

A TYPICAL UNIVERSITY WOULD NEED TO ADD AN ADDITIONAL 42 CREDIT HOURS A YEAR TO EQUAL THE MONEY SAVED BY UPGRADING TO A HIGHER EFFICIENCY HVAC SYSTEM\*

Not only can universities save energy by using energy efficient equipment, but there are additional positive effects on the overall revenue and environment of the facility. Research shows by upgrading to energy efficient lighting, heating, ventilation and air conditioning systems the following benefits occur:

- Enhanced student and faculty comfort, safety and satisfaction
- Lowered maintenance costs
- Increased faculty and student productivity
- Decreased illness by improving the indoor air quality

\* Based on a 2017 DNV GL study

"...WE HAVE INSTALLED OVER 1,000 LEDS TO OUR SITE LIGHTING ACROSS OUR DIFFERENT CAMPUSES. THIS HAS PROVIDED SECURITY AND SAFETY IN ADDITION TO THE NORMAL ENERGY AND MAINTENANCE SAVINGS."

- Terry L Pahl, Facilities Engineer, Grand Valley State University

Consumers Energy offers rebates, technical services and more to help universities like yours become more energy efficient. Our team is here to walk you through the program requirements and available resources.

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# **Universities** Hidden Benefits of Energy Efficiency



## **Energy Efficiency Impacts in Universities**

#### The following non-energy improvements can result from upgrading to energy efficient equipment:



#### **Improved Environment**

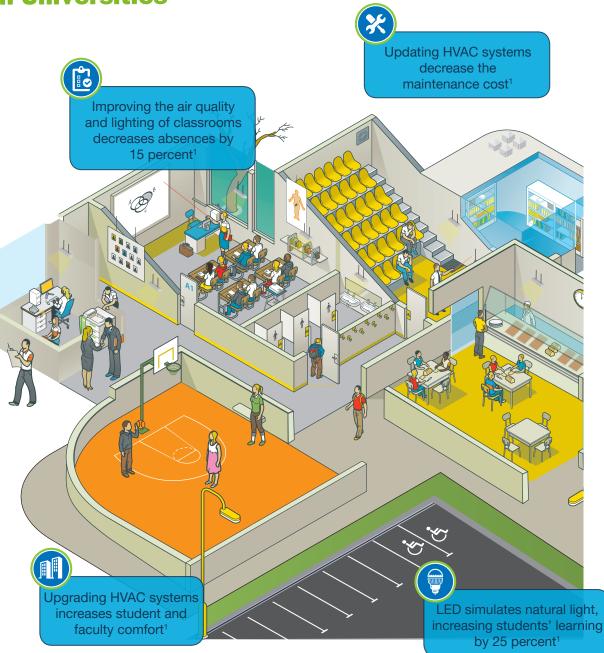
A failure of any component of the HVAC system may expose students and faculty to airborne pathogens. Relative humidity levels greater than 60 percent promote fungal growth. Upgrading your HVAC system reduces these risks, improves student and faculty health and decreases absences by 15 percent.

#### **Increased Productivity and Comfort**

LEDs can improve the mood and attention of students in the classroom. LEDs simulate daylight and increase student productivity by 20 percent and learning by 25 percent. HVAC systems in university buildings are designed to maintain the indoor air temperature and humidity at comfortable levels for everyone. Updated HVAC provides a cleaner, quieter and healthier environment for students, instructors and staff.

#### **O&M Cost Savings**

Energy management systems and HVAC controls have lower maintenance requirements and reduce repair costs. The longer equipment life of energy efficiency products frees up time to accomplish other tasks or large projects.



### 0 & M Cost Savings

| Equipment         | Energy<br>Savings | Non-<br>Energy<br>Savings | Total<br>Savings | Energy<br>Payback | Non-<br>Energy<br>Payback |
|-------------------|-------------------|---------------------------|------------------|-------------------|---------------------------|
| Lighting          | \$2,431           | \$5,106                   | \$7,538          | 2.37 yrs.         | 0.76 yrs.                 |
| HVAC<br>Equipment | \$25,497          | \$0                       | \$25,397         | 5.17 yrs.         | 5.17 yrs.                 |

1. LOCAL GOVERNMENT CLIMATE AND ENERGY STRATEGY SERIES: Energy Efficiency Programs in K-12 Schools: A Guide to Developing and Implementing Greenhouse Gas Reduction Programs. U.S. ENVIRONMENTAL PROTECTION AGENCY. 2011