

Strategic Energy and Water Management Plan

UNC Asheville

October 4, 2013

EXECUTIVE SUMMARY

PURPOSE

North Carolina General Statute 143-64.12 requires the energy consumption per gross square foot for all State buildings in total shall be reduced by twenty percent (20%) by 2010 and thirty percent (30%) by 2015 based on energy consumption for the 2002-2003 fiscal year. North Carolina's Utility Savings Initiative was initiated in 2003 by this legislation, but UNC Asheville's energy and water management program has been a systemic, self-initiated effort since the mid 1990's. For fiscal year 2011 – 2012, UNC Asheville's energy use per square foot was 25% below the average for UNC campuses and 10% lower than the next most efficient campus. For the past 5 years, our energy usage per square foot has not decreased, due to several factors. The new buildings constructed on our campus include a laboratory building with 100% outside air, an arena, and a residence hall. The lack of repair and renovation funds and weather have also been factors. The purpose of this plan is to identify strategies to reduce our energy and water consumption.

KEY ELEMENTS OF THE PLAN

- **Energy and Water Data Management-** UNC Asheville has developed an Excel spreadsheet that has been tracking usage of electricity, water and sewer, and natural gas since July 1999.
- **Energy and Water Supply Management-** Electric, natural gas and water bills and campus sub-meters are monitored monthly, and abnormal usage is investigated. At our request Duke Energy Progress has reviewed our rate schedules but no significant savings have been identified if alternate rate schedules were used.
- **Energy and Water Use in Facilities-** UNC Asheville's "Comprehensive Energy Efficiency Policy" in Appendix 1 has been in place since 1996. Recommended temperature ranges for heating and cooling have been established with a university policy since 1975. Campus watering is limited to first year plantings. Occupancy scheduling of HVAC in academic spaces reduces wasted energy.
- **Equipment and Building Efficiency-** Since 1995 our Facilities Department has aggressively pursued improved building efficiency through scheduled preventive maintenance, equipment upgrades, and utility bill spreadsheet analysis. We are continuing to install ground-source heating and cooling whenever feasible for new and renovation building projects.
- **Organization Integration-** The University Planning Council has set energy consumption per square foot as an element our overall strategic plan. Starting in 2003, Campus Operations has developed Design & Construction Guidelines to standardize on energy and water efficient design for new buildings and renovations. The Student Environmental Center strives to promote environmental sustainability working with students, faculty and staff and funding "green grants".

PLAN OF ACTION

- We will complete the campus-wide lighting performance contract in progress that is part of the UNC system wide project.
- Our new and first Sustainability Director will promote behavioral changes to reduce energy and water consumption.
- We will revise our Comprehensive Energy Efficiency Policy to better manage thermostat setpoints and plug loads.
- We will work with the Student Environmental Center to help identify areas of improvement.