

APPA 2000

Fort Worth, Texas

**Energy Efficiency
at Middle Tennessee State
University**

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MTSU Center for Energy Efficiency

July 17, 2000

www.mtsu.edu/~cee

EE at MTSU

- **As we discuss the EE effort on-going at Middle Tennessee State University, we will consider three areas:**
 - ❑ **MTSU Snapshot**
 - ❑ **The Role of Energy Savings Performance Contracting**
 - ❑ **Advice For Others Interested in EE Programs?**

MTSU Snapshot - Motivations for EE

- **Cutting operating costs, reducing deferred maintenance, upgrading utility infrastructure, and facility modernization are common needs in the Higher Education market**
- **Campus O&M organizations are pressed for options in dealing with these needs**
- **Capital renewal budget limitations coupled with aging facilities and increasing enrollments have the net effect of adding to the problem**
- **MTSU is dealing with each of these conditions**

Motivations for EE cont'd

■ Energy Projects Can Help

- ❑ Efficiency projects and activities (including ESPC, Commissioning, Sustainable Design, etc.) can provide many facility improvement benefits with the added advantage of paying for themselves
- ❑ The key is to consider the whole building when scoping a project

Motivations cont'd

■ Stewardship

- Green is Good

- ❑ There is clearly an environmental benefit (some argue a moral responsibility) to efficiency and sustainability
- ❑ The cost benefits (capital, operating, liability reduction, etc) are considerable
- ❑ The combination of the two, environmental and economic, allows you to do the right thing and make (save) money

MTSU Snapshot - EE Program

- **MTSU has established the Center for Energy Efficiency to provide EE services to the:**

Campus

- **New project development, upgraded metering, building audits, ESPC, etc.**

Classroom

- **Provide academic curriculum and project support, co-ops, scholarships**

Community

- **Participate in professional societies, facilitate EE training, public and private sector consulting, etc.**

Energy Savings Performance Contracting

- Traditionally, EE projects and capital renewal projects do not compete well with new building projects for funding
- ESPC can play a significant role in identifying, developing, implementing, and funding EE projects
- The history of ESPC and Higher Education reads like the good, the bad, and the ugly

Energy Savings Performance Contracting cont'd

- **Critical areas to address when employing ESPC**
 - ❑ **True Campus Needs and Motivations**
 - ❑ **In-House Ability to Manage and Support Contract**
 - ❑ **Administrative Commitment**
 - ❑ **Sound/Reasonable Procurement Approach**
 - ❑ **Appropriate Incentives - Rewards based on desired results (ex: investment vs savings)**
 - ❑ **Sound M&V strategy and savings/cashflow analysis**

Advice On EE Programs

- **There are several things a campus should do when launching an EE program**
 - ❑ **Assess the campus EE and ESPC potential (handout)**
 - ❑ **Consider a Facilities Audit that looks at:**
 - ❑ **Energy**
 - ❑ **Maintenance**
 - ❑ **Functionality**
 - ❑ **L/S & Codes**

Advice On EE Programs cont'd

- ❑ **Establish “true” utility rates**
- ❑ **Learn the in-house procedures for allocating utility costs**
- ❑ **Baseline where possible**
- ❑ **Upgrade metering/submetering where practical**
 - ❑ **Permanent**
 - ❑ **Portable**
- ❑ **Document, Document, Document**

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