

Total Energy Control Program for Healthcare Facilities

Providing efficient solutions that reduce total energy costs



Schneider Electric's Total Energy Control program specializes in providing energy-efficient solutions for healthcare facilities just like yours. Our team of professional engineers, certified energy managers, and LEED® accredited professionals work with you to help ensure the success of your energy strategy. With the development of an Energy Action Plan tailored for your facility, we evaluate your total energy picture to identify and prioritize efficiency projects to contain costs, minimize risks and improve bottom-line performance.

To reduce the total cost of energy at your facility, make Schneider Electric your partner of choice.

- Schneider Electric team performs an on-site, in-depth survey of your facilities
- Survey results are analyzed, energy projects prioritized and findings are translated into an Energy Action Plan
- Facility determines recommendations to pursue, method of implementation and timeline for execution
- Schneider Electric team continuously monitors projects, verifies results and modifies Energy Action Plan to maximize savings

Healthcare Energy Efficiency Services



- Energy Star labeling and LEED certification planning
- Decision assistance on energy programs
- Design and new equipment evaluations
- Rebate and incentive recommendations
- Power quality services
- Electrical condition assessment and maintenance services
- Consultation on energy monitoring and measurement and verification

Make the most of your energySM

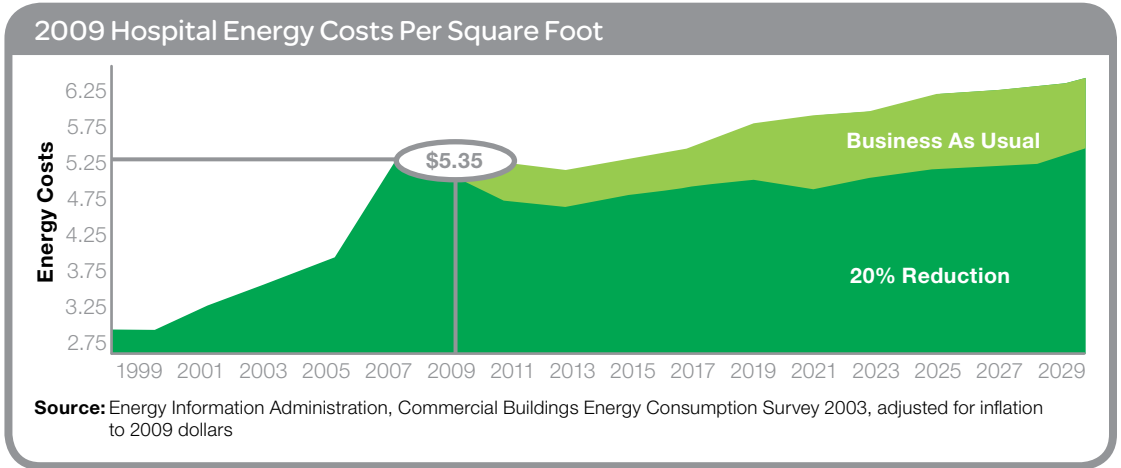
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Energy costs can strain your facility's financial health

With more than \$8.5 billion spent by healthcare organizations on energy each year, your facility faces an increasing burden to meet the expanding needs of patients while protecting your bottom line. You need a value-added partner with the proven experience, capabilities, and industry expertise to improve operating efficiencies and reduce energy costs.

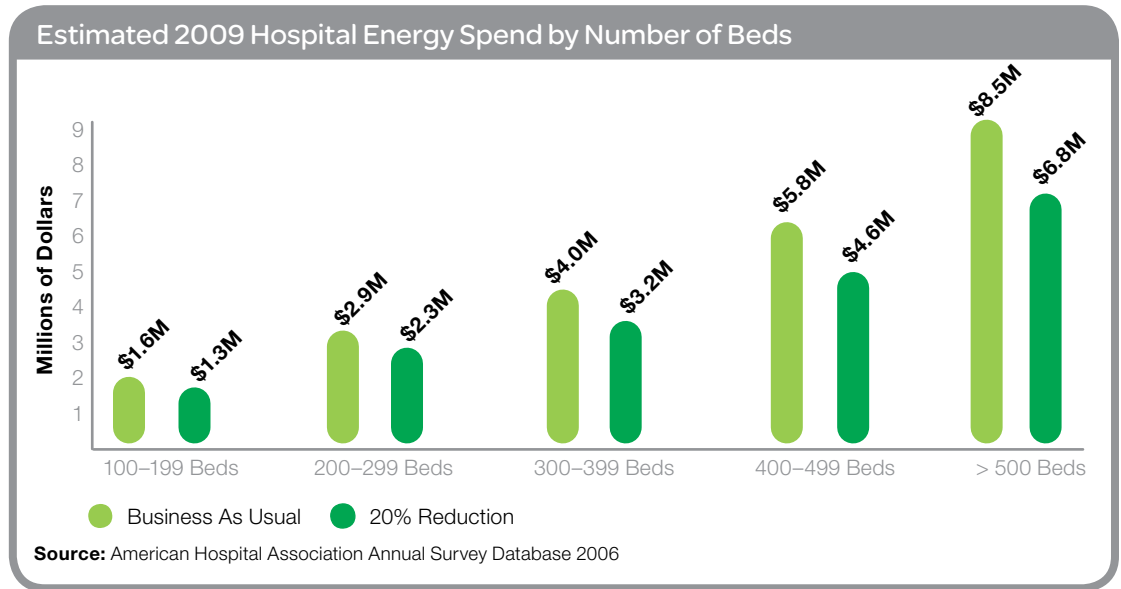
1-3%

of a hospital's operating budget is spent on energy.*



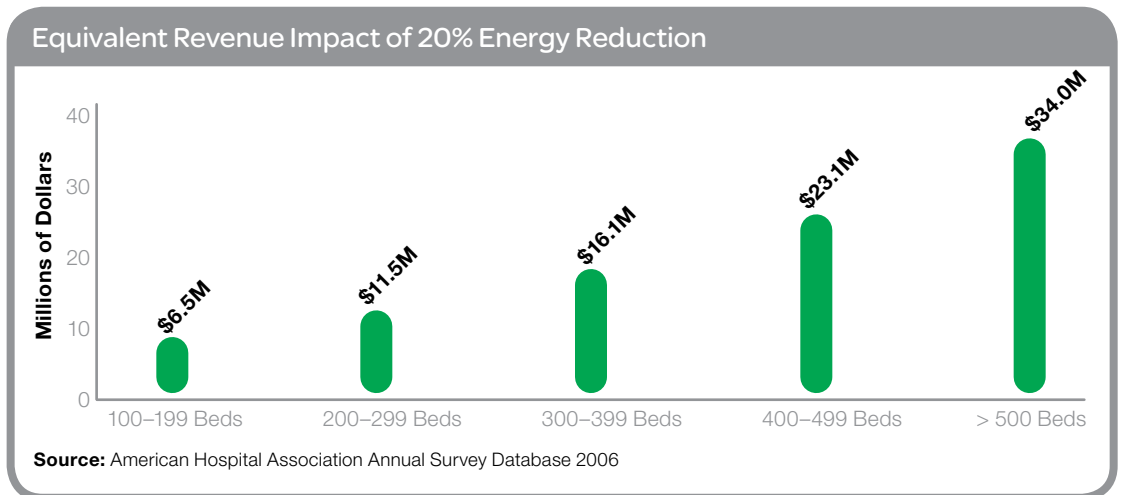
91%

of hospitals reported higher energy costs over the previous year and over **50% cited double-digit** increases.*



\$1

saved on energy in hospitals has the equivalent impact on the bottom line as **increasing revenues by \$20**.*



*Source: Health Facilities Management ASHE 2006 Hospital Energy Survey; Environmental Protection Agency and Department of Energy ENERGY STAR program



Customized solutions from energy specialists

Total Energy Control is a strategic energy consulting service. Our comprehensive program offers more than traditional performance contracts or energy audits. We provide:

- Evaluation of both the supply and demand impacting areas of operation
- Annual plans that identify energy saving projects to address current and future energy prices
- On-call experts to answer questions as they arise
- Accountability for the ongoing success of our Total Energy Control recommendations and plans

Energy Action Plan – Assessment Summaries

Schneider Electric has the experience you need for an effective Energy Action Plan. We have helped numerous facilities develop strategies to manage energy expenditures. We will evaluate the supply and demand areas of your hospital's operation and consider specific departmental functions such as:

- Critical care areas (intensive care units, operating suites, emergency rooms)
- Clinical support (radiology, pathology and other services)
- Inpatient care
- Food preparation
- Linens and laundry
- Medical office space
- Central energy plants

The Energy Action Plan summaries outlined on these pages detail actual hospital savings opportunities and recommended efficiency projects to optimize each facility's energy usage.

Rochester General Hospital (Rochester, New York)

Specifications	Potential Savings Identified	Recommendations
<p>Size: 1.2 million square feet</p> <p>Number of beds: 528</p> <p>Total investment: \$1,105,600</p> <p>Total savings: \$431,749</p> <p>Simple payback: 2.6 years</p> <p>Energy cost savings: 11.2%</p>	<p>Lighting 3%</p> <p>Chilled water system 23%</p> <p>Electrical 25%</p> <p>Boilers and steam production 49%</p>	<p>Lighting</p> <ul style="list-style-type: none"> • Install lighting control and replace high-pressure sodium lighting in parking garages • Replace 32 watt T8 lamps with 28 watt T8 lamps <p>Chilled water system</p> <ul style="list-style-type: none"> • Repair heating, ventilation and air conditioning (HVAC) chilled water free cooling systems • Install variable frequency drives (VFDs) on condenser water pumps • Use energy-efficient V-belts • Install VFDs for cooling tower fans • Install VFDs for B-wing chilled water pumps <p>Electrical</p> <ul style="list-style-type: none"> • Install new energy metering equipment <p>Boilers and steam production</p> <ul style="list-style-type: none"> • Install continuous boiler blowdown system • Install vent condenser for deaerator (D/A) tank vent • Install boiler blowdown economizer • Install boiler feedwater economizers • Install O₂ trim and linkageless actuators • Repair steam header safety relief valve • Insulate remote condensate receiver

Waukesha Memorial Hospital (Waukesha, Wisconsin)

Specifications	Potential Savings Identified	Recommendations
<p>Size: 870,000 square feet</p> <p>Number of beds: 316</p> <p>Total investment: \$404,925</p> <p>Total savings: \$143,336</p> <p>Simple payback: 3.5 years</p> <p>Energy cost savings: 8.4%</p>	<p>Lighting 48%</p> <p>Chilled water system 26%</p> <p>Electrical 18%</p> <p>Boilers and steam production 8%</p>	<p>Lighting</p> <ul style="list-style-type: none"> • Replace T12 lamps with T8 lamps • Replace 32 watt T8 lamps with 28 watt T8 lamps • Install lighting control in conference rooms and lobby • Install LED lights in parking lot and parking structure <p>Chilled water system</p> <ul style="list-style-type: none"> • Convert area 27-IA2 to variable air volume system • Schedule area 27-IA2 according to occupancy • Limit dining area exhaust fans operation • Reduce static pressure in air handler unit (AHU) #3 <p>Electrical</p> <ul style="list-style-type: none"> • Use energy saving cogged V-belts • Activate computer sleep mode <p>Boilers and steam production</p> <ul style="list-style-type: none"> • Reinstall boiler blowdown economizer

Mount Clemens Regional Medical Center (Mount Clemens, Michigan)

Specifications	Potential Savings Identified	Recommendations
<p>Size: 655,000 square feet</p> <p>Number of beds: 288</p> <p>Total investment: \$733,974</p> <p>Total savings: \$460,853</p> <p>Simple payback: 1.6 years</p> <p>Energy cost savings: 15.4%</p>	<p>Lighting 2%</p> <p>Chilled water system 30%</p> <p>Electrical 25%</p> <p>Boilers and steam production 20%</p> <p>Laundry 23%</p>	<p>Lighting</p> <ul style="list-style-type: none"> Replace 32 watt T8 lamps with 28 watt T8 lamps <p>Chilled water system</p> <ul style="list-style-type: none"> Implement electric demand control or peak shaving Use energy saving cogged V-belts Schedule air handler unit (AHU) #1, #3 and #4 Install VFDs for various centrifugal loads <p>Electrical</p> <ul style="list-style-type: none"> Activate computer sleep mode Install vending misers Install power factor correction capacitors Install new energy metering equipment <p>Boilers and steam production</p> <ul style="list-style-type: none"> Repair leaking safety relief valve Repair leaking chain operated steam vent valve Operate at the lowest steam pressure Implement steam trap repair program Install boiler blowdown economizer Install vent condenser for D/A tank vent Install boiler feedwater economizers <p>Laundry</p> <ul style="list-style-type: none"> Use recovered heat for dryer outside air preheat Evaluate ozone laundering

Florida Hospital East (Orlando, Florida)

Specifications	Potential Savings Identified	Recommendations
<p>Size: 500,000 square feet</p> <p>Number of beds: 255</p> <p>Total investment: \$1,079,295</p> <p>Total savings: \$425,820</p> <p>Simple payback: 2.5 years</p> <p>Energy cost savings: 13.1%</p>	<p>Lighting 5%</p> <p>Chilled water system 31%</p> <p>Electrical 5%</p> <p>Boilers and steam production 59%</p>	<p>Lighting</p> <ul style="list-style-type: none"> Install energy-efficient lighting in parking lot Install occupancy sensors Install photocells in areas with daylighting <p>Chilled water system</p> <ul style="list-style-type: none"> Implement HVAC operation optimization/setback Reset supply air temperature Install VFD for steam mezzanine exhaust fan Close loading dock doors <p>Electrical</p> <ul style="list-style-type: none"> Install photovoltaic array <p>Boilers and steam production</p> <ul style="list-style-type: none"> Use energy-saving cogged V-belts Install vending misers Activate computer sleep mode Install boiler blowdown economizer Install vent condenser for D/A tank vent Install boiler feedwater economizers Reduce boiler operating pressure Repair exposed underground pipe in parking lot

Lawrence General Hospital (Lawrence, Massachusetts)

Specifications	Potential Savings Identified	Recommendations
<p>Size: 434,958 square feet</p> <p>Number of beds: 216</p> <p>Total investment: \$260,654</p> <p>Total savings: \$269,919</p> <p>Simple payback: <1 year</p> <p>Energy cost savings: 10.3%</p>	<p>Lighting 7%</p> <p>Chilled water system 13%</p> <p>Electrical 28%</p> <p>Boilers and steam production 52%</p>	<p>Lighting</p> <ul style="list-style-type: none"> Replace existing 32 watt T-8 lamps with 28 watt T-8 lamps Replace incandescent lamps with compact fluorescent lamps Install lighting control sensors <p>Chilled water system</p> <ul style="list-style-type: none"> Commission/recommission air handler fan – Emergency Department Install cogged V-belts Install synchronous belts Install direct digital controls to replace pneumatic building automation controls Install VFDs for air handler units <p>Electrical</p> <ul style="list-style-type: none"> Install new energy metering equipment Activate computer sleep mode Install vending misers <p>Boilers and steam production</p> <ul style="list-style-type: none"> Increase boiler burner maintenance frequency Install continuous blow down control Install vent condenser for condensate return tank Enable "Hawk ICS" controls to automatically set back boiler operating pressure Reset steam system pressure to 70 psi Insulate valves



Much more than an energy audit

The Total Energy Control approach is one of continuous interaction and improvement. Together, we will develop a customized plan to meet your expectations, work to reduce the total cost of energy at your facility, and deliver the results you need. If energy efficiency is your goal, the Total Energy Control program from Schneider Electric is your solution.



Put our experience to work for you.

Find out how an Energy Action Plan can make a difference for your facility. To learn more:

- Visit schneider-electric.us/your-business/healthcare/
- Visit www.powerlogic.com
- Talk to one of our experts at 1-866-466-7627

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