

2009

Campus Upgrades Save Energy

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Recommended Citation

Mileham, Mardi (2009) "Campus Upgrades Save Energy," *Linfield Magazine*: Vol. 6: Iss. 1, Article 7.
Available at: http://digitalcommons.linfield.edu/linfield_magazine/vol6/iss1/7

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Campus upgrades save energy

In 1998, when Linfield College more than doubled its size and began its expansion into what is now known as the Keck Campus, the college faced both an opportunity and a challenge.

The opportunity was the expansion, the chance to grow in a controlled, methodical way, as need and funds allowed.

The challenge was to integrate the energy and utility needs of the Keck Campus and develop a Utility Master Plan that would increase efficiency and reduce costs of heating, lighting and water/sewer systems.

As the plan unfolded and upgrades developed, Linfield took steps toward reducing its carbon footprint before it became fashionable. A new computer-controlled heating plant with more than two miles of double-walled steam pipes replaced an 80-year-old system with leaky pipes that erupted with steam plumes giving the campus an ethereal look some days. Within two years, the college reduced its natural gas consumption by 36 percent and saved more than \$386,000. In just over one decade, the college has saved some \$2 million in utility costs.

At the same time, a new underground automatic irrigation system and upgrades to the showers throughout campus were installed, reducing water use and saving \$35,000 in just two years.

Lights throughout campus were upgraded with more than 4,000 ballasts and 10,000 lamps converted to more efficient fluorescent lighting. An additional 1,500 incandescent bulbs were replaced with CFLs, which reduced energy consumption, saving more than \$60,000 in the first year. A project is under way to upgrade lighting systems by reducing the number of lamps per fixture and installing a high-reflective surface to enhance light quality with half the energy.

With the improvements and upgrades, Linfield reduced its energy consumption, despite increasing the square footage of its buildings by 15 percent.

“We were employing sustainability practices because it made good practical economic sense,” said John Hall, director of facilities services at that time and now the director of capital planning and development. “It was a win for the environment and a win for the college and the students.”

Linfield may be in the formative stages of moving toward more sustainable practices, Hall said, but the college is moving in the right direction.

“We have done a lot. Ten years ago we started down this path, but we didn’t call it sustainability,” he said. “We were just being pragmatic in our approach and taking steps to save money and become more efficient.”

Climate commitment

In 2007, President Thomas L. Hellie formed the Advisory Committee on the Environment and Sustainability (ACES), made up of faculty, administrators and students, to study specific environmental and sustainability issues. When Hellie signed the national Presidents Climate Commitment on Earth Day 2008, he did so after careful consideration and upon the recommendation of ACES. The program calls for colleges and universities to attain a position of carbon neutrality with respect to greenhouse gas emissions. The college has flexibility in the timing and means of achieving the goal.

Among its activities, ACES has continued to work on determining the college’s carbon footprint and how to reduce it; develop guidelines to ensure new campus buildings meet LEED (Leadership in Energy and Environmental Design) silver standards; assess recycling, conservation and sustainability programs; and determine potential costs and develop strategies to communicate the plan.

Projects that are helping the college move toward a more sustainable future include:

- Adding insulation to some of the older apartment buildings;
- Increasing light fixture efficiency by replacing with half the lamps and adding reflectors;



- Renovating Northup Hall to LEED silver standards once funds are secured;
- Improving and increasing recycling efforts across campus;
- Reducing the amount of bottled water used to minimize plastic waste;
- Increasing the use of local produce and dairy products when available;
- Using bulk beverages to reduce cans and bottles;
- Donating spent fryer oil for use as bio-fuel;
- Replacing appliances with Energy Star models;
- Studying ways to increase bus service for faculty and staff who commute;
- Encouraging car pooling;
- Increasing the number of bike racks on campus;
- Increasing mechanical equipment electrical efficiency by installing variable frequency drives.

– *Mardi Mileham*