

# Learning and Technology Roundtable

## Energy Management – Draft

October 28, 2008

- 1) What is currently being done @ Minnesota State Mankato
  - a. *Building Services*
    - i. *Recycling*
  - b. *Printing Services - Copy Shoppes*
    - i. *Recycling*
    - ii. *Green Paper – 50% less tree, less processing*
  - c. *Parking & Transportation Services*
    - i. *Buses and Shuttles*
    - ii. *Bike Racks*
    - iii. *Bike Racks*
    - iv. *Electric Vehicle Patrol*
  - d. *Information Technology Services*
    - i. *Virtual servers (less equipment, power, heat)*
    - ii. *Voice over IP (VOIP)*
    - iii. *Computer replacement cycles*
    - iv. *All-in-one machines (labs) (see U of Penn computing consumption stats)*
    - v. *Toner usage*
    - vi. *Printers startup/sleep times ("Power Save mode")*
    - vii. *Printer Environmental Specifications*
      1. *HP 9040/9050: 1,000 Watts (printing) 200 Watts (Ready) 21 Watts (Sleep) 0.5 Watts (off)*
      2. *HP8100DN: 710 watts (printing) 155watts (Standby) 38 watts (PowerSave) .25watts (off)*
      3. *HP4200dtn: 580 (35 ppm) (printing) 24 (Standby) 24.2 (PowerSave).07 (off)*
      4. *HP4300dtn: 685 (45 ppm) (printing) 26 (Standby) 24 (PowerSave) .07 (off)*
      5. *HP4100 450 (printing) 20 (Standby) 20 (PowerSave) 0 (off)*
    - viii. *Duplexing*
    - ix. *Print to PDF (Acrobat, MacOS X Print to PDF, PDFCreator)*
    - x. *Display replacements cycle*
    - xi. *LCD & LED Displays*
  - e. *Facilities Management*
    - i. *Motion detection lighting (occupancy sensors)*
    - ii. *Fluorescent lighting*
    - iii. *HVAC*
    - iv. *Ford Hall examples – construction techniques*  
<http://www.mnsu.edu/news/read/?id=1217252433&paper=topstories>  
*State of Minnesota - Buildings, Benchmarks & Beyond Project*
    - v. *Windows, natural lighting, etc.*
    - vi. *Recycling of old computers and equipment*
    - vii. *E-85 Vehicles*
    - viii. *State-Car replacement cycles*
    - ix. *Campus Beautification*
    - x. *Earth Day*
    - xi. *MSU Gardens*
  - f. *Department in General*
    - i. *All-in-one machines*
    - ii. *Computer replacement cycles*
    - iii. *Laptop usage <lower power consumption>*
    - iv. *Sleeping computers/hibernate*
      1. *Macintosh*
      2. *Windows*
    - v. *Toner usage*
    - vi. *Printers startup/sleep times*

- vii. Duplexing
- viii. Print to PDF (Acrobat, MacOS X Print to PDF, PDFCreator)
- ix. Display replacements cycle
- x. LCD & LED Displays
- xi. Unplug equipment not being utilized
- g. Academic Courses & Colleges
  - i. Allied Health and Nursing
    - 1. Recreation Parks & Leisure
  - ii. College of Science, Engineering & Technology
    - 1. Automotive Engineering Technology
    - 2. Biological Sciences
    - 3. Environmental Sciences
    - 4. Water Resource Center
      - a. Natural Resource Management Certificate
  - iii. Social and Behavioral Sciences
    - 1. Earth Science
    - 2. Geography Department
      - a. WALTER Weather
      - b. MSU Radon Project
- 2) What other campuses do
  - a. wind power (Carleton, St. Olaf, etc.)
  - b. solar
  - c. etc.
- 3) Tips on how to do good energy management @ Minnesota State Mankato
  - a. sleep computer at end of work day
  - b. have printers have startup/sleep times
  - c. duplexing
  - d. toner replacement

### **Articles and Resources:**

Penn Computing

[penn.edu/computing/provider/docs/greenit/](http://penn.edu/computing/provider/docs/greenit/)

[penn.edu/computing/provider/docs/hardware/powerusage.html](http://penn.edu/computing/provider/docs/hardware/powerusage.html)

Campus Technology

[www.campustechnology.com/articles/66092/](http://www.campustechnology.com/articles/66092/)

[apple.com/environment](http://apple.com/environment)

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

[http://en.wikipedia.org/wiki/Green\\_computing](http://en.wikipedia.org/wiki/Green_computing)

<http://www.zdnet.co.uk/toolkits/greenit/0,1000001462,,00.htm>

<https://apps.carleton.edu/campus/sustainability/initiatives/Energyinitiatives/>

<http://www.stolaf.edu/green/report/index.html>

<http://www.cr80news.com/2008/10/28/campuses-banking-partners-going-green-together>

HOW TO GO GREEN: SUSTAINABLE COMPUTING IN HIGHER ED

<http://connect.educause.edu/Library/Abstract/HowtoGoGreenSustainableCo/47542>

Future:

cisco Telepresence

[www.cisco.com/go/telepresence](http://www.cisco.com/go/telepresence)

LED lighting - [leduniversity.org](http://leduniversity.org)