


THREE SMART WAYS TO IMPROVE

# ENERGY

# MANAGEMENT

ON YOUR CAMPUS

OPTIMIZE / INVEST / EDUCATE

The background of the slide features a collage of US dollar bills, including a \$100 bill and a \$20 bill, all rendered in a semi-transparent red color. The bills are layered and slightly offset, creating a sense of depth. The overall color scheme is a monochromatic red, which is used as a background for the white text.

Are you controlling the energy systems on your campus—or are they running out of control? Chances are, like many U.S. colleges and universities, you're struggling to manage your energy usage and costs. Today's higher education campuses face a range of energy management challenges, including aging buildings and infrastructure, a backlog of deferred maintenance projects, limited capital and operational funds and a lack of energy engineering expertise in their facility organization.

Problems arise when energy is not managed effectively. Aging systems waste energy and money. Ongoing maintenance of outdated energy consuming equipment keeps crews overburdened. Limited capital constrains your ability to implement energy-saving solutions. A lack of O&M best practices and capital investment strategies sends thousands of dollars down the drain.

# Overcoming your energy-management challenges is critical—both for your campus and for the environment.

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According to the Association for the Advancement of Sustainable Higher Education, burning fossil fuels for heat and to generate electricity is a primary source of greenhouse gas [emissions at colleges and universities](#). As a result, today's campuses are releasing high levels of carbon dioxide into the atmosphere and contributing to global warming and climate change. In an age of sustainability, a poor grade in energy management costs campuses significant dollars, lowers their public image and impacts enrollment potential.

However, there are reasonable methods to manage energy, including **optimizing** current energy systems, **investing** the savings in new equipment and **educating** students, faculty and maintenance crews on smarter energy-use practices. Launching strategic energy-saving programs that leverage these three opportunities can help your campus save money, improve building comfort levels and boost your institution's public image.





# OPTIMIZE

Run Your Energy Systems More Efficiently

Right now, it's likely that energy on your campus is being wasted in a number of ways. A common example is running air conditioning, heat and lighting in buildings that are partially occupied or closed. The result is a significant waste of energy and money. In fact, [a typical 50,000-square-foot classroom building](#) uses more than \$100,000 worth of energy each year, according to the U.S. Energy Information Administration. By implementing cost-effective energy-efficiency measures, many colleges and universities could cut their energy bills by 20% or more.

Optimizing energy consuming systems can create savings that improve the overall operations and maintenance and lower energy costs without the need for installing new equipment.

## SOME EXAMPLES INCLUDE:

- Create effective equipment scheduling programs
- Cleaning condenser coils
- Utilizing outside air for cooling when ambient temperatures are favorable
- Enhance Building Management System controls to better align heating and electric supply with demand
- Efficient staging of chillers and boilers
- Completing regular equipment maintenance and periodic tune-ups
- Commissioning systems to ensure they are operating at peak efficiencies

**Optimizing your current energy equipment begins with creating a strategic plan that identifies every opportunity to eliminate waste and maximize savings, then implementing that plan campus-wide.**



## Medaille College

For example, Medaille College in Buffalo, N.Y., launched a comprehensive five-year energy savings plan with the goal of reducing energy consumption by 17 percent. The project began by conducting a comprehensive review of the heating, cooling and fan systems in every building and analyzing them against building occupancy levels.

Based on the results, Medaille introduced a number of campus-wide initiatives that focused on energy reduction. The facilities management team utilized its technical experts to incorporate enhancements to the Building Management System that created sustained savings and improved the classroom space temperatures. This and other initiatives helped **reduce the school's carbon footprint by 273 metric tons**, which ultimately translated to a nearly **20% reduction in energy use** and a cost **savings of \$500,000 over five years**.



# INVEST

Install New Energy-Saving Systems

Many institutions continue to rely on equipment that has far surpassed its life expectancy. Aging utilities result in increased energy and maintenance costs, as well as decreased occupant comfort. Furthermore, aged equipment is unreliable and can fail, causing disruptions to academic programs. At this stage, an investment in new equipment becomes most cost-efficient, as the resulting energy and maintenance cost savings can offset all or a portion of the replacement cost of the new equipment.

## HERE ARE A FEW EXAMPLES OF ENERGY-SAVING INVESTMENTS:

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- A high-efficiency packaged HVAC unit can **reduce cooling energy consumption by 10 percent** or more over a standard-efficiency, commercial packaged unit.
  - A demand-controlled ventilation system saves energy by decreasing the amount of ventilation supplied by the HVAC system during low-occupancy hours.
  - [LED lighting](#) typically **uses 25% to 80% less energy** than traditional incandescents and can **last three to 25 times longer**.
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Harvard Law School **saved \$500,000 annually** by investing in new energy-saving equipment. The school announced a university-wide goal of reducing campus greenhouse gas emissions 30 percent below 2006 levels by 2016. Through an energy audit, Harvard Law School identified more than 31 new energy investments that would meet the school's energy-saving goals, including lighting and controls upgrades, HVAC controls and improvements, variable frequency drives on fans and pumps and ventilation heat recovery for a residence hall. By 2011, Harvard Law School had already met their goal of **reducing greenhouse gas emissions by 30 percent**.





# EDUCATE

Promote Energy Savings Campus-wide

Creating sustainable energy reductions takes a village—faculty, students and the whole facility management team must collaborate to realize campus-wide energy savings. The best way to educate and inspire their cooperation is by launching an energy awareness program that encourages individual and group action.

In 2011, Baylor University in Texas launched a groundbreaking energy-saving program that included outreach, awareness and training initiatives to engage staff, students and the community in living a more responsible environmental lifestyle. One component of the campaign was an Energy Madness Residence Hall Competition. Students earned points for energy reduction in their residence halls, as well as bonus points by participating in other energy-related educational activities over the course of the competition.

Baylor's results were tracked through EnergyZone, a Web-based community competition platform that allowed participants to visualize and reduce their consumption of energy and water. The engagement campaign, along with energy system conservation measures, resulted in a **one-year energy savings of \$453,000.**

Baylor's energy engagement program remains in place today, generating significant savings and teaching our next generation of leaders how to live in a more environmentally conscious lifestyle.

For its efforts, Baylor's Energy Awareness Program was recognized in 2013 by the National Association of College and University Business Officers (NACUBO) with its [annual Innovation Award](#).



# HOW WILL YOU TAKE BACK CONTROL OF YOUR CAMPUS' ENERGY CONSUMPTION?

In the mentioned examples, each institution was able to apply realized savings to address deferred maintenance and infrastructure repairs. Although their strategies may differ, the results are all very similar. Each benefitted from a program uniquely designed to meet their institutional goals, funding challenges and strategic priorities.

What energy-saving measures will help your campus reach your energy goals—Optimizing, Investing or Educating? Aramark can help you find the best combination of energy-saving strategies to help create the ideal energy management program to meet your institution's goals, budget and needs. Our unique blend of energy-saving innovation, expertise and dedication has made us the preferred partner for outsourced campus facility support for decades.

To help you take control of your energy management, we work closely with your facility management team to understand your needs and opportunities and to launch energy-saving programs. Our services cover the complete energy-saving spectrum—from conducting energy-usage analysis and recommending optimization tactics and new equipment investments, to supporting educational programs that inspire smarter energy use across your campus. Our efforts consistently result in exemplary-managed energy systems and significantly greater cost savings.

**For more information on how Aramark can help your institution develop an energy management strategy, contact us today.**

**CONTACT US!**