ASHE CASE STUDY

ENERGY TO CARE
SUCCESS STORY

Case Study – Presbyterian Healthcare Services, Albuquerque, NM

By Ed Avis

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SUSTAINABILITY Roadmap *for* Hospitals
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Presbyterian Healthcare Services, Albuquerque, NM

2018 ENERGY STAR Score*: 82 (downtown location)

Square feet: 1.1 million (downtown location)

Total facilities: 9 hospitals, 100+ clinics (Presbyterian Healthcare Systems)

Total beds: 1,188

Total employees: 11,300

*ENERGY STAR certification is based on 2017 data

Everyone knows that turning off the lights in an unoccupied room saves energy, but generating serious energy savings requires a deep knowledge of how the energy business itself works, and then applying that knowledge to a facility's energy program.

"I think the number one challenge is to understand energy," says Keith Long, director of engineering for Presbyterian Healthcare Services, a system of nine hospitals and more than 100 clinics in New Mexico. "Really understanding the billing and consumption issues, and all of the add-on charges, is important. It's also valuable to know what's going on in the energy industry itself. For example, here in New Mexico we're taking a lot of coal burning plants offline and going to natural gas, so our Performance Team is wondering what that will do to natural gas prices."

Long and the other members of Presbyterian's Performance Team have applied that knowledge – and other practical energy-saving ideas – to many of the system's facilities. Their efforts led to ENERGY STAR® certification for Presbyterian Hospital in downtown Albuquerque in 2012. Other Presbyterian Healthcare System facilities are moving toward certification.

Team Approach

An essential part of Presbyterian's journey toward ENERGY STAR certification is the Performance Team. The team consists of facility managers at the three Albuquerque-area hospitals and the facility personnel who run the chillers and boilers. The team also includes a consultant who helps manage the data and apply for rebates. The team meets monthly in a rotating location; the presidents of each location are also invited to the meetings in their respective locations.

Team members have deep knowledge of the facilities and the energy-saving efforts made over the years, since most of them have been on the team for more than a decade.

"It's really a great asset to have that knowledge sitting in the room," Long says. "We evaluate infrastructure needs, we talk about problems, we investigate solutions. We also look at demand issues and performance year over year so we can see how we're doing."

Having hospital leadership in the meetings helps when it comes time for budgeting, Long says. He makes sure that the discussions touch on the issues the leaders care about.

"They're very engaged," he says. "They enjoy the discussion, and they love to see the trends year over year. We create a couple of slides just for them. They also really like it when we can make connections between different issues. For example, if we're talking about security lighting in the parking lots or garages, and we can tie that together with energy reduction by installing LED, they appreciate that. That's been very beneficial for us."

Using Data

Data from the facilities' building automation systems (BAS) play a key role in Presbyterian's ENERGY STAR journey. Long provides the BAS data to the Performance Team so they can decide what issues to focus on. For example, they looked at BAS data about chilled water temperature to determine if there were some energy savings hiding in the chillers.

"Of course everybody thinks the colder the better, but we evaluated the situation and went from 46 to 48 degrees in chilled water, and there was no significant impact on comfort," Long says. "Utilizing the BAS data allowed us to make adjustments and then monitor the situation through graphs behind the scenes; we also listened for complaints from the customers, and that wasn't happening."

Long appreciates the fact that the BAS helps the Performance Team try new ideas.

"It's not always a black-and-white situation," he says. "We need to be able to try new things and see how they go. How can we get better? What if we were to try this?"

The BAS data also helps the team determine if equipment replacements have paid off. For example, recent projects have included plate and frame heat exchangers, LED replacement bulbs, and variable air volume (VAV) boxes. The BAS allows the team to compare energy usage before and after installation.

Working with Utilities

Solid partnerships with local utility companies have paid off for Presbyterian.

The utilities offer rebates when Presbyterian installs certain energy-saving devices and equipment, but the installations need to be approved ahead of time and the purchases and installations need to be validated. Those steps happen more smoothly because of good relations, Long explains.

In some cases the utilities also provide incentives for load shedding, although that applies primarily to facilities that are not occupied 24/7.

Capturing Sun Energy

Because of New Mexico's plentiful sunshine, solar panels are a natural consideration for the Performance Team. A solar system was installed on the roof of one clinic about ten years ago, and a second system was incorporated into a new clinic built about two years ago.

"That has saved us approximately $600 a month in electricity," Long says. "That's not a whole lot, but it was the right thing to do at the time. The solar incentives have changed since then, and we don't get the credits anymore, so the payback has gone to 15 years instead of eight. I'm not sure if it would be really worth it to do again."

Spreading the Knowledge

Long makes sure that the know-how the Performance Team develops is shared throughout the Presbyterian system.

For example, the system recently opened a new 30-bed hospital in Santa Fe. It features all-LED lighting, mag chillers, energy-efficient windows, and other energy-saving technology that Long and his colleagues learned about and installed on other facilities.

"We can implement some of the systems that we worked out in the Albuquerque hospital in that new hospital," Long says. "We're thinking we're going to get $50,000 to $75,000 in rebates because of the technology we put in."

It also helps that the system uses the same mechanical and electrical engineering f irms whenever they build a new facility, because they understand the standards Presbyterian requires.

"So when we're building something, they know Presbyterian wants it done this way," Long says. "We meet the code and exceed it operationally when we can."

The Energy to Care program, sponsored by Johnson Controls, encourages hospitals across the country to reduce their energy consumption by 10 percent or more over their baseline energy consumption. Since 2009, hospitals participating in the Energy to Care program have tracked more than $67 million in energy savings. This free program includes a robust energy-benchmarking tool in addition to the awards. ASHE congratulates these hospitals for their leadership in reducing energy consumption.

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