

Conference Report

From Idea to Implementation: Driving Energy Conservation On the Small College Campus

In the spring of 2009, the Jessie Ball duPont Fund unveiled a new grantmaking initiative to help small private liberal arts colleges and universities reduce their energy consumption -- a move that would both help the environment and help the institutions' bottom lines. Through a series of conferences, college presidents, finance directors, facilities managers, faculty and students were introduced to strategies and resources that could help institutions lower energy costs and reduce their carbon footprint.

Two years later, in June 2011, representatives of these colleges and universities came together to assess progress and share lessons learned. Through their collective conversations, they identified some key challenges to making real progress on energy conservation, and strategies to overcome those challenges.

This report captures the lessons shared by representatives of the 34 institutions participating in the 2011 conference.

A CALL TO ACTION

If any of the 150 conference participants were skeptical about the urgent need to address energy conservation, their doubts were challenged at the outset by David Orr, Paul Sears Professor of Environmental Studies and Special Assistant to the President at Oberlin College.

Speaking at the opening dinner, he noted there is a 30-year lag between pollution emissions and climate events, meaning the extreme weather we are experiencing today is the result of our pollution in 1980, when CO₂ output was much lower. That fact alone should provide the motivation needed to launch more aggressive efforts at energy consumption.

Eighteen of the 34 institutions represented at the conference have signed the American College and University Presidents' Climate Commitment, promising to develop a plan to achieve climate neutrality.

But as with all large-scale, systemic change efforts, there are a host of challenges that require creativity and perseverance to



Bob Kennedy, of Einhorn, Yaffee Prescott Architecture & Engineering, shares results of an energy consumption and cost analysis with the conference attendees. (Mike Erdelyi)

overcome. During the course of the conference, some participants lifted up the challenges they were facing and others shared how their institution had overcome similar obstacles.

The Jessie Ball duPont Fund Energy Conservation Initiative

Among the 330 organizations supported by the Jessie Ball duPont Fund are 37 small, private liberal arts colleges and universities. In 2009, the Fund offered grants of up to \$150,000 to these colleges for energy conservation.

Grants were awarded to help them do two things:

- Gather, monitor and analyze the data needed to assess the institution's energy usage over time;
- Institute policies, capital improvements and/or programs that address energy conservation and efficiency on all fronts.

Since then, 16 colleges have received grants totaling \$1.8 million.

Grants have supported energy audits, hardware and software to collect data, personnel to support coordination of sustainability efforts, campus energy plans, facility upgrades (e.g. programmable thermostats, energy efficient lighting, windows and boilers) and a host of projects designed to engage students and faculty. For a complete list, see Page 4.

FINDING NEEDED RESOURCES

It is generally agreed that dollars invested in energy conservation efforts will reap paybacks over time. But the initial up-front investment can prove challenging, particularly when budgets are tight and faculty and staff are experiencing wage freezes and other cutbacks.

"Money is a huge challenge - no one wants to fund a chiller or pipes," said one administrator.

"When faculty hear that millions have been dedicated to plant issues and they aren't seeing a dime in their pockets, morale sinks," said another.

And then there is the need for expertise: how do finance directors, facilities managers and college presidents know that the bill of goods being sold makes sense?

Lynchburg College has tackled each of those challenges, with the administration taking an aggressive but thoughtful approach.

After carefully reviewing a list of campus needs, Lynchburg administrators decided to borrow to invest \$4.6 million in projects to upgrade lighting, HVAC, chillers, boilers and other equipment. Energy savings mean the investment will pay for itself in less than eight years, and the savings to the environment are equivalent to planting 1,215 acres of trees every year, according to Stephen Bright, the college's vice president for business and finance.

Lynchburg worked with an energy service company (ESCO) to develop the plan and hired an independent consultant to monitor contractor performance and energy savings.

"As we looked at these projects, we realized this was a good business move for the college," Bright said.

Others agreed that having such a comprehensive, campus-wide strategy for energy conservation can help facilities managers, finance managers and administrators make the sometimes difficult choices they need to make, and keep projects on track.

ENGAGING STUDENTS & MEETING EXPECTATIONS

Students, and their family members who may pay the bills, are a college's No. 1 customer. And while students may voice support for energy conservation and a greener planet, they typically have high energy demands and expectations. From 24-hour library access to top-of-the line recreation facilities (consider the energy costs of indoor swimming pools), students desire amenities that often present real challenges to conservation efforts.

And student expectations often are not far removed from the expectations of faculty and staff, all of whom want to be comfortable.



Hayden Higgins, a student at Davidson College, takes notes during a breakout group at the 2011 energy conference. (Mike Erdelyi)

At both Ferrum College and Agnes Scott College, administrators have worked hard to engage students in the daily work of energy conservation. Both schools have hosted competitions to encourage energy savings, using tools that allow students to monitor the energy consumption of their building or dormitory. Agnes Scott also has launched a sophisticated campus-wide messaging campaign encouraging conservation.

"It's all about balancing buildings and people," said Susan Kidd, Agnes Scott's director of sustainability.

Students, faculty and staff can access real-time information about energy use at Agnes Scott through www.buildingdashboard.com/clients/agnesscott. And the college has developed a number of community partnerships to help encourage conservation.

"We have a core group of students," said Glen Stevens, assistant professor of biology and environmental science at Ferrum. "The challenge is broadening that group."

"Everything takes time," Kidd advised. "You need to teach, not preach."

An important point for administrators to remember is this: While much effort is focused on students and residential life as a driver for energy reduction activities, most of the true energy costs on campuses are generated in other places and other ways. For example, Stevens noted that the "resting" energy consumption in Ferrum's student union building was 100 KWH, which was greater than the median peak demand for any of the school's dormitories.

EASING CHANGE & DISRUPTING HABITS

Reducing energy consumption is all about changing behavior, and change, as we all know, is difficult.

Several administrators noted that campus energy costs could be significantly reduced by dramatically changing how the institutions work. For example, more efficient use of a fewer

number of classroom buildings - through longer scheduling of classroom hours during a day (e.g., 8 a.m. - 9 p.m.) - could allow schools to operate fewer buildings and drive down costs significantly. That, of course, requires significant changes in schedules for students and faculty.

Faculty members at the conference noted the reluctance of many of their peers to change their teaching patterns to introduce sustainability topics into the curriculum. "Faculty are judged on how they teach their core material," said one. "There are not a lot of incentives to go beyond that and cross over into other disciplines."

However, several institutions have used specific strategies to broaden the engagement of faculty and help institutional leaders move out of their comfort zone.

At Hollins University, Renee Godard, professor of biology, explained how she and her colleagues had been successful with a



Ann Keeler, vice president for finance, and Teshome Molalenge, executive director of Facilities Support and Auxiliary Services, both of Bridgewater College, compare notes. (Mike Erdelyi)

very low-key, non-threatening approach to faculty. They started a reading group that would read about sustainability. There was no discussion of introducing it into the curriculum; the group was just on a personal journey of learning. As interest grew, group members invited other friends until today, almost half of the faculty is engaged, creating a critical mass that Godard hopes will move the issue forward.

Other institutions have used the

Sustainability Committee or Council as a tool for engagement. One tactic is to create a very large council, with many individuals engaged, so no one person feels too great a burden but many players on campus are touched. Another tactic is to include high-level influentials on the council or committee, enticing others to participate.

A campus lecture series also can serve as a stimulus not only for faculty, but for students and the community.

For faculty teetering on the edge of embracing change around sustainability, one-credit courses may help make the transition.

Of shorter duration, they allow faculty -- and students -- to put the proverbial toe in the water and try on a new subject and a new approach.

LEADERSHIP, LEADERSHIP, LEADERSHIP

None of these approaches, however, will take an institution very far without the committed leadership of the most senior level personnel.

Students, finance directors, facilities managers, faculty and staff all said they need real support from the president and top administrators, not just lip service. If there is a sustainability office on campus, it needs to be located in the president's sphere, not isolated in a remote department.

"You can't appoint a sustainability coordinator and then dust your hands and think you've taken care of things," one staff member said.

For presidents and senior administrators struggling with prioritizing conservation when there are so many critical issues on the table, peers offered this advice:

Having a good road map helps. Presidents need to know "this *can* be done, it *will* save money, it *will* make a difference."

Outside reinforcement is critical, whether it comes in the form of a "prophetic voice" or in the form of financial support. Having a funder willing to invest in this work is strong validation and extremely helpful in the face of critics.

Sometimes those critics are part of the institutions' governing board -- educating trustees is a critical piece of the puzzle, one president noted. In fact, for conservation and sustainability efforts to gain traction on the campus, there must be an integrated effort -- not only across the campus from department to department, but up and down the institutional hierarchy, from trustees to administrators, faculty, staff and students.

Agnes Scott's Kidd reflected on how her institution took its recycling and waste reduction programs from near-failure to award-winning successes: "It took leadership from the top, and a comprehensive approach. What we asked people to do was easy, but the fact that it came from the top with such a well-thought plan made it seem serious and it got much more traction on campus."

FOR MORE INFORMATION

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The Jessie Ball duPont Fund makes grants to more than 330 eligible organizations identified by Mrs. duPont in her will. The Fund has assets of more than \$281 million and has awarded more than \$303 million in grants since 1977.

JESSIE BALL duPONT FUND
ENERGY CONSERVATION INITIATIVE GRANTS
September 2009-May 2011

Agnes Scott College

\$150,000 to conduct an energy audit, purchase electric/gas/water submetering equipment for five buildings, develop an energy master plan, and hire a sustainability fellow.

Berea College

\$30,000 to conduct a farm energy assessment.

Drew University

\$150,000 to submeter 15 buildings and hire an energy conservation consultant to develop an energy master plan.

Ferrum College

- \$50,000 to install electric submetering equipment in 13 buildings and to support release time for staff who will monitor the submetering process.
- \$100,000 to complete lighting retrofits, install motion sensors, identify insulation issues, purchase additional submeters, hire a consultant to identify additional energy savings strategies, and develop co-curricular energy awareness projects.

Hollins University and

Emory & Henry College

- \$200,000 to hire a shared energy manager that will conduct a comprehensive assessment of energy use, identify options to reduce energy, develop energy policies, and enhance curricular activities to improve conservation
- \$5,000 to purchase energy meters and monitor use of electricity as part of Hollins' energy conservation plan.

Jacksonville University

\$80,000 to hire a Coordinator of Campus Sustainability.

Lynchburg College

- \$70,000 to install electric and water submeters in all 12 residence halls.
- \$46,500 to install a solar hot water heating system in a student residential building.

McDaniel College

\$150,000 to submeter 11 campus buildings and install energy efficient lighting and controls in the dining hall.

Meredith College

\$148,000 to conduct a campus-wide energy audit, install electric submetering, and hire a full-time energy manager.

Randolph College

\$104,000 to hire Advanced Energy to conduct a full energy audit and install electric submetering stations in 13 of the college's largest buildings.

Randolph-Macon College

\$105,000 to remove electric lamps and install new energy saving lamps in the college's library and gymnasium.

Rollins College

\$75,000 to purchase and install electric submeters for 33 major campus buildings.

Saint Leo University

\$85,550 to install electric submetering equipment in 17 buildings.

Transylvania University

\$140,000 to hire a consultant to develop energy policies, master plan, and reduction plan for buildings using the most energy, and to hire a part-time sustainability coordinator.

University of the South

\$113,425 to purchase energy analysis software, hire a sustainability mentor, provide student and faculty research stipends and materials, conduct co-curricular outreach activities, and host a sustainability webinar.

Virginia Foundation for Independent Colleges

\$4,768 to test the feasibility of a statewide workshop to discuss and assess the impact that a collaborative energy saving and water conservation initiative would have on colleges and the state of Virginia.

Washington & Lee University

\$10,000 to purchase LCD thermometers, provide energy awareness outreach incentives, and support attendance to national sustainability conferences.