits and Recommendations for the Facilities Department
 - ii. Green Paw Aggies - Dorm Room Sustainability Initiatives/Training, Community Outreach Programs
 - iii. Center for Energy Research and Technology (CERT) - Energy Day (Outreach program)
 - iv. Department of Construction Management – Carbon Inventory
- Working with the IT department to help implement Energy Management application system to track, capture, document, and manage energy usage data in a network environment.