UNIVERSITY AT ALBANY
State University of New York

Executive Summary
Draft Energy Action Plan

A draft energy action plan was developed by the Facilities Department at the University at Albany and presented to President George Phillips and his senior staff on October 28, 2008. The goals of the energy action plan are:

1. Meet annual/short-term utility budgets
2. Minimize impact of future changes in utility rates and weather/climate
3. Prepare the campus for carbon neutrality/energy independence

Energy benchmarking was performed based on 2007-08 utility usage and costs to compare the campus's energy usage with national average and provide preliminary estimates of the potential for energy reduction. The University uses about 168,000 Btu/SF/Year and spends about $3.45/SF/Year on annual utility costs. The energy use intensity is higher than the national average of 120,000 Btu/SF/Yr for colleges and universities. Some of the important findings of the benchmarking exercise are:

1. Electricity accounts for more than half of the total annual utility costs.
2. On a Btu basis, electricity is three times more expensive than natural gas. Therefore, measures that reduce electricity yield higher $ savings per Btu.
3. About half of the electricity used annually by the campus is consumed by the Academic Podium buildings. Student Housing consumes about a quarter of the total electricity.
4. More than half of the electricity used by the buildings is for lighting and equipment, most of which is occupant-controlled. Heating, ventilation and air-conditioning systems that are controlled by the Plant only account for a third of the annual electric usage.
5. Most buildings on campus have a significant off-peak load, which can be easily reduced.
6. Three quarters of the natural gas and oil used on campus is for space heating, the remaining is for cooling from absorption chillers and domestic hot water.
7. Water is 18% of the annual utility costs, which is higher than that of typical Universities.
8. Residence Halls, including kitchens account for more than half of the water usage on campus.

Based on the benchmarking exercise and a preliminary audit of the Academic Podium buildings performed by the Energy Manager, it is estimated that the University can realistically reduce its energy usage by 14% to achieve an energy use intensity of 140,000 Btu/SF/Year and energy costs savings of $2 Million per year. The plan recommends a portfolio approach to achieve the energy cost savings and includes a comprehensive package of measures that encompass energy conservation, energy efficiency projects and renewable energy and cogeneration technology. The proposed projects can be implemented while maintaining building occupancy. The table below summarizes the estimated costs and savings from the various approaches:

Strategy	Utility Cost Savings ($/Yr)	Net Project Costs Incl. NYSERDA Incentives	Simple Payback (Years)
A. Energy Conservation *Policy and Behavioral Changes*	$450,000	$50,000	0.1
B. Energy Efficiency Projects	$1,200,000	$7,00,000	5.8
C. Renewable Energy and Cogeneration	$350,000	$5,00,000	14.3
TOTAL	**$2,000,000**	**$12,050,000**	6.0

The proposed projects include education campaigns and energy challenges to encourage occupant behavioral changes to reduce lighting and plug loads, upgrades to lighting, mechanical, electrical, energy management and water systems in the buildings, renewable energy technologies such as solar photovoltaic and combined heat and power projects.

The University has started a concerted effort to implement the projects included in the plan. Some of the noteworthy efforts that have already been implemented and yielded significant savings are the Intersession Energy Savings Initiative, the Change-a-Light campaign for students and the Space Temperature Set Point (Heating and Cooling Temperature) Policy.

The University will continue to implement various projects to achieve the goal set forth in the Energy Action Plan but it is estimated that the whole portfolio of projects may take 5-7 years to implement due to budgetary constraints and planning and design requirements.