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## **The Greening of IT**

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At Monroe Community College (MCC) in Rochester, New York, the faculty lunchroom has traded plastic and Styrofoam for washable plates and silverware. There's a new green café in the south lounge and a sociology class that's helping to develop recycling solutions for an economically distressed region of Rochester's northeast side. Like thousands of other colleges and universities across the nation, MCC has become increasingly serious about sustainability efforts.

The college is participating in the Association for the Advancement of Sustainability in Higher Education (AASHE) survey to assess sustainability planning and to identify other areas of the institution that should join the college's sustainability initiative. In an effort to contribute, MCC's Educational Technology Services division (ETS) began to dig deep, researching educational technology and campus sustainability programs and reviewing over 20 sources. However, findings suggested that most existing higher education campus sustainability initiatives and related assessments only minimally address areas where educational technology can play a role.

When IT's role is considered, the topic is usually related to energy consumption and often referred to as "Green IT." Of those Green IT issues addressed, the majority are related to energy conservation for large data centers, the replacement of existing equipment with more energy-saving options, and other automated power-saving issues for equipment usage.

Armed with these research findings, MCC's ETS division developed a more comprehensive list of Green IT issues and ideas and developed the framework for a Green IT Campus model. The list, compiled with input from the ETS Executive and Management teams, includes contributions that can be achieved through robust network connectivity, software applications, online services and a variety of technology processes and protocols. This effort significantly broadened the existing view of IT's role in campus sustainability efforts.

The ETS Green IT Campus model listing is presented in four categories based on those used in the campus sustainability projects of other institutions and adapted to IT issues. These categories are (1) power consumption, (2) recycling, (3) transportation and fuel conservation, and (4) other sustainability items.

To finalize the formation of suitable recommendations, MCC's Educational Technology Services VP Office has developed a publicly accessible Green IT Campus model wiki. This wiki shares MCC's proposed Green IT Campus model, provides a list of related resources gathered to date, and includes a summary of exploratory initiatives on the topic of educational technology's potential contributions to campus sustainability efforts.

Visitors to the site are invited to review the proposed model, share their comments, and contribute their own ideas to the framework via the wiki. This feedback will be used by MCC to inform and revise the model so it can become a peer-reviewed framework suitable for replication at other institutions.

The MCC Educational Technology Services Green IT Campus model and related information can be accessed at: <http://mccgreenitcampusmodel.pbwiki.com/>.

*For further information on the Green IT Campus model, please contact Jeffrey Bartkovich, Vice President, Educational Technology Services, Monroe Community College, at [jbartkovich@monroecc.edu](mailto:jbartkovich@monroecc.edu).*

Attachment I. Sustainability in Higher Education and Green IT Selected Resources  
Attachment II. Monroe Community College's Proposed Framework for a Green IT Campus Model

## **Attachment I**

### **Sustainability in Higher Education and Green IT Selected Resources**

#### **Organizations Related to Higher Education**

Association for the Advancement of Sustainability in Higher Education (AASHE)  
<http://www.aashe.org/index.php>

Association of University Leaders for a Sustainable Future  
<http://www.ulsf.org/>

College Sustainability Report Card 2008  
<http://www.endowmentinstitute.org/sustainability/>

Gartner's Top Ten Strategic Technologies for 2008 (Green IT is #1)  
<http://www.networkworld.com/news/2007/100907-10-strategic-technologies-gartner.html>

Higher Education Associations Sustainability Consortium  
<http://www.aashe.org/heasc/>

MIT TechnoCycle (See Electronics and TechnoCycle)  
<http://web.mit.edu/workinggreen/reuse/recycle.html#elec>

North American Alliance for Green Education (student group)  
<http://www.naage.org/>

Society for College and University Planning (SCUP) Sustainability in Higher Education  
[http://www.scup.org/resources/topic\\_issue/sustainability.html](http://www.scup.org/resources/topic_issue/sustainability.html)

Sustainability Questionnaire Categories  
[http://www.ulsf.org/programs\\_saq\\_chart.htm](http://www.ulsf.org/programs_saq_chart.htm)

University at Buffalo, Environmental Stewardship and the Green Campus  
<http://wings.buffalo.edu/ubgreen/content/resources/envstewardship.html#sec16a>

U.S. Partnership for Education for Sustainable Development  
<http://www.uspartnership.org/>

Working Green at MIT  
<http://web.mit.edu/workinggreen/about/index.html>

## **Events**

Greening of the Campus IV Conference Program 2007  
<http://www.uspartnership.org/>

## **Resources**

Eight Ways to Green Your Existing Data Center  
<http://www.techworld.com/green-it/features/index.cfm?featureID=3795&pagtype=samecatsamechan>

Five Steps to Green IT  
<http://www.eweek.com/article2/0,1759,2195286,00.asp>

Gibson, Stan. How Green is Your IT Valley? *eWeek Insight*, pp. 46-53, January 21, 2008.

The Green Grid  
<http://www.thegreengrid.org/home>

Green IT: Determining the Business Case for Action (conference agenda)  
[http://www.informa.com.au/ibcoz/marlin/system/render.jsp?siteid=30000000421&marketingid=20001606220&MarlinViewType=OPTION\\_VIEW&productid=20001606221&optionid=20001606240&proceed=true&MarEntityId=10029515291&entHash=254a4a1f5](http://www.informa.com.au/ibcoz/marlin/system/render.jsp?siteid=30000000421&marketingid=20001606220&MarlinViewType=OPTION_VIEW&productid=20001606221&optionid=20001606240&proceed=true&MarEntityId=10029515291&entHash=254a4a1f5)

Green IT: Fatigue Setting in Already?  
<http://blogs.zdnet.com/BTL/?p=6582>

Green IT: Minimizing the Environmental Footprint of Your Technology Systems  
<http://www.netcorps.org/press-room/netcorps-blog/archive/2007/11/01/green-it>

Green IT: Strategies Stifled by Inertia  
[http://www.news.com/Green-IT-strategies-stifled-by-inertia/2100-11392\\_3-6210589.html](http://www.news.com/Green-IT-strategies-stifled-by-inertia/2100-11392_3-6210589.html)

Green IT: Understanding Its Role and Opportunities  
<http://www.idc.com/research/greenit.jsp>

Integrating Sustainability Across the Campus  
<http://www.arnoldcreekproductions.com/SustainabilityHigherEducation.htm>

It's Not Easy Being Green  
[http://www.businessweek.com/technology/content/may2007/tc20070514\\_061202.htm](http://www.businessweek.com/technology/content/may2007/tc20070514_061202.htm)

What Is Green IT? Part 1  
[http://energypriorities.com/entries/2007/06/what\\_is\\_green\\_it\\_data\\_centers.php](http://energypriorities.com/entries/2007/06/what_is_green_it_data_centers.php)

## **Attachment II**

### **Monroe Community College's Proposed Framework for a Green IT Campus Model**

MCC's proposed Green IT Campus model is organized into four categories: Power Consumption, Recycling, Transportation and Fuel Conservation, and Other Campus IT Sustainability Items. Examples of potential campus initiatives within each category are provided and reviewers are invited to comment and contribute to the model. It is recommended that survey questions related to these IT categories be formulated for possible inclusion in future AASHE and other sustainability-related consortia survey instruments.

#### **Power Consumption**

- Purchase PCs, printers, and other peripherals (for offices, computer labs, classrooms, libraries) that are compliant with the EPA Energy Star program.
- Address server virtualization and data center power usage and related HVAC issues.
- Place autocontrols on data projectors and bulbs in smart classrooms and campus meeting and conference rooms.

#### **Recycling**

- Implement a recycling program for
  - PCs, monitors, and peripherals (partner with vendors, as needed)
  - Mobile devices
  - Batteries
  - Toner
  - Outdated software CDs
  - Shredded and baled paper
  - Packaging that the technology/equipment is delivered in, Styrofoam, plastic, cartons, etc., which may be used for lab experiments if green issues are designed into the curriculum.
- Use recycled paper for copying and printing.
- Address strategies for a reduction in paper usage throughout the institution, including better education for end users on how to print one page only from websites, emails, etc.
- Implement an imaging system that reduces the number of files that need to be retained in hard copy.
- Seek advice from campus records and retention experts to determine measures that may reduce the number of college-related hard-copy archives and the space needed to retain these files.
- Implement a process for weeded library journals to be made available to other libraries to help fill gaps in collections.
- Reuse manila envelopes, jiffy bags, and fabric shipping bags for interlibrary loan.

#### **Transportation and Fuel Conservation**

- Online courses (asynchronous and blended) reduce students' need to drive regularly to on-campus sites for classes.

- Use of videoconferencing between campus sites can reduce travel and save time for faculty, staff, and administrators.
- Use of webinars, webcasts, and audiocasts for professional development can reduce travel and travel costs and save time for faculty, staff, and administrators.
- Use of enterprisewide online informational and transactional applications (i.e., Banner) allows for
  - Online access to student services and records, which reduces the need for additional student travel to campus to request a transcript, register for a course, complete a housing application, view schedules and grades, etc.
  - Online access to campus records, which reduces faculty, staff, and administrator travel to campus sites on evenings and weekends.
- Use of a VPN (virtual private network) allows faculty, staff, and administrators secure access to their electronic files without traveling to campus on nights and weekends.

### **Other Campus IT Sustainability Items**

- Use of an integrated email-delivered pay stub reduces paper and postage costs.
- Use of integrated reporting applications (i.e., Web Focus and e~print) saves paper and provides time savings when looking for records online.
- Use of online timesheets reduces paper usage, provides 24/7 access to input and approval of time sheets, and reduces the need for travel to a campus-based site to sign hard copies of timesheets.
- Use of a pay-for-print system may reduce unnecessary or “frivolous” printing (i.e., users printing pages they never collect, erroneously submitting one print job multiple times, or printing several pages instead of the one page that is wanted).
- Create department-specific records-retention schedules so that only necessary records are retained.
  - Use microfiche to store records the institution is legally compelled to retain, thus permanently reducing needed storage space and preserving records for future retrieval.
  - Replace alkaline battery flashlights with rechargeable emergency flashlights.
  - Minimize press runs of hard-copy campus publications, consistent with actual need.