Immediate action steps to create operating cost reductions

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Erick Van Meter, Director of Utilities
Comprehensive Sustainability Planning Initiative

- **Sustainability Plan**
  - A multifaceted approach to addressing sustainability
  - To be introduced on Earth Day 2010

- **Sustainable Energy Management Plan (SEMP)**
  - Long-term, dynamic, campus-wide plan
  - Will guide utility operations and opportunities for academic collaboration

- **SEMP Near-Term Energy Conservation Plan**
  - First stage of SEMP implementation
  - Results-oriented immediate actions
Energy Conservation in Physical Facilities

- An ongoing initiative
- Environmentally prudent
- Fiscally responsible
Timeline for Implementation

- Begin implementation of all initiatives upon receipt of administrative approval

- Initiatives underway with significant progress by the conclusion of the first quarter of 2010

- Update to campus community in conjunction with the introduction of the Sustainability Plan on Earth Day 2010
SEMP Near-Term Energy Conservation Initiatives

- Adjust Building Controls Systems (“BCS”)
- Reduce noncritical lighting (“Lights Out” Campaign)
- Establish a promotional and progress tracking website
- Launch an energy conservation fiscal partnership pilot program
- Publicize administrative commitment to energy conservation
1. Shorten HVAC runtime of non-research spaces
2. Adjust programmed runtime schedules to match class schedules and normal work hours
5. Implement non-occupied/non-scheduled space deep temperature set-back where DDC capability permits
6. Eliminate simultaneous facilities heating and cooling
9. Expand use of global automated reset of hydronic loops
Diversity of system negates “one size fits all” approach

Anticipated value generated by BCS adjustments
- 5–15% reduction in campus heating consumption
- 5–15% reduction in campus cooling consumption
- $0.6M/yr–$1.7M/yr reduction in heating & cooling expense
“Lights Out” Campaign

1. Utilize strategic communication to promote reduction of lighting in unoccupied, noncritical areas

2. Install “lights–out” conservation stickers on lighting switches across campus

3. Anticipated value generated
   - 5–10% reduction in campus electric consumption
   - $0.5M/yr–$1.0M/yr reduction in electric related expense
Promotional and Progress Tracking Website

- Energy Conservation portion of Campus Sustainability Website to include:
  - Data
  - Individual action
  - Staff action
  - Feedback
Energy Conservation Fiscal Partnership Pilot Program

- 20 facilities fully metered and providing data
- Establish a pilot project to share purchased utilities cost savings with departments in exchange for active participation in energy conservation activities
- Facilitate collaboration among faculty, students and Physical Facilities staff
- Target high consumption facilities
Administrative Commitment to Energy Conservation

- Statements supporting and outlining expectations for energy reduction from upper administration
  - Conveys importance of energy conservation
  - Essential for success of initiatives
  - Supports staff charged with implementation of initiatives
  - Describes specific energy conservation activities
Administrative Commitment to Energy Conservation (cont.)

- Where are we now?
  - Benchmarking data comparing energy consumption with that of peer institutions
Campus Energy Consumption Comparison to Benchmarking Peers

**kWh/GSF**

- **Lowest**
- **Average**
- **Highest**
- **Purdue**

**Btu/GSF**

- **Lowest**
- **Average**
- **Highest**
- **Purdue**
Administrative Commitment to Energy Conservation (cont.)

- **What have we been doing?**
  - Promotion of recent successes and results
  - Positive trends established

- **Where can we go?**
  - Potential fiscal benefits in relation to previously cited benchmarking data:
    - To average: $3.9M reduction in purchased utilities
    - To lowest: $8.6M reduction in purchased utilities
Means of controlling costs to address fiscal challenges
  ◦ Basic energy conservation steps and behavior changes will result in cost avoidance
    • 5–15% reduction in purchased utilities expense
    • $1.1M – $2.7M per year potential cost avoidance

A critical component of environmental stewardship
Summary

- Energy consumption reduced without substantial capital outlay
- Strategic communication plan
- High level administrative support
- Potential fiscal benefit to the university by implementing all five proposed near-term energy conservation initiatives with campus-wide engagement:
  - $1.1M – $2.7M per year savings in avoided purchased utility expense