

# Towson University puts energy efficiency on the books

Just a short drive north of Baltimore is one of the largest public universities in Maryland. Founded in 1866, Towson University occupies 328 acres of tree-lined suburban campus and offers more than 100 undergrad and graduate degree programs in the liberal arts and sciences and applied professional fields.

Under the supervision of Steve Kolb, Towson University's energy manager, the university is in the midst of a campus-wide initiative to improve the energy efficiency of its facilities. From using state-of-the-art technologies in new construction projects to retrofitting lighting fixtures and equipment in existing buildings, Towson University is determined to take a big bite out of its annual energy costs. And with the help of BGE's Energy Solutions for Business Program, the university has received \$1.7 million in incentives for its energy efficiency projects, which are saving more than 8.2 million kilowatt-hours (kWh) annually.

## The opportunity

Towson University's 56 buildings house 5.5 million square feet of classroom, dormitory, administrative and related spaces that serve the needs of 25,000 students, faculty and staff. Keeping these facilities in operation, brightly lit and comfortable requires nearly \$10 million in annual energy costs, a figure that Kolb is doing his best to manage. Lighting alone accounts for an estimated 25% to 40% of the campus's energy costs. "The big driver for our energy efficiency projects was reducing energy use and costs, but also improving comfort," Kolb says.

After receiving program incentives from BGE for some small projects, Kolb worked with his architects and project managers to take advantage of incentives on several new construction projects. "The process was easy," he says. "The incentives helped get many projects from planning to execution." In particular, BGE helped Towson University design energy efficiency into the new West Village Commons and College of Liberal Arts buildings, as well as upgrade the lighting in a new parking garage.

Next, the university partnered with BGE to complete lighting retrofits across campus. A combination of strategies, including de-lamping, installation of occupancy sensors and conversion to LED technology, qualified for incentives and promised to help cut lighting-related energy costs campus-wide.

"One of the more important steps we took was to install premium efficiency fixtures in classrooms and offices instead of just re-lamping," Kolb says. "It was the incentives from BGE's Energy Solutions for Business Program that allowed us to do this."



**"With the financial incentives available through BGE's Smart Energy Savers Program<sup>®</sup>, we paid less money for more energy-efficient equipment. It was a no-brainer. And it's the right thing to do."**

—Steve Kolb,  
energy manager,  
Towson University

## The BGE solution

First up was the new College of Liberal Arts building, a 300,000-square-foot complex with classrooms, lecture halls and faculty offices. The university received incentives for installing high-efficiency light fixtures and occupancy sensors throughout the building. After learning about the variety of incentives available, Towson University officials worked with their design consultants to incorporate energy efficiency into the design for the new West Village Commons. This 86,000-square-foot facility houses classrooms, meeting rooms, a banquet hall and eateries. Energy-saving features in the Commons include a high-performance lighting system; high-efficiency kitchen equipment; a super-efficient magnetic levitation chiller; and heating, ventilation and air conditioning (HVAC) equipment controls such as variable frequency drives and carbon dioxide sensors.

BGE's program made the process easy, quick and affordable. Predetermined incentive levels for prescriptive lighting and kitchen equipment made measure selection and incentive calculations simple, as no complex engineering analyses were required. For the HVAC-related measures, the university took advantage of BGE's custom program, which provides incentives for complex, site-specific energy efficiency upgrades. Although the custom program requires a little more upfront work, it enables businesses to demonstrate how the unique measures being proposed for a site can meet BGE's requirements for improving energy efficiency.

Across campus, building by building, Kolb's team retrofitted nearly 15,000 lamps and ballasts, upgraded approximately

14,000 fixtures and installed about 9,400 occupancy sensors. They also installed 3,200 interior LED lamps. With this massive lighting retrofit, Towson University expects to save approximately \$584,000 in energy costs annually.

In addition, the university installed LED fixtures and nighttime occupancy sensors in a new parking garage in the West Village area of campus and at three other garages. The LEDs helped cut projected energy consumption in the West Village garage by 75%. The LED retrofits in the other garages reduced lighting-related energy use by about 60%, saving nearly \$125,000 annually. Because the same fixtures were used in all the garages, maintenance will be easier and more cost effective.

## The benefits

"When we upgraded the lighting, we improved the quality of light across campus," Kolb says. "In some areas, we're now regulating our HVAC systems based on the specific load for each room. We're creating a better atmosphere for students and employees."

Asked why other academic institutions should consider energy upgrades, Kolb adds, "We're all institutions of learning. We should be setting an example for others to follow." For his part, Kolb shares best practices with facility managers from other colleges and universities across the state. "I tell them to do everything they can to move forward with energy efficiency projects and to involve BGE right from the beginning," he says. "BGE's experts—and available incentives—can make their projects more financially viable."

## Savings at a glance

Towson University applied financial incentives to install high-efficiency equipment across its entire campus.

BGE program:  
**Energy Solutions  
for Business**

Total project cost:  
**\$7.0 million**

Incentives paid:  
**\$1.7 million**

Cost to the customer:  
**\$5.3 million**  
(24% savings in total cost)

Energy savings:  
**8.2 million kWh/year, \$656,000 annually**

Number of BGE  
rebate applications:  
**51**

Estimated lifetime  
energy savings:  
**70,500,000 kWh**



The BGE Energy Solutions for Business Program provides financial incentives and technical assistance to help businesses and non-profit organizations maximize energy efficiency and reduce costs. Financial incentives cover up to 50% of the cost for retrofit projects and up to 75% of the cost difference between standard- and high-efficiency equipment for new construction and replacement of end-of-life equipment. For more information, visit [BGESmartEnergy.com](http://BGESmartEnergy.com).

EmPOWER Maryland programs are funded by a charge on your energy bill. EmPOWER programs can help you reduce your energy consumption and save you money. To learn more about EmPOWER and how you can participate, go to [BGESmartEnergy.com](http://BGESmartEnergy.com).

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