



BETTERBRICKS
Bottom line thinking on energy.

THE TOP FIVE NO COST / LOW COST ENERGY SAVING OPPORTUNITIES

Cost reductions from tune-ups of energy related systems and improved operations and maintenance practices in hospitals typically garner 10–20% energy cost reductions. With a return on investment of 150–300%, these measures can quickly save energy and reduce costs.

1. EQUIPMENT SCHEDULING

In hospitals, consider opportunities to shut down HVAC equipment at the space level where terminal units can be scheduled to close down while the fan system stays operational. Also, look for schedule improvements for plug and process loads; fan systems; chillers and boiler availability; and pumps.

2. SENSOR ERROR

Sensor error can increase energy use, compromise occupant comfort, and prevent plant and system loads from being met. This is most often caused by uncalibrated sensors, failed sensors or mistakes in control set-up. While the impacts can be huge, the fix is to perform simple and regular calibration checks.

3. SIMULTANEOUS HEATING AND COOLING

Most hospitals use either constant volume or variable volume with reheat. In these systems, opportunities to reduce simultaneous heating and cooling often involve reducing reheat energy use. This can be accomplished by modifying discharge air temperature setpoints. In addition, for older systems, simple control system checks usually find instances of overlapping control loops, leaking valves or dampers, abandoned overrides and other easily corrected causes of simultaneous heating and cooling.

4. OUTSIDE AIR USAGE

Outside air displaces indoor air pollutants and provides adequate ventilation for the building occupants. But it can also waste significant energy if used in excess of needs and at the wrong time. To optimize ventilation and energy use, check outside air and return / exhaust air damper operation; economizers operation; minimum outside air requirements; and demand-control (CO₂ control) ventilation operation.

5. CENTRAL PLANT OPPORTUNITIES

Optimizing temperature set points and sequencing on chillers and boilers can yield significant savings. Try automatically resetting the chilled water temperature to the warmest chilled water that will meet the load. (Comment: This is only one example of the many aspects of central plant optimization. Others include boiler efficiency tuning, boiler and chiller sequencing to match loads efficiently, pipe insulation inspection, condensate recovery, regular steam trap inspections, optimizing pump VFD control by resetting setpoints or correcting bad pressure references.)