

NC STATE UNIVERSITY

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May 3, 2010

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MEMORANDUM

TO: Dr. William Winner, Professor and Co-Chair of CEST
Jack Colby, Assistant Vice Chancellor for Facilities Operations
and Co-Chair of CEST

FROM: Charles D. Leffler, Vice Chancellor for Finance and Business 

SUBJECT: Energy Management Strategic Plan Charge

The current and continuing economic downturn facing the State and the University will challenge us financially for the next several years. It is essential that we continue to explore every possible action to reduce operating costs, especially in the University's non-core areas. We clearly need to look toward new and different methods for conserving energy and reducing our utility costs.

Therefore, I request that you convene the Campus Environmental Sustainability Team (CEST) to renew efforts to identify new and perhaps more restrictive conservation measures for utilities to generate significant savings. To the extent possible, CEST should also investigate and consider alternative utility sources and/or utility delivery systems. The issue is rooted not only in cost reduction, but also in our commitment to sustainability and to carbon neutrality. The output of this effort should be a strategic plan for Energy Management that focuses on tactics that can be implemented over the next three bienniums.

The general goals of the Energy Management Strategic Plan should be to:

- Implement strategies to comply with legislative mandates for energy and water use reduction.
- Meet and exceed the intent of the UNC System Sustainability Plan.
- Support and complement the campus Sustainability Strategic Plan and the campus Climate Action Plan.
- Establish organizational and financial structures that will enable the Plan.
- Evaluate required investments in capital and operating funds to realize the mandated reductions and campus commitments.
- Identify enabling legislation or budgetary changes necessary to produce results.
- Modify the culture at NC State to exemplify leadership in campus energy efficiency.

The Energy Management Strategic Plan should evaluate the following opportunities:

1. Energy Data Management

- Develop historic data and forecasts to predict the impacts of growth on energy consumption and cost.
- Energy use/cost reduction goals for each sector of the Plan.

- Building energy assessments through the ENERGY STAR Building Portfolio Program to identify high yield retrofit options.
- A master plan for Building Automation Systems to enable energy conservation strategies.
- A web based campus real-time Energy Dashboard to enable leveraged buying strategies for utilities.
- A Utility Metering Long Range Plan to support enterprise billing and real time monitoring.
- Reporting strategies to allow trending of progress towards reduction goals.
- Annual tracking of energy cost savings attributable to conservation measures to demonstrate the return on investment.

2. Energy Supply Side/Demand Side Management

- Strategies to improve efficiency of energy use and reduce demand through Combined Heat and Power plant installations.
- A Utility Enterprise to expand opportunities for innovation and investment.
- Optimization programs for central plant operations/demand management.
- An automated campus Electric Total and Peak Shaving Demand program.
- Brokered wholesale electrical and Natural Gas hedge purchases.
- Renewable sources for our energy portfolio, where practical.
- Use the US DOE Higher Education Energy Alliance to identify best practices.
- Innovative utility arrangements with Public Utilities and Third Parties.
- Legislation to allow internal capital financing of conservation projects.

3. Energy Use in Facilities

- Current and modified organizational/reporting structures to achieve better synergy of effort to decrease university energy consumption.
- Energy performance contracting
- A long term strategy for building retro-commissioning.
- Opportunities to incentivize energy conservation by Colleges and Departments.
- Recommendations to maximize space utilization in new and remodeled buildings and to optimize operating hours.
- Aggressive building setback schedules for unoccupied periods.
- Convert the Holiday Setbacks into the Intersession Energy Savings Initiative.
- Design to USGBC LEED-Silver, or higher, for new construction and major remodels.
- The use of Life Cycle Costing and Total Cost of Ownership in capital decisions.
- A Master Plan for Campus Automation to reduce cost.
- Leveraging local Utility Company incentive programs.
- Implementation of Conservation projects through R&R and SEO block grants.

4. Equipment Efficiency

- A Procurement Policy that mandates Energy Star certified devices.
- Incentive programs to encourage upgrades to inefficient equipment.

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- A comprehensive plan for Information Technology energy reductions.
- A laboratory fume hood long term modernization plan.
- Use of life cycle cost analysis to determine equipment upgrades.
- Programs to promote efficiency in plant operations and maintenance.

5. Campus Energy Integration

- A comprehensive NC State University Energy Policy statement.
- An NC State Sustainability/Energy Outreach program that provides a holistic message that integrates the triple-bottom line concept of energy, economy, and environment.
- A student led energy conservation fee initiative to promote awareness.
- Service learning, internship, fellowship, and employment opportunities for students.
- “living laboratory” opportunities for faculty using campus facilities.
- Engaging Centennial Partners in commitments to build and operate energy efficient and sustainable facilities.

Please integrate the Energy Management Strategic Plan within the ongoing Campus Environmental Sustainability Team 5-Year Strategic Plan development process. I would like to receive a draft report of the CEST recommendations to include required investments, budgetary savings estimates, and a proposed implementation schedule by 9/17/10. The completed plan will be due in January 2011 to allow integration with the NC State Sustainability Strategic Plan.

It is anticipated that these measures will require ongoing and, in some cases, increased attention and resources to maintain energy reductions. Please identify steps to ensure appropriate campus culture change to sustain the gains over time.

I would be pleased to attend the first and other CEST meetings as you deem appropriate. Please let me know if you have questions or wish additional clarification of the charge.

cc: W. Randolph Woodson, Chancellor
Warwick Arden, Interim Provost and Executive Vice Chancellor
Kevin MacNaughton, Associate Vice Chancellor for Facilities
Marilyn Stieneke, Director of Planning and Communication

