



## **The College of Saint Benedict St. Joseph, Minnesota Energy Conservation**

### **SCHOOL**

The College of Saint Benedict, Private, Four Year, 2000 students, St. Joseph, Minnesota.

### **ABSTRACT**

In June, the College of Saint Benedict replaced 20,000 35 watt light bulbs with 25 watt light bulbs, a move that will save the college over 715,000 kWh, 425 metric tons of CO<sub>2</sub> equivalent (mtons CO<sub>2</sub>e), and \$50,000 annually. Funded by a rebate from Xcel Energy and the College's Revolving Loan Fund, this change out has a return on investment of 1 year. All bulbs that were removed were recycled. This project was carried out by a team of students hired for the summer to work specifically on the light change out.

### **GOALS AND OUTCOMES**

#### **Goals**

The main goal of the project was to reduce energy consumption and cost, and therefore greenhouse gas emissions without sacrificing light quality. The college will monitor energy consumption over the next two years to determine if the predicted savings are met.

#### **Accomplishments and Outcomes**

The College of St. Benedict met all project goals with the light bulb change out. All 20,000 four foot, 35W lamps were replaced with the more efficient 25W lamps. Future monitoring will determine if the college will save the predicted 715,000 kWh per year. No policies were adopted because of this project.

Wildlife and the natural environment will benefit from the reduced pollution as the college requires less electricity (i.e. coal burning) to meet its daily needs. In addition to less pollution the environment will also benefit from the college's smaller contribution to the greenhouse effect.

#### **Challenges and Responses**

One of the major challenges that the college faced initially was what to do with all of the old 35W bulbs once they had been replaced. Ultimately, the college donated some bulbs to local schools and churches and the rest were recycled through the Retrofit Companies. The bulbs will be recycled in Wisconsin and the materials shipped to various locations in the United States.

A second major challenge was how to keep labor costs for the replacement low. It was decided that a hiring and training a team of students was the best approach. Student labor is affordable and, with proper training and education, these students became ambassadors for the change out itself to their peers as well as to the faculty and staff in whose offices they worked.

### **Campus Climate Action: Your School's Carbon Footprint**

Yes, we directly addressed global climate change. The lighting retrofit project directly reduced the College's energy consumption which in turn, cut greenhouse gas emissions by 425 tons per year without causing additional emissions elsewhere. The campus is largely powered by coal and natural gas, so switching to more energy efficient lighting reduces the electrical demand of the college.

### **Commentary and Reflection**

If energy efficient lighting is not something currently pursued it is a relatively simple and cost effective switch with quick payback. Rebates and credits are also a great way to make projects like these less costly and provide a shorter payback period.

### **ENGAGEMENT AND SUPPORT**

#### **Leaders and Supporters**

This project was successful because of the combined efforts of the campus electrician, both power plant managers, the office of sustainability and interested students. The group had the full support of the vice president for finance and administration and the executive director of facilities.

#### **Funding and Resources**

The cost of the lighting retrofit was \$50,000, about \$5,000 to recycle the old bulbs, and \$15,000 to hire 3 students to change the bulbs. The project was supported and funded through the College Revolving Loan Fund and a \$20,000 rebate from Xcel Energy.



#### **Education and Community Outreach**

Because of the nature of the project, we did not involve the local community. However, we have published the project via campus media and have submitted it to the AASHE bulletin board.

The College of St. Benedict is an annual participant in Campus Conservation Nationals and a member of UMAC.

### **CONTACT INFORMATION**

#### **Contacts**

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**Case study submitted by:** Austin Jacobs, Sustainability Fellow

### **MORE ABOUT YOUR SCHOOL**

#### **Campus Sustainability History**

Prior to the light bulb change out the College of St. Benedict implemented two major sustainability policies: a ban of all plastic, disposable water bottles and a student printing policy. Both policies went into effect in August 2011 and have markedly reduced plastic and paper waste on campus. The bottled

water ban marked the end of the sales of bottled water on campus, at any college sponsored event, and the purchasing of bottled water with college funds. The printing policy allows each student to print \$25 worth of paper (800 pages double sided) each semester. Any student that exceeds the \$25 limit is charged for that extra printing.

Image Credit: Austin Jacobs, Sustainability Fellow