Appalachian Energy Summit

APPALACHIAN STATE UNIVERSITY

The University of North Carolina Energy Leadership Challenge

Breakout Session Notes

Utilizing Energy Performance Data in Campus Communications and Building Automation

Discussion Leaders: Jerry Marshall, Appalachian State Physical Plant Engineer, Energy Manager

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Please provide notes that are clear, concise, high level, and actionable. These notes will be initially forwarded to discussion leaders for final editing before publishing to all participants with the objective of providing them with good ideas and helpful contacts.

Len's Section

all buildings are a part of Better Building Challenge
all buildings should have individual meters by Code
- suggested: try giving a copy of the energy code to campus decision makers
- building meters allows billing of specific receipt-funded buildings

Information should be conducted at least as frequently as **monthly**
Benefits of monthly information:
- can be weather normalized
- faster corrective action
    - with monitoring by the minute, problems can be isolated, like Patrick's rough chiller
- better information to send your message
    - Western keeps efficiency stories visible through social media
    - UNC: real-time energy dashboard available @ save-energy.unc.edu (or @ itsapps.unc.edu/energy/)
- engages students, ex: dorm energy challenges @ Western

How to communicate efficiency's importance to decision makers?
- bring in PR people

For *Portfolio Manager* help, try Keith Bradshaw from the State Energy Office

First, know your own goals
Smart Building- uses automation to increase efficiency

Recall the example of a building with one light switch
- we fuss over lights left on, yet HVAC uses much more energy (68% compared to 12%)
- we should fuss over HVAC

3 Strategies for HVAC Efficiency, all three turn something off
- Outdoor Air Economizers (on/off for mechanical cooling/chillers)
  - outdoor air should be used when <55 °F
  - humidity doesn't matter because the air will be heated
- Discharge Air Temperature Reset
  - bad systems will both cool and then reheat air
  - bad systems will cool the air in all 100 VAV boxes when only 1 needs cooling
  - suggested: start cooling at 65°F and decrease air temp 1°F for every 10% of VAV boxes that need cooling
  - suggested: connect to occupancy scheduling, turn off airflow in unused rooms: 90% decrease in airflow
- Occupancy Scheduling
  - occupancy by building only covers ½ the savings
  - suggested: by room
  - *Events2HVAC* ties event calendars to occupancy scheduling