

Southcoast Health - A Multi-Prong Approach to Energy Efficiency



Benefits/Results

- At a basic, day-to-day level, Southcoast Health's (Southcoast) mechanics are seeing tremendous improvement in efficiency through the building management system.
- Year-to-year energy consumption has dropped.
- Cleaner air, reduced greenhouse gas emissions means better patient safety and health.
- Long-term projected savings.
- Potential for ENERGY STAR Certification.

Challenge/Situation

There were many areas of improvement needed throughout Southcoast. The team knew they needed to take action, but it was also overwhelming and required adequate staffing to complete the projects. The hospitals were also battling the inevitable winter wanting to complete their tasks before the weather made it impossible. While fortunate to have funding for their projects, Southcoast had to be realistic about the length and expense of the initiatives in order to keep the project and budget on time.

Strategy/Actions

Southcoast looked to make improvements throughout their three campuses. They wanted to make significant changes in a variety of areas; they were focused on an energy consumption and procurement plan. To begin, they had strong executive support and financial backing. The administration had a refreshing commitment to investment in their buildings and infrastructure. They also worked with a third-party energy broker on their gas and electric commodity procurement strategy. To add to their financial stability, they entered into a Memorandum of Understanding, a three-year progressive incentive agreement, with their utility company, which provided deeper incentives for various projects. Under the MOU Southcoast was able to receive on average \$.18/Kwh saved versus the standard incentive of \$.07/Kwh saved. St. Luke's Hospital had one project where they received \$250,000 in incentives from the utility company with potential for additional incentives.

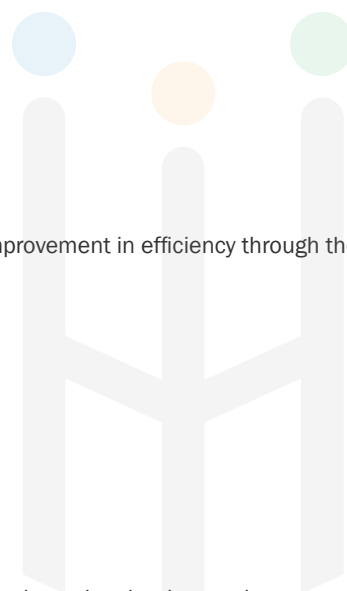
In order to manage the projects, Southcoast recognized their need to increase support staff. The director of engineering & facilities hired two project managers who each managed several large infrastructure projects. These were dedicated project staff. This took the burden off the facility managers and allowed the day-to-day work as well the longer-term projects to receive adequate attention. Furthermore, they were able to charge off project labor to these particular projects so operationally the added staff were not seen as new full time employees for budgetary purposes.

Implementation Process

To begin, Southcoast had to create a clear capital plan to determine how they were going to move and spend their funds, as well as identify their wants and needs to determine which projects to take on. Utilizing their various project managers, Southcoast, throughout its three campuses, took on a variety of initiatives highlighted below.

Steam Traps/Boilers: At Charlton Memorial Hospital and St. Luke's Hospital, facilities put in new burner and control technology for their boilers. The hospitals also conducted steam trap audits/replacements at all three campuses.

Lighting: Southcoast upgraded their lighting inside and outside the hospitals. All properties changed to LED lighting on the outer parts of the hospitals and parking lots. Inside, they upgraded a total of 80 percent of their lighting to one of the most efficient lights possible as well as put in motion sensor for better lighting control.



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Air Handlers: Between 2011 and 2012, Southcoast replaced 20 air-handling units across the three hospitals. The old units were inefficient, leaking, and in constant need of repair. The hospitals had gotten 20 to 30 plus years out of these handlers but now recognized the need to upgrade to safer, more efficient ones.

Building Management System: A large upgrade was done to the building management system, which encompassed everything from a completely new system to enhancing a system to adding onto a system. A building analytic system was put in to monitor and alert staff when infrastructure was not running as efficiently as possible. Other upgrades include moving from pneumatic controls to DDC controls. Southcoast worked to contain thermal energy and “tighten the envelope of the building” by fixing roof penetrations, repointing brickwork, re-caulking building joints, some window replacement, and re-insulating piping and duct work. Several electric motors were replaced and where applicable variable frequency drives added and put into the building management system.

Water Conservation: Water conservation included hand-free faucets and flushometers.

Future Work: Southcoast is currently looking into Co-Gen. At the leadership level, there is strong support for this initiative, but they are still working to determine the finances in hopes for a five-year return on investment. Southcoast is also working towards additional 30 air handler replacements over the next two years.

Lessons Learned/Recommendation

Southcoast reminds others not to “bite off too much, too quick” and ensure that hospitals have adequate staff to take on initiatives. They made numerous changes in a short period of time. Without the project managers, it would have been an extraordinarily difficult task. Financially, it is very important to have a sound, well-managed capital plan. It is also necessary to work with the project managers on budgeting, prioritizing, and determining which items are possible for the upcoming year. A capital plan is a living, breathing document; it is always moving and rolling. It is imperative to have an accurate plan over five years and to keep coming back to the plan and pushing it along.

Demographic Information

Southcoast consists of three hospitals on three separate campuses.

- In Fall River, Massachusetts is Charlton Memorial Hospital with 328 beds and 652,000 square feet.
- In New Bedford, Massachusetts is St. Luke’s Hospital with 423 beds and 698,000 square feet.
- In Wareham, Massachusetts is Tobey Hospital with 73 beds and 162,000 square feet.