
Action Project

Institution: Blackhawk Technical College
Submitted: 2008-08-05 **Contact:** Ms. Kedron Wiersgalla
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Timeline:

Planned project kickoff date: 08-01-2008

Target completion date: 11-01-2011

Actual completion date: --

A. Give this Action Project a short title in 10 words or fewer:

Energy Conservation for Cost Savings

B. Describe this Action Project's goal in 100 words or fewer:

The major goal of this project is reduce energy use at BTC which would save money, inspire the college to become more "green", and help to reduce BTC's carbon footprint. In addition, reducing energy costs will affect the school's budget positively, and those savings will be used to benefit students.

C. Identify the single AQIP Category which the Action Project will most affect or impact:

Primary Category: Supporting Institutional Operations

D. Describe briefly your institution's reasons for taking on this Action Project now -- why the project and its goals are high among your current priorities:

This project will have a direct impact on the school's budget and will raise an "energy consciousness" among its students, faculty, and staff.

E. List the organizational areas - -institutional departments, programs, divisions, or units -- most affected by or involved in this Action Project:

All operational and program areas within the college will be affected.

F. Name and describe briefly the key organizational process(es) that you expect this Action Project to change or improve:

This project could potentially change work processes and the utilization of computer and environmental control systems. The intent is to identify areas for potential energy savings without negatively affecting learning or business operations.

G. Explain the rationale for the length of time planned for this Action Project (from kickoff to target completion):

The time is needed to assess all campuses and to formulate and implement solutions.

H. Describe how you plan to monitor how successfully your efforts on this Action Project are progressing:

The action project team will establish goals and timelines based on previous energy consumption records.

I. Describe the overall "outcome" measures or indicators that will tell you whether this Action Project has been a success or failure in achieving its goals:

Success will be determined by the amount of energy reduction as measured in kilowatt hours or therms of natural gas.

J. Other information (e.g., publicity, sponsor or champion, etc.):

Vice-President of Finance and College Operations

K. Project Leader and contact person:

Contact Name: Steve E. Davidson, Chief Information Officer

Email: sdavidson@blackhawk.edu

Phone: (608)757-7659 Ext.

Annual Update: 2009-09-03

A. Describe the past year's accomplishments and the current status of this Action Project.

Accomplishments for 2008-2009 and Current Project Status Information Technology Services Developed Green IT Strategic Plan The Chief Information Officer, Steven Davidson, and his staff developed the College's first Green IT Strategic Plan. The Green IT Strategic Plan outlines how the Information Technology Services Division will conduct energy-related activities in support of the College's mission in an environmentally, economically and fiscally sound, integrated, continuously improving, efficient, and sustainable manner. ITS will release, annually, a document with transparent goals, to include; 1) an updated Green IT Plan; and 2) achievements to the listed goals. Joined Environmental Protection Agency's (EPA) ENERGY STAR Low Carbon IT Campaign Blackhawk Technical College joined the Environmental Protection Agency's (EPA) ENERGY STAR Low Carbon IT Campaign. Low Carbon IT Campaign is a nationwide effort to assist and recognize organizations for reducing the energy consumed by their computers and monitors. Saving energy reduces air pollution associated with the burning of fossil fuels, and ultimately lowers the risk of global warming. To qualify for membership, the College pledged to activate power management features on our monitors and computers to save energy and reduce your carbon footprint. BTC is committed to increasing energy savings further by purchasing ENERGY STAR qualified computers and monitors. Developed Information Technology Services Standards 1. New technology will meet at least 95 percent of those requirements with an Electronic Product Environmental Assessment Tool (EPEAT) - registered electronic product, unless there is no EPEAT standard for such product. 2. Energy Star features will be enabled on College computers, monitors, and printers. 3. Establish and implement policies to extend the useful life of College electronic equipment. 4. Use low or zero cost environmentally sound practices with respect to disposition of College electronic equipment that has reached the end of its useful life Reducing Printing Costs and Waste. The Information Technology Services (ITS) department implemented new printing defaults to all campus printers to be set for duplex (two-sided) and monochrome (black & white) printing. These defaults help reduce paper consumption and color printing. Students, faculty and administrators must make a conscience decision to print single-side or use color in their printing jobs. Other printing initiatives include: 1. Continue to reduce the number of power inefficient and unnecessary printer owned by BTC. 2. Use lease printer/copier equipment where possible for power efficiency.

Reducing Staff Travel To help reduce carbon emissions generated by staff travel to and from other campuses and sites, IT staff are able to troubleshoot and repair a large percentage of problems via remote control technology. Travel to other locations by IT staff is only necessary when a physical hardware problem cannot be resolved “over-the-wire.” Authorized faculty and administrators have remote access via a Virtual Private Network (VPN) connection allowing them to work from home and have access to many of the same online services they would have in the office. Reducing Commuter Traffic Staff are not the only carbon culprits on campus. With increase enrollments, student commuters increased. BTC continues to offer more courses online to cut down on the impact of student commuters. It’s estimated that the number of college students taking at least one online course has doubled in recent years, but what was once a solution for older, working students has become increasingly popular for traditional-age commuters. Better tools for content delivery and collaboration have bolstered the online education, helping faculty teach in content-rich virtual classrooms. Virtualization Infrastructure BTC continues to leverage virtual computing for servers to reduce the number of physical servers on campus. Over the last year, ITS piloted a VMware Virtual Desktop Infrastructure (VDI) solution. VDI is designed to deliver rich, personalized virtual desktops to any computer in the College with all the benefits of centralized enterprise desktop management. The VMware VDI lets IT run virtual desktops in the datacenter while giving end users a single view of all their applications and data in a familiar, personalized environment on any computer at any location. BTC can leverage greater flexibility, reliability, efficiency and security managing desktops and applications from the datacenter. Equipment Replacement Cycles The Desktop and laptop computers, as well as printers deployed in 2008 – 2009 are ENERGY STAR version 4 compliant and are also EPEAT Gold certified. All CRT monitors on the College’s production network have been replaced with LCD flat panel monitors. Facilities Management Controlling hallway and exterior lighting on Energy Management System By putting lighting for hallways and exterior on the energy management system (Andover) we are better able to monitor and control lighting at Central Campus, Monroe Campus and the Beloit Center. This allows us to turn lighting off during holiday or none use times. Setting temperatures for winter and summer By setting the temperatures to a set degree for summer and winter like in the summer having a warmer temp and the winter having a cooler temp the air conditioning and boilers do not have to run as much to maintain temps. Managing the hours of operation to reflect on when the ventilation runs During the weekdays running the ventilation while school is in session and turning it off during down times. On the weekends only running the areas of the school which have classes scheduled. Also on Saturdays trying to group classes in clusters in certain wings of the building to reduce running extra equipment. Updating Air Handlers with Variable Frequency Drives (VFD) and Direct Digital Control (DDC) When updating to a VFD it allows the machines to reduce the motor on the equipment by cutting back on the electrical draw during times there is not a call for full use of the motor and allows to motor to ramp back up when needed. The DDC controls allow us to monitor and maintain a more even control of the ventilation in the areas of the building which allows the ventilation systems to reduce their use. Applying glare reduction to oversized windows On the second floor in the library area we applied window glazing to reduce glare and to cut back on the heat that is generated through the windows to help cut back on the ventilation. Updating the Water Softeners By updating the water softeners we are able to run soft water to our cooling towers for the air conditioning units which allow us to save money on chemicals and also reduce the amount of water used by the cooling towers. This also reduces the amount of water used in the entire campus because the computer on the softeners is able to monitor and

adjust the softeners only when they need to compared to a scheduled time like the old units.

Review (09-18-09):

The green initiatives employed by the administration and staff of Blackhawk are wonderful illustrations of several AQIP Categories. Had the college merely utilized the energy saving techniques of the EPA's Low Carbon IT Campaign, it would have shown sufficient evidence to meet the category primarily affected by this initiative (AQIP Category 6 – Supporting Institutional Operations). However, by expanding the plan to include information technology, facilities management, and even human relations, Blackhawk has succeeded in implementing a program to meet several categories. The creation (and subsequent implementation) of the Green IT Strategic Plan succeeds in demonstrating the principles of AQIP Category 8 (Planning Continuous Improvement). Developing IT service standards, reducing printing costs, controlling lighting, and updating the water softeners each help to accomplish other distinct objectives (AQIP Category 2). The reduction of staff and student travel, application of glare reducing window glaze, and replacing CRT monitors with LCD monitors also demonstrate a pure value of people (AQIP Category 4), an understanding of stakeholders' needs (AQIP Category 3), and helping students learn (AQIP Category 1). The progress made in only one year is laudable, and Blackhawk should be proud of its accomplishments. Many of these initiatives are low-cost (or no-cost) ways to improve the College's operational effectiveness and efficiency which should effectively be demonstrable in the college's bottom line.

B. Describe how the institution involved people in work on this Action Project.

This action project has been communicated College-wide through leadership meetings; staff/administer meetings, and in-service sessions in addition to general email communications. The awareness and the importance of this project have been communicated; and is supported from the top down. In the early communication period of 2008, people contributed their ideas. Ideas were assess and prioritized for varying phases of implmentation. The primary participants are members of facilities maintenance and information technology departments.

Review (09-18-09):

Involving the leadership of the college in focus groups to collaborate on ways to improve this project demonstrates several AQIP Principles of High Performance Organizations (Focus, Collaboration, Involvement, Leadership, Learning, Information, and People). Great job on gathering and utilizing the collective intelligence of the entire campus community! [NEW PARAGRAPH] The project description does talk about "rais[ing] an 'energy consciousness' among [Blackhawk's] STUDENTS, faculty, and staff." There does not appear to have been any communicative or public relation strategies put in place to raise the "consciousness" of the students. If the college is actively propagating its intents, this should be mentioned in the next report. If, however, the college is not spreading this news to the students, it is probably failing to meet this people group. Additionally, the collective power of spreading the news and soliciting feedback about the initiatives could be an effective way to find additional ways to help Blackhawk meet and exceed the goals of the project.

C. Describe your planned next steps for this Action Project.

Forward Projection of Projects 2009 2010 1. Launch Awareness program of Blackhawk Technical College's participation in the ENERGY STAR Low Carbon IT Campaign, part of EPA's ongoing efforts to help save energy and money. 2. Implement a power management scheme for BTC computers 3. Computer Deployment for 2009 - 2010 4. Desktop and laptop

computers deployed will be ENERGY STAR version 4 compliant and are also EPEAT Gold certified. 5. Printers deployed will be ENERGY STAR version 4 compliant and are also EPEAT Gold certified. 6. Implementing desktop virtualization where possible 7. Continue implementing server virtualization to eliminate, where possible, the use of physical servers and to better utilize those physical units still in use 8. Decommissioning or further consolidating unneeded or underutilized hardware 9. Develop Request for Information to determine and analyze printing needs for possibly implementing a campus-wide Manage Print Service model. 10. Wherever possible, purchase equipment rated by ENERGY STAR or the Electronic Product Environmental Assessment Tool 11. The ITS division will implement ENERGY STAR Power Management features as recommended by the Environmental Protection Agency (EPA) — standard in Windows and Macintosh operating systems — place monitors and computers (CPU, hard drive, etc.) into a low-power “sleep mode” after a period of inactivity. Activating sleep features saves energy, money, and helps protect the environment. Facilities 1. Continue on the long range plan to update the existing Air Handling Units. 2. Look into the cost of updating the parking lot lights to LED. 3. Add additional controls to the parking lot lights to make zones to allow us to turn lights off when the whole parking lot is not in use. 4. Continue to add motion sensors and make the existing ones work or update to ones that are suitable for our applications. 5. Continue to add hallway lights to the Andover system to reduce when they are on and to monitor and reduce lights to an adequate candle watt level. 6. When purchasing new equipment try to replace with a more efficient model for energy and use reduction.

Review (09-18-09):

Continuing to work the plan is a great idea, however, two of the next steps for the “facilities” section are troublesome. Turning off certain parking zone lights and having current non-working motion sensors could be legal liabilities. Make sure to seek advice from the college’s General Counsel on these initiatives. “Mak[ing] the existing ones work” should be a higher priority than number four on this list.

D. Describe any "effective practice(s)" that resulted from your work on this Action Project.

As a large energy consumer in the community, Blackhawk Technical College, a public institution, has both a tremendous opportunity and a clear responsibility to lead by example with smart energy management. By promoting energy efficiency and the use of renewable energy resources, we will save energy, reduce carbon output, and demonstrate leadership with responsible, cleaner energy choices. Information Technology Services division will investigate and implement cost-effective technologies, processes, and policies to decrease overall energy consumption in delivering IT products and services to College stakeholders. Implementing an energy efficiency program must not require elimination or a reduction in services that may materially affect learning and business productivity or effectiveness. As the impacts of carbon emissions take more of the spot light in our community, Blackhawk Technical College’s sustainability efforts are increasingly turning green, focusing on ways to use resources more efficiently, consume less, and reduce our carbon footprint. Information Technology can have a direct impact on the College’s institutional carbon levels and the potential for new technologies to reduce inefficiencies. In 2008, starting with the AQIP Project 5: Energy Cost Savings, the ITS division began developing and implementing Green IT and sustainability solutions in its contribution to college-wide greening and sustainability efforts.

Review (09-18-09):

It sounds like the entire community that Blackhawk serves can benefit from the initiatives made

during this Action Project. The college could expand its effectiveness and help the community further by creating strategic collaborative relationships with other members of the community (AQIP Category 9) and becoming a leader in energy saving techniques in the community (AQIP Category 5). By being a public institution, Blackhawk has an inherent debt to the community it serves. By involving the external stakeholders in the process, the college should find even more ways to meet and exceed the goals of this project.

E. What challenges, if any, are you still facing in regards to this Action Project?

This action project has been communicated to the College through leadership meetings; staff/administer meetings, and in-service sessions in addition to general email communications. The awareness and the importance of this project have been communicated; and is supported from the top down. However, the few people that do attend to project meetings do not represent a diverse cross section of stakeholders in the College. Conversely, these attendees represent those who are responsible for support facilities maintenance and information technology operations where energy management and consumption is prevalent.

Review (09-18-09):

It goes without saying that time is a valuable commodity that many people closely guard. If this project sounds like it solely benefits the facilities and IT portions of the college, other stakeholders may not see any benefits in giving their time to attend meetings/read communications. This is where expanding the channels of communication may help. Students are a valuable tool here. Involving student groups, communication classes, and classes in energy conservation or IT can be a resource for additional (essentially free) advertising. Meet with student leaders and faculty members to let them know the details of the project. Ask professors if they would include assignments in their classes on “communicating energy saving techniques” or finding “viral” methods of spreading the word. The answer is in the involvement of all stakeholders and learning something new from each person. Strategizing on ways to more effectively communicate the benefits of the project will go a long way in helping Blackhawk achieve its goals.

F. If you would like to discuss the possibility of AQIP providing you help to stimulate progress on this action project, explain your need(s) here and tell us who to contact and when?

Review (09-18-09):

N/A