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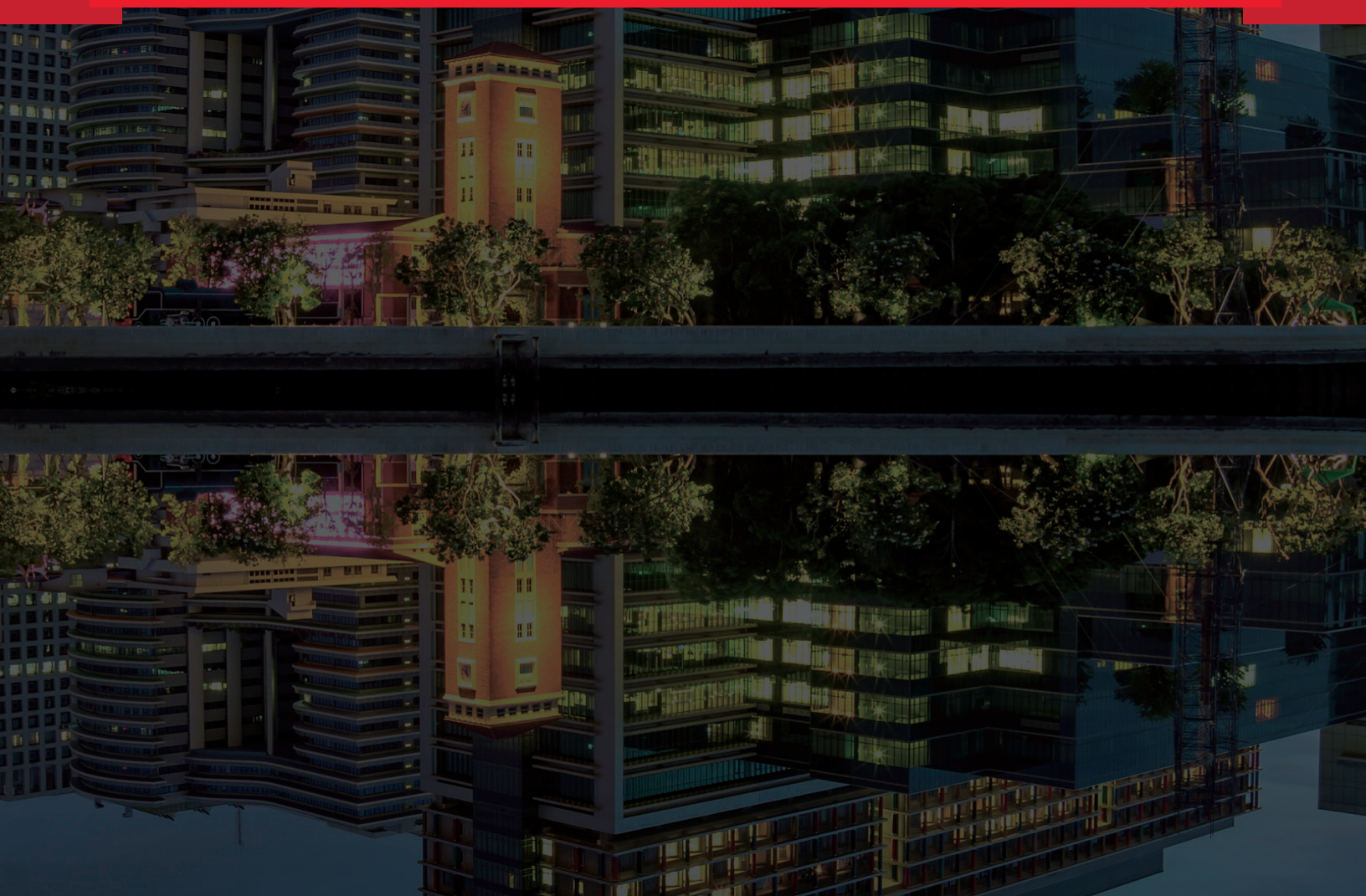
THREE SMART WAYS TO IMPROVE ENERGY MANAGEMENT IN YOUR HEALTHCARE SYSTEM

OPTIMIZE / INVEST / RECOMMISSION



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

Issues arise when energy-consuming systems are not managed effectively. Aging systems waste energy and money. Ongoing maintenance of outdated energy-consuming equipment keeps facility staff overburdened. Limited capital may impact your ability to implement energy-saving solutions. A lack of operation and maintenance best practices and capital investment strategies sends thousands of dollars down the drain. Furthermore, poor indoor air quality resulting from poorly maintained systems may cause outbreaks of building-related illness such as headaches, fatigue, eye and skin irritations, and other symptoms.

The American Hospital Association solidifies the connection between environment, recovery and patient satisfaction scores: "More than 600 studies have linked the hospital-built environment to factors such as patient satisfaction, stress, health outcomes and overall health care quality."

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

Low-performing energy systems can create a host of problems for today's healthcare management teams. Inefficient systems can consume as much as 20 to 30 percent more energy and cost 50 percent more to operate than high-performing systems, according to the U.S. Green Building Council. Reduction in workers' comfort levels and productivity and, negative impacts to the environment of care, patient outcomes and satisfaction scores, may result.

For example, the Center for Health Design found that "clinical outcomes improve in healthcare facilities when space temperature, humidity and indoor air quality are effectively managed. In addition, researchers at the University of California, Berkeley learned that people are healthier, more productive and more satisfied in buildings that are LEED™ certified or designated as 'green' by designers."

To overcome these challenges, healthcare facilities have several options, including **optimizing** current energy systems, **investing** energy savings in new equipment and **recommissioning** their equipment back to their original operating efficiency levels.

Integrating strategic energy-efficiency programs into facility operations is a preferred strategy to achieve and maintain performance improvements. Through integration, a healthcare system can gain control of its energy systems and interior comfort levels, save money and contribute to sustainable, energy-saving practices.

OPTIMIZE

Run Your Energy Systems More Efficiently

Right now, it's likely that energy in your hospital is being wasted in several ways. Common examples include a lack of energy-management coordination between multiple energy systems within a facility, and lack of an energy-efficiency program that integrates operating practice with replacement projects.

Many healthcare systems can cut their energy bills by 20 percent or more by implementing cost-effective, energy-efficient measures. In fact, optimizing energy systems can create savings that improve the overall operations and maintenance of buildings, as well as lower energy costs without the need for installing new equipment.

SOME EXAMPLES INCLUDE:

- Create effective equipment scheduling programs that align with space utilization
- Enhance building management system controls and programmatic sequences to better align heating and electric supply with demand
- Use outside air for cooling when outdoor temperatures and humidity are favorable
- Efficiently stage cooling and heating equipment
- Regularly clean condenser coils
- Complete regular equipment maintenance and periodic tune-ups

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

FLORIDA STATE HOSPITAL

Florida State Hospital realized its energy consumption was extremely excessive when its 100 buildings on 600 acres consumed 459,434 MMBTUs of fossil fuel and 31,405,980 KWH in electricity. One plant had steam absorption machines that required the hospital system's boilers to run 24/7, 365 days a year.

The hospital's new facilities management partner, Aramark, immediately launched an energy-saving program, starting with reducing unnecessary steam use by repairing leaking distribution lines, reducing the pressure in the distribution system from 100 psi to 15-40 psi and repairing and replacing building controls. Also, the team interconnected distribution lines from two chiller plants, thereby allowing the electric chillers to provide air conditioning to the entire campus and enabling shutdown of the boiler plant six months a year. Aramark's staff drafted rigorous operating protocols and trained the in-house staff to accomplish proper procedures.

The hospital immediately realized lower energy costs and increased savings. It rapidly achieved a **93 percent reduction** in fossil fuel consumption and a **35 percent reduction** in electrical consumption. To date, over **$55 million in energy savings** have been returned to the hospital.

INVEST

Install New Energy-Saving Systems

Many systems continue to rely on equipment that has far surpassed its life expectancy. Aging utilities results in increased energy and maintenance costs, as well as decreased occupant comfort. Furthermore, aging equipment is unreliable and can fail, causing disruptions to patient care. 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 new equipment's replacement costs.

EXAMPLES OF ENERGY-SAVING INVESTMENTS:

- A high-efficiency packaged HVAC unit can reduce cooling energy consumption by 10% 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 80% less energy than traditional incandescent lights and can last three to 25 times longer.

NEW YORK STATE OFFICE OF MENTAL HEALTH

When New York State passed a law requiring state agencies to reduce energy consumption by 35% by 2010, the New York State Office of Mental Health (OMH) hired Aramark to help meet this requirement for their 33 campuses across the state. Aramark launched a comprehensive energy-efficiency program that included everything from HVAC building management system upgrades to campus central heating/chiller plant decentralization and optimization.

As a result of Aramark's Comprehensive Energy Efficiency Program, OMH achieved **more than a 46% energy reduction**, achieved greater than **$500 million in savings**, and received several state and national recognition awards. The key drivers of this success are also directly related to the recent implementation of an O&M best practice framework and comprehensive service contract management program, which is in place today.

RECOMMISSION

The vast majority of healthcare systems across the country are aging and in some phase of decline—resulting in energy-wasting leaks, uncalibrated dampers and malfunctioning heating coils, for example. This aging factor alone can create an escalation in energy use and costs for healthcare systems. One of the most important ways to overcome this problem is periodic recommissioning of existing energy systems. When done right, recommissioning brings energy systems back to their original levels of efficient operation, ensuring that the common problems of aging systems don't cause insufficient heating and cooling, or rapidly burn through energy budgets.

Adding to the challenge and energy loss, aging systems that are not recommissioned cause equipment to work harder and run more often. Not only does this increase energy consumption, but also shortens equipment life cycle and accelerates capital replacement expense. When older systems are recalibrated, not only do they save hospitals energy costs and capital expenditures, but they also ensure better temperature control, occupant comfort and patient safety.

HERSHEY MEDICAL CENTER

An all-too-common problem in healthcare facilities is having multiple conditioning units (VAV boxes, radiant panels, convectors, etc.) serving the same areas of the facility at the same time. Improper sequencing of equipment causes both heating and cooling systems to operate at the same time.

Such was the case at Hershey Medical Center where patient rooms were being heated and cooled simultaneously. This both wasted energy and negatively impacted patient comfort. Through its recommissioning process, Aramark worked with the hospital and its engineers to identify the problem and develop an equipment sequencing program to prevent temperature controls from competing with one another. The outcome was **lower energy costs** and **higher patient comfort levels**.

HOW WILL YOU TAKE BACK CONTROL OF YOUR SYSTEM'S ENERGY CONSUMPTION?

In the cited examples, each healthcare organization was able to reduce energy waste and improve the environment of care. Although their initial focus may differ, the results are similar. ***Each benefitted from a program uniquely designed to meet their system goals, funding challenges and strategic priorities.***

What energy-saving measures will help your healthcare system achieve your environment of care goals—optimizing, investing or recommissioning? Aramark can help you find the best combination of energy-saving strategies to create the ideal energy-efficiency program. Our programs are scaled to meet your system's goals, budget and needs.

Our services cover the complete energy-saving spectrum—from conducting energy-usage analysis and recommending optimization tactics, to recommissioning existing energy systems, to investing in new equipment. Our efforts consistently result in exemplary-managed energy systems and significantly greater savings.

For more information on how Aramark can help your healthcare system develop an energy-management strategy, contact us today.

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