



The Center for Energy Efficiency
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Motives for Energy Management on Campus

An article by Joe Whitefield, director of MTSU’s Center for Energy Efficiency (CEE), in the January/February 2003 issue of *Facilities Manager*¹ begins, “There are many compelling reasons for colleges and universities to implement an energy management program. Administrators often cite energy and environmental stewardship, economic stewardship, and an increasing number of academic mission support opportunities as being important to them. Well-designed and implemented energy management projects and initiatives can, of course, meet many of these desires. Why then is comprehensive energy management so rare given these motivations and the significant

opportunities that exist?” Whitefield suggests two areas that are most often at the heart of the problem.

The two areas involve a lack of understanding by the energy management (EM) team about the primary motives related to prioritizing programs, projects, and initiatives and a lack of adequate design of many proposed EM projects to deliver on a primary motive or communication of their benefits in terms of the primary motive. Whitefield feels that establishing the expectations and delivering on them defines EM success.

To assist in identifying motives, Whitefield quotes Lionel Robbins, a British economist, who defines economics as “the study of scarce resources which have

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alternative uses”² where the term “scarce” implies only that there is a limit to a resource (budget, manpower, time, etc.), and prioritization of the use of that resource against other possible uses is needed. According to Whitefield, “the degree of scarcity is not the issue, only that some limit exists and decisions must be made relative to prioritizing resource expenditures and any resultant trade-offs.” This basic definition can also serve as a model for higher education to evaluate EM programs and initiatives.

Establishing EM projects as a priority can be difficult since they compete with other campus projects or initiatives on a cost-and-benefit basis. The individuals involved and their influence on an energy decision also present a challenge. Administrators, financial officials, maintenance staff, consultants, designers, contractors, procurement officials, building occupants, and others each require issues be tailored and presented differently. So many persons with differing interests and levels of participation make it necessary to gain a clear understanding of their expectations. The table below provides a sample of groups and individuals, interests, and issues.

The various interests and issues to be addressed are a good reason why EM projects have “a difficult time competing with other projects for priority position for scarce resources,” according to Whitefield.

Whitefield thinks the energy manager needs to identify and account for the different motives on a campus. The interests of all individuals involved should be “articulated, quantified, and rolled up to represent the collective campus.” He summarizes that “Campuses are in the business of accomplishing their core educational mission by allocating scarce resources that have alternative uses. Poor energy management practices definitely hinder accomplishment of the core mission by using scarce resources in an ineffective manner.” Good energy management that is well designed and implemented contributes many benefits to a campus mission.

For a copy of the entire article, contact the MTSU Center for Energy Efficiency.

¹*Facilities Manager, The official publication of APPA: The Association of Higher Education Facilities Officers, January/February 2003*

²*Basic Economics, A Citizen’s Guide to the Economy, Thomas Sowell*

Various Interest in Energy Management		
Group/Individual	Primary Interest	Performance Issues
Administration	Mission Enhancement	Will the project contribute to a specified goal of the university? Is it affordable? Will it enhance the university image or position?
Financial Officials	Financial Performance	How much does it cost and/or save? Is the project on budget?
Procurement Officials	Procure-ability	Were the procurement regulations followed? Are there potential protests?
M&O Personnel	Maintainability	What are the M&O requirements? Are there sufficient resources to meet the M&O requirements? Are any existing M&O "headaches" being eliminated?
Building Occupants	Functionality	Are the building's environmental conditions (heating, cooling, etc.) improved?
Energy Service Providers	Project Performance	Is the project providing the required operational performance (energy savings, cost savings, etc.)?
Environmental Officials	Environmental Impact	Is there a reduction in or elimination of environmental insults such as plant emissions, pollution, or consumption of fossil fuels?
Others	Varied	Varied
Energy Manager	All of the above	All of the above

The Association of Energy Engineers

Middle Tennessee Chapter



4th Annual Scholarship Scramble

Friday, September 26, 2003

Harpeth Hill Golf Course

8:00 AM

Players – \$45/person – includes greens fees, cart fees, range balls, and lunch. Individuals and teams are welcome. Complete team assignments made on day of play for individuals and partial teams.

Prizes – Door prizes; longest drive; closest to pin; 1st, 2nd, and 3rd place trophies; and two team prizes awarded via a performance based drawing. (The lower the score, the better the chance to win!)

Registration – Deadline 9/01/03. Payment to: Association of Energy Engineers. Forward to address shown below. Contact Ray Hinson at 615-268-4812 for information.

Sponsors– \$175 per hole. Support the AEE scholarship effort or make a donation to the Scholarship Fund.

AEE Scholarship Scramble Registration September 26, 2003

Mail form and payment to: Association of Energy Engineers, c/o ESG, 501 Union St., Suite 300-B, Nashville, TN 37219

Name(s)/Company _____

Contact person/Company _____

Address _____

Phone _____

Entry fee \$45/person X _____ = \$ _____

Sponsor fee \$175/hole X _____ = \$ _____

Donation to Scholarship Fund = \$ _____

Total = \$ _____

_____ Check

_____ Visa

_____ MasterCard

Cardholder name _____

Card # _____ Exp. date _____

Signature _____

Questions...Contact Ray Hinson, Event Chair fax 615-248-3681 phone 615-248-3670

MTSU's ESPC

The first delivery order for the \$10M Energy Savings Performance Contract (ESPC) at MTSU is moving forward with lighting improvements in 23 building on campus, a heating system retrofit in Saunders Fine Arts involving steam valve and associated controls replacement, and absorption chiller optimization in the Central Plant.

Earlier this year, Siemens set up test areas in campus buildings with mock-ups of lighting and water equipment to be installed with this and future delivery orders.

The estimated project cost for the first delivery order is \$1.63M with annual savings of \$220,000. Lighting improvements alone will account for about \$201,000 in savings annually.

The lighting improvements include replacements or retrofits to over 15,000 fixtures; 30,000 T-12 lamps replaced by T-8s and nearly 20,000 electronic ballasts will replace the old magnetic ballasts (most containing PCBs). Also, almost 1,500 incandescent bulbs will be replaced with compact fluorescents, and nearly 500 incandescent exit signs will be replaced with more energy efficient LED exit signs.



It's Time for AEE Golf



The Middle Tennessee Chapter of the Association of Energy Engineers has announced plans for their 4th Annual Scholarship Scramble to be held September 26, 2003 at Harpeth Hills Golf Course.

This is the third year for the event to be held at Harpeth Hills. In the past, all who attended had a great time while supporting AEE's efforts to provide scholarships to students in energy-related fields at MTSU, TSU, and TTU.

As the chapter provides educational programs for the professional community, it contributes to the future of the industry through financial scholarships to deserving students. In the past three years, as a result of the Scholarship Scramble effort, the chapter has awarded more than ten scholarships amounting to \$9,000. Past Energy Expos generated funding for an additional four scholarships and \$3,000. An outstanding effort by chapter members.

So, help support this year's event by sponsoring a hole, donating a door prize, or entering a team. It's for a worthwhile and good cause.



Just FYI-

- Energy Services Coalition Workshop: "Implementing Facility Improvements...requiring no budget increases...Utilizing the ESPC Process" September 16-17, 2003, Cave City, Kentucky. For more information or to register, visit: www.esperform.org or call Dave Edmunds, ESC Tennessee Chapter, 615-741-9357.
- Higher Education Workshop planning underway: October 21-22, 2003, Knoxville, Tennessee. For more information, contact David Doane, U-T Energy, Environmental and Resources Center 865-974-1846.

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