

## **Introduction**

As per Governor Robert Bentley's Executive Order 25, the University of Montevallo is required to reduce energy consumption by 30% from 2005 levels by 2015. In order to meet these considerations, campus changes must be made - both operational and behavioral - that will lead to the best implementation of comprehensive energy efficient practices and significant reductions in wasteful and inefficient uses of energy. It is imperative that the campus adopt sound energy policies to promote the conservation of energy. This will result in savings that can be invested in University infrastructure upgrades in addition to conserving our natural resources.

UM Physical Plant and the UM SGA herein propose several specific operational changes designed to reduce our campus energy costs and reduce our carbon footprint. These policy recommendations include the utilization of temperature setbacks, demand management techniques, and procedural Energy Star purchasing, among others. Any number of these recommendations, if not all, will have the desired effect of maintaining and increasing the status of the University of Montevallo as a higher-education leader in cost-effective and sustainable energy policy in state, region, and affiliation.

Although energy conservation is the focus of this policy, comfortable work and study conditions must also be achieved. The committee welcomes comments and suggestions on this policy.

**University Temperature Guidelines (Operating Hours)** — To maintain reasonable comfort and lower energy expenditures, we recommend the following standards for comfort heating and cooling in all university buildings excepting residence halls. Exceptions to these guidelines must be approved.

- Summer thermostat settings (air conditioning) are to be 77 F.
- Winter settings (heating) are to be 68 F.

Since students living in residence halls must pay an additional cost for that privilege, they should justifiably be allowed greater control over their conditions of comfort. We recommend the following different standards for residence halls.

- Summer thermostat range (air conditioning) is to be 75-78 F.
- Winter range (heating) is to be 67-70 F.

## **University Temperature Guidelines (Non-Operating Hours) —**

### ***Off-Hours and Weekends:***

***Rationale:*** Any period of closure for UM offers a great opportunity to save money on utilities that can be spent in other areas. Reducing energy expenses in this area can have a significant positive impact, albeit not as large as that of setting temperature guidelines for operating hours.

***Proposal:*** The temperature in non-residential spaces will be allowed to drop to 55°F before heating occurs and will be allowed to rise to 86°F before cooling occurs.

Heating and cooling will be provided for academic, research and student program requests as needed during off-hours, weekends and holidays. (It is recommended that these requests are accepted through the Demand Management policy listed in the following section.)

### ***Holidays:***

***Rationale:*** Past history has shown that very few people occupy the buildings for any substantial time during the holidays. A building should not be officially open just because a few people may want to work during the holidays.

***Proposal:*** During holidays, every effort will be made to ensure that the temperature in non-residential spaces will be allowed to drop to 55°F before heating occurs and will be allowed to rise to 86°F before cooling occurs, with little to no exceptions.

Requests for exceptions to this policy with justification should be addressed to \_\_\_\_\_ with a letter of approval from the Building Manager.

Additionally, every effort will be made to shut down the campus steam system during every holiday period.

## **Demand Management Policy for Off-Hours and Weekend Events:**

All effort should be made to consolidate campus activity into selected buildings. The selection of which buildings to consolidate activities to should be done by the Facility Use Committee and Campus Energy Manager. Involving the Energy Manager is crucial, since some campus buildings require more energy costs to operate in specific parts of the year than others.

***Rationale:*** Through this policy, UM will reduce energy costs associated with building occupancy during building non-operating hours, holidays, and whenever else is deemed essential to reduce energy costs without compromising UM's academic and social missions. Currently, any official campus and student organization is able to request that any building on campus remain in operation after-hours when that organization wants to have an event there. This has led to an event scheduling process that results in the operation of multiple campus buildings during non-operating hours, which significantly increases energy expenses.

***Proposal:*** In order to reduce the number of campus buildings using energy and increasing expenses, all after-hours campus events should be consolidated into no more than 2 campus buildings, as chosen by campus representatives listed above. The current receiver of organizational requests for after-hours events will be responsible for consolidating all events into these specific buildings.

All fraternities and sororities who maintain their own chapter halls will be directed to house events at those locations, instead of having increased energy expenses at a campus building.

All requests for ongoing events would need specific approval from Campus Energy Manager and Chair of Facility Use Committee. (We would show proof of why this is an important policy recommendation here by showing the Theater Dept.'s outrageous request.)

## **May Term Classroom Consolidation Policy**

***Rationale:*** During May Term, a very limited number of courses are offered in any given year. Additionally, May is one of the highest temperature months at UM, with air conditioning draining large energy expenses. Past initiatives of UM Physical Plant have shown that shutting down as much air conditioning as possible during this timeframe significantly reduces energy expenses.

By consolidating classes to select buildings, UM Physical Plant can ensure that our energy costs are minimal and that all students receive a standard level of comfort for the entire academic term.

***Proposal:*** During May Term, every effort should be made to consolidate all classes to a maximum of 2 campus buildings. Due to the inability to move science, art, and music classes due to mandatory classroom equipment needs, it is recommended that classes be consolidated into these three buildings, with particular emphasis on Bloch and Harmon Halls due to larger capacity.

## **Prohibition of Window Air Conditioning Units-**

***Rationale:*** Individual, window mounted air conditioning units are prohibited, due to their inherently short useful life; extreme energy inefficiency and high energy use profile; expensive life cycle cost (energy and maintenance); potential negative impacts on power quality; significant environmental impacts; refrigerant mitigation and disposal costs; objectionable appearance and disruptive noise levels; potential damage to adjacent building surfaces; interference with window operation, maintenance and cleaning; abuse of available building secondary electrical capacity; and their very high potential for breach of building security. Additionally, operating a unit in air conditioning mode below about 50 F outside air temperature will quickly damage the unit.

***Proposal:*** Requests for a window unit must be made to and approved by the Campus Energy Manager and Building Representative. UM Physical Plant will only review a request after it has been determined that the building in question's primary heating/cooling source is not capable of meeting University Temperature Guidelines as listed in the above sections.

## **Prohibition of Space Heaters**

***Rationale:*** The use of fuel-powered and electrical personal space heaters not only negatively impact energy efficiency, it also constitutes a serious fire safety hazard. No personal space heaters of any kind are currently allowed for use on the UM campus by prior policy.

***Proposal:*** The UM Physical Plant houses a supply of space heaters that may be requested for use. Requests for a space heater must be made to and approved by the Campus Energy Manager and Building Representative. UM Physical Plant will only review a request after it has been determined that the building in question's primary heating/cooling source is not capable of meeting University Temperature Guidelines as listed in the above sections.

## **Heating/Cooling Switchover Policy**

### **From Heating to Cooling**

**Rationale:** Facilities personnel perform required changeover from heating to air-conditioning in the Spring. Because of the varying equipment installed throughout campus, buildings must be changed over individually. Facilities performs the changeover on the basis of priorities established to (1) provide comfort to students living in University Housing, (2) maintain required temperatures to protect equipment and research in progress, and (3) serve the greatest number of individuals and activities. Conducting a changeover to satisfy the needs of one or two individuals is a detriment to reducing energy expenses.

**Proposal:** Air conditioning may not begin until outside temperature has reached 75 F for three consecutive days. Temperature projections are also considered. The wide swings in temperature during the Spring of the year and the difficulty in switching between heating and cooling make this policy necessary. Special problems or hardships with this policy should be addressed to the Campus Energy Manager through the Building Representative.

### **From Cooling to Heating**

**Rationale:** Facilities personnel perform required changeover from air-conditioning to heating in the Fall. Because of the varying equipment installed throughout campus, buildings must be changed over individually. Facilities performs the changeover on the basis of priorities established to (1) provide comfort to students living in University Housing, (2) maintain required temperatures to protect equipment and research in progress, and (3) serve the greatest number of individuals and activities.

**Proposal:** Heating may not begin until the high outside air temperature has dropped below at least 55 F for three consecutive days. Temperature projections are also considered. The wide swings in temperature during the Fall of the year have made this policy necessary. Special problems or hardships with this policy should be addressed to the Campus Energy Manager through the Building Representative.

### **Operation of Campus Steam Plant**

***Rationale:*** Much of campus is heated by a campus steam system using large natural gas fired steam boilers. Since steam production is maintained to provide the most comfort to the greatest number of people, the best way to ensure that the greatest comfort for all is achieved is through a set policy that will also reduce energy costs.

***Proposal:*** The plant may not start until the mean outside temperature has reached 45 F for three consecutive days, although temperature projections are also considered.

## **Energy-Efficient Purchasing Policy**

**Rationale:** Aside from the energy consumed to power building systems such as heating, air conditioning, and lighting, high levels of energy are also consumed by equipment plugged into electrical sockets. These "plug loads" vary widely but on average consume 30% of the electricity used in buildings and 20-25% of the electricity used in administrative buildings. Evaluating equipment purchases in terms of maximizing efficiency will save energy, reduce heat buildup, and demonstrate wise resource stewardship. "Life cycle costs" of using the equipment are reduced, often with no increase in the "first cost" price.

**Rationale:** In accordance with Governor Bentley's ENERGY STAR purchasing policy, we recommend that UM adopt a procurement policy to purchase [Energy Star-rated](#) products for all appliances and equipment where this rating exists, for superior energy efficiency; in product areas where this rating does not exist, equipment purchased should be highly energy-efficient.

ENERGY STAR is a program of the U.S. Department of Energy to help save money and protect the environment through energy efficient products and practices. Purchasing Energy Star-rated equipment will improve the University's energy and financial performance while distinguishing our institution as an environmental leader.

**Scope:** This initiative applies to all UM purchases of equipment/appliances where an Energy Star rating exists, regardless of the method of purchase (bid process, Pcard process, etc). The University requestors and buyers will be responsible for considering the environmental impact of the product and the availability of Energy Star rated products. Such equipment will include, but is not limited to: computers, appliances, research equipment, motors, pumps, food service equipment, and electronic equipment.

**Proposal:** To take advantage of these benefits, purchasers of electricity-consuming equipment at UM will henceforth consider energy efficiency as criteria in selecting equipment to be purchased. The purchaser should whenever feasible purchase an item certified under the Energy Star program (see <http://www.energystar.gov>).

### ***For Energy Star Rated Equipment:***

- When competitively bidding a piece of equipment, purchasers will insert the following statement in the bid document:

“ENERGY STAR is a government-backed program helping businesses and individuals protect the environment through superior energy efficiency.”

<http://www.energystar.gov/>

Do the products that will be purchased meet the Energy Star specifications for energy efficiency?

Yes \_\_\_\_\_

No \_\_\_\_\_ If NO, provide a justification statement as to why the Energy Star equipment cannot meet the intended function.

***For categories of equipment for which there are no Energy Star ratings:***

- Purchasers will insert the following statement in the bid document:

Are the products being purchased among the most energy efficient in their product category?

Yes \_\_\_\_\_ (Explain how you know.)

No \_\_\_\_\_ (Explain why you selected this equipment.)

Don't know \_\_\_\_\_ (No energy efficiency ratings are available for the equipment being purchased.)

**State Contracts:** It is recognized that the State Purchasing Office does not always consider energy efficiency ratings, such as EPA Energy Star certification, in selecting equipment to be included in state term contracts. For purchases of equipment that are covered under state term contracts in which there is no Energy Star certified equipment, purchasers will determine if Energy Star equipment is available in the marketplace, and if it is, will competitively bid those items considering Energy Star certification as necessary criteria to meet the campus sustainability commitment.

**Audits:** For purchases valued at \$5,000 or greater, Purchasing Services will review purchase orders to ensure compliance with this policy. For purchases valued at less than \$5,000, departments are encouraged to establish their own internal processes to ensure this policy is followed.

The UM Energy Manager is available to assist purchasers in evaluating equipment purchase options.