



National Wildlife Federation®
CAMPUS
ecology®

**Fitchburg State College
Fitchburg, Massachusetts
Spring 2008, Energy**

BACKGROUND

Campus Profile

Fitchburg State College (FSC) is a four-year public institution of higher education in Fitchburg, Massachusetts, a city of 40,000 located in the north central part of the state. The total land area of the campus is 226.2 acres, including: the main campus with 33 buildings (some nearly a century old, most post-1960s) on 31 acres and another 120 acres in Leominster, Lancaster and Lunenburg used for nature and ecological study. The total enrollment is 3,100 full-time and 4,000 part-time students, with 478 faculty and staff. FSC offers 49 undergraduate degree programs in 18 academic departments, 20 Masters degree programs, 5 Certificate of Advanced Graduate Study programs, and 7 Graduate Certificate programs. The college integrates an interdisciplinary, multicultural liberal arts and sciences core with all professional arts and sciences majors. Recent campus greening initiatives include a single-stream recycling program, conversion from oil to natural gas in seven residence hall buildings, conversion of our main steam plant to dual-fuel-burning capability (oil and natural gas), the sponsoring and hosting of a conference on “Sustainability: Preparing for a Social and Ecological Future”; and the creation of two student/faculty/administration committees—the Greener Campus Steering Committee and the Sustainability Advisory Committee, both having the mission to lead the college’s efforts to reduce our carbon footprint and reach our ultimate goal of carbon neutrality.

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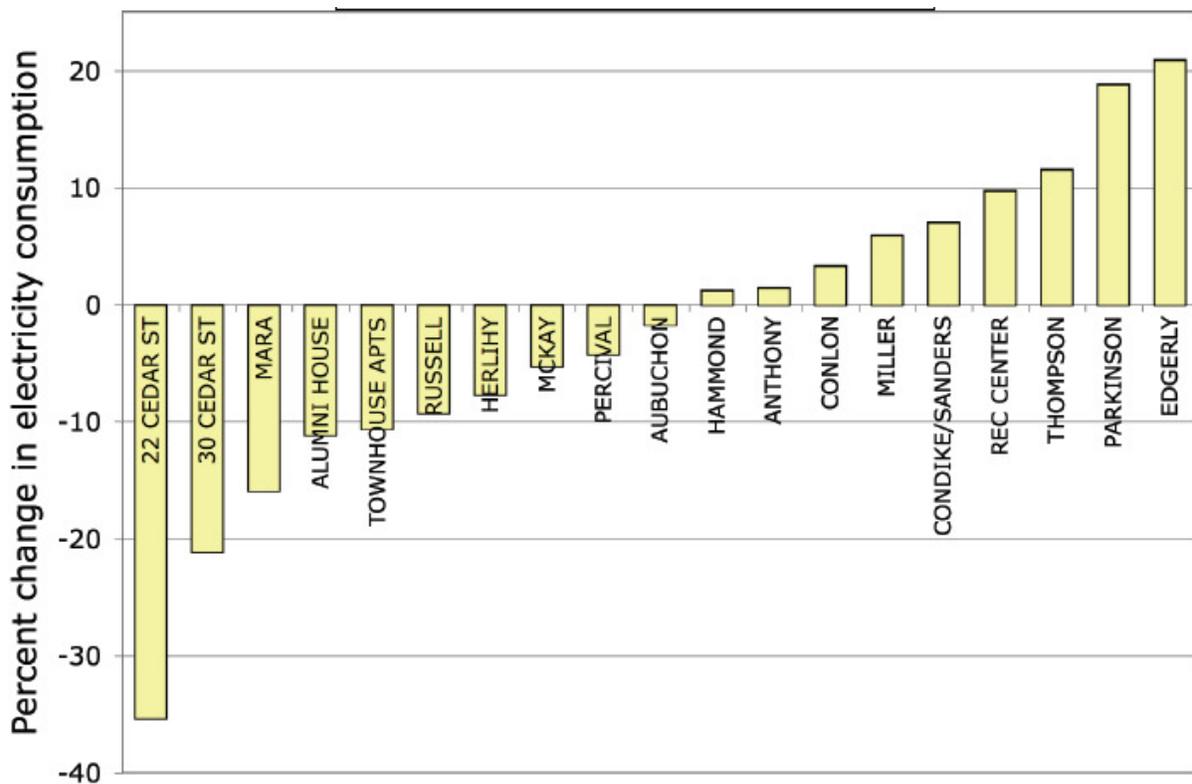
GOALS AND ACCOMPLISHMENTS

Goals

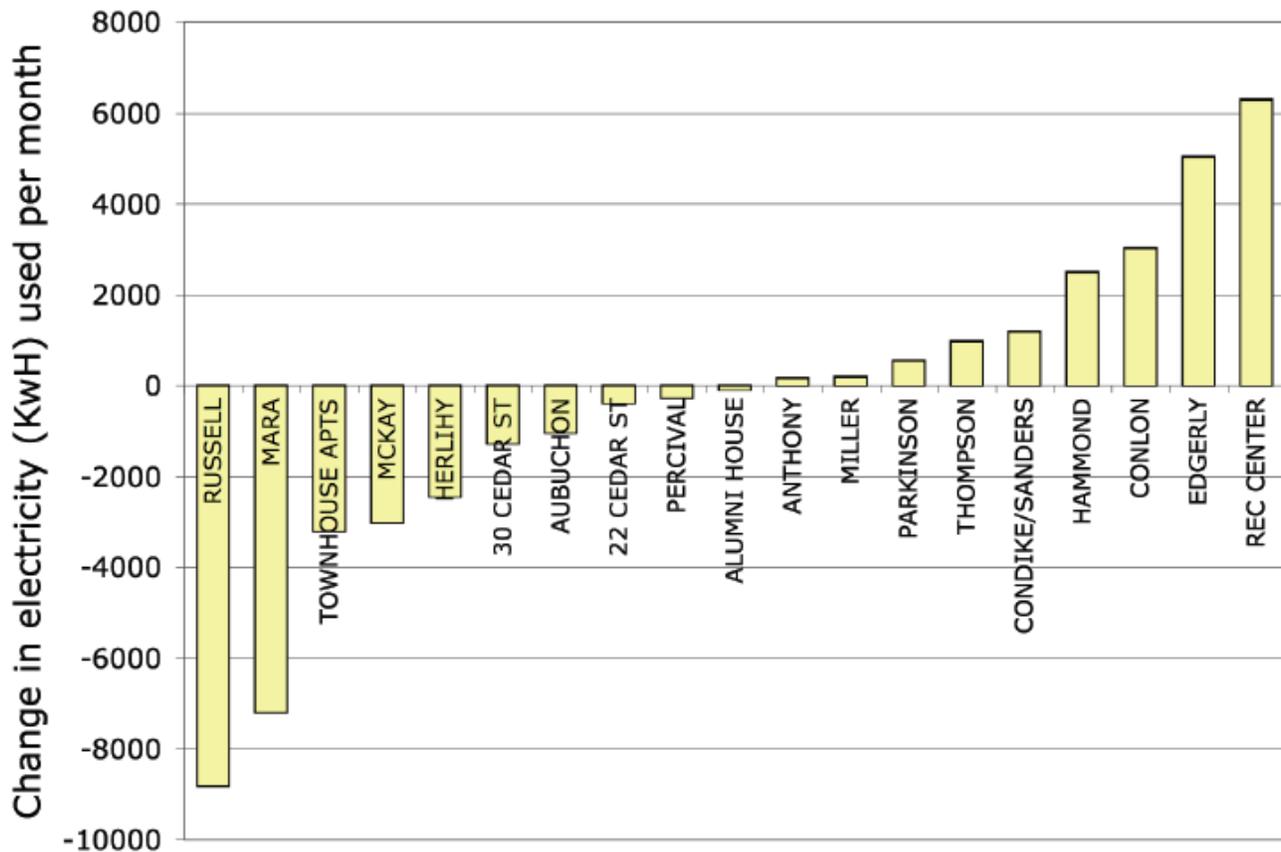
The Greener Campus Steering Committee and the Student Government Association (SGA) organized an Energy Race. Closely following the National Campus Energy Challenge—an energy-saving competition for both heating and electricity to help jumpstart campus, community and state-wide actions around the country—Dr. Christopher Picone, Professor of Environmental Science and Ecology, member of the Greener Campus Steering Committee and an SGA advisor, challenged the campus community into a race to reduce our electricity consumption. This was to be a race “where everyone should compete.”

Accomplishments

The results of the Energy Contest are displayed in the following graphs:



The figure above shows the **percent change** in electricity use, comparing the daily use in Feb 2008 to the average use in Feb. 2004-2007.



The figure above shows **changes in the amount of electricity consumed** in Feb. 2008 compared to consumption in 2004-2007 (adjusted for the number of days measured).

During the month of February 2008, we conducted the Energy Race, with occupants in each campus building competing to see which building could save the most electricity compared to February 2007. Given that electricity consumption had jumped 16 percent in the average FSC building in 2007 compared to previous years, this was quite an incentive to help us set a better example. The staff, faculty and students who work or reside in the winning buildings received prizes (plants, tee-shirts, gift cards) at a reception held on April 30, 2008. Electricity costs FSC an average of \$80,000 every month, so efforts to reduce consumption by only 5 percent would save \$4,000 and the equivalent energy of 24 barrels of oil. If those statistics weren't enough to motivate staff and students to make an effort, Dr. Picone pledged to resort to everyone's individual sense of competition (or embarrassment). Halfway through February, he posted the status of the energy race: which buildings were ahead, which were behind and which were way, WAY behind. To normalize for building size and usage, winning buildings were determined by the highest percent reduction. There was one residential building winner and one academic building winner. The guidelines for the contest were simple: Follow these strategies and you, your building, the college and the environment will be winners (from the email announcing the contest announcement):

- SHUT OFF unneeded lights (especially classrooms, offices, bathrooms, closets).
- UNPLUG battery packs and laptops when not charging (they draw current even when disconnected from the device they run).
- UNPLUG anything that uses a remote (TV, DVD player, stereo); they draw current even in the "off" mode.
- TURN OFF YOUR COMPUTER at night.

- START now to get in the habit.
- TALK to coworkers and students (most of whom will delete this message unread . . .).
- LOOK around and use your head!

All campus buildings are equipped with electricity meters, so we plan to hold this contest again in 2009. Joe LoBuono, Assistant Director of Maintenance, manages the data collection for this contest.

During the contest, real-time standings in electricity use were shared with the campus community. With only eight days left in our Energy Race, we had some good news on how far we had come. The results from the dorms could be summarized in one word: "WOW!" Dr. Picone optimistically hoped for a 5 percent reduction in electricity use, but some dorms cut their daily use by over 15–20 percent!

The contest winners were 22 and 30 Cedar Street, one of our residence halls and the McKay Complex, which houses a public elementary school, a college classroom and office space. 22 Cedar Street reduced electricity consumption more than 35 percent for the month! McKay reduced electricity use the most for any academic building—5 percent—is impressive given its size.

Two other residence hall buildings deserve recognition. Mara Village reduced consumption 16 percent, which had a huge impact, saving 7,200 kilowatt hours (kWh) that month. Although Russell Towers had a lower percent savings (9 percent), they saved the most electricity of any building on campus (8,800 kWh).

When the final electricity usage was calculated, we had some winners, some good news, and some bad news. The good news, in summary, was that residential halls had a tremendous real impact through this contest. The bad news was that *increased* electricity consumption in the academic buildings offset almost all the savings from the residential halls. In total, the college saved only about 1 percent of its electricity during the contest month compared to previous years. (The results seemed more optimistic in the mid-month report, but we then adjusted for the number of days that were recorded.)

These data will be useful as the college audits energy use and decides how to make Fitchburg State College a greener place. In addition, we hope people will continue the energy-saving practices we began and add more. Each month this year we will report—for each building—how our 2008 consumption compares to that same month in the previous four years.

We know change can occur and consumption can be significantly impacted by conservation. Based on these data the college is making plans for future energy savings contests and also ways to regularly communicate energy usage in the effort to raise consciousness and encourage conservation efforts.

Challenges and Responses

As in any new initiative or program, getting the right message out was our biggest challenge. We discovered this halfway through the contest, when after several emails charting rankings and savings many new participants emerged. When the word was out that this initiative was relevant and easy to accomplish, everyone's competitive nature took over, and talk of the contest was all over campus. Responses were overwhelmingly positive from all levels of the campus and we received requests to hold another contest.

ENGAGEMENT AND SUPPORT

Leaders and Supporters

This contest and the long-term energy savings project that evolved from it would not have been possible without support from all levels of the college administration and the student body. The Office of the Vice President for Finance and Administration funded the contest prizes—the plants. The members of the President’s Executive Committee support and are actively engaged in the college’s sustainability initiatives as members of the Greener Campus Steering Committee and by allocating the necessary resources to fund and staff the projects. The Capital Planning and Maintenance Department has membership on the committee and provided staff support for the meter readings and calculations.

Community Outreach and Education

Central Massachusetts Garden Center, the vendor that supplied the plants, promoted the contest at its business and promised further support.

Campus Climate Action: Your School’s Carbon Footprint

During the energy contest campus-wide energy consumption was reduced by 1 percent over the previous year. This is significant, as the college is open longer hours and offers more activities in these buildings than ever before.

National Wildlife Federation’s Campus Ecology® Program

Information found on the NWF Campus Ecology Program website gave us examples of energy savings initiatives at other colleges. We participated in NWF sponsored tele/web casts, subscribe to the monthly newsletters, distributed the report Higher Education in a Warming World to Steering Committee members and held a seminar for the college community to watch the broadcast of Chill Out: Campus Solutions to Global Warming during our Sustainability Fair.

CLOSING COMMENT

As a result of our energy contest and sustainability initiatives undertaken by the college in the last year, the entire Fitchburg State College community is committed to conserving natural resources and reducing our impact on the environment. This is evident from the volunteers who have come forward to help run next semester’s contest. We encourage all campuses, regardless of size or funding resources, to undertake a project like our energy contest. The cost is low, but the impact is huge: Individual awareness germinates ideas and commitment; campus solidarity is what we all strive for; and recognition from the larger community for sustainable practices is invaluable.