

ENERGY TO CARE *SUCCESS STORY*

Atrium Health Cleveland:
2020 Energy Champion Award Winner

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Atrium Health Cleveland

Floorspace: 506,760 square feet

Licensed beds: 241

Staffed beds: 177

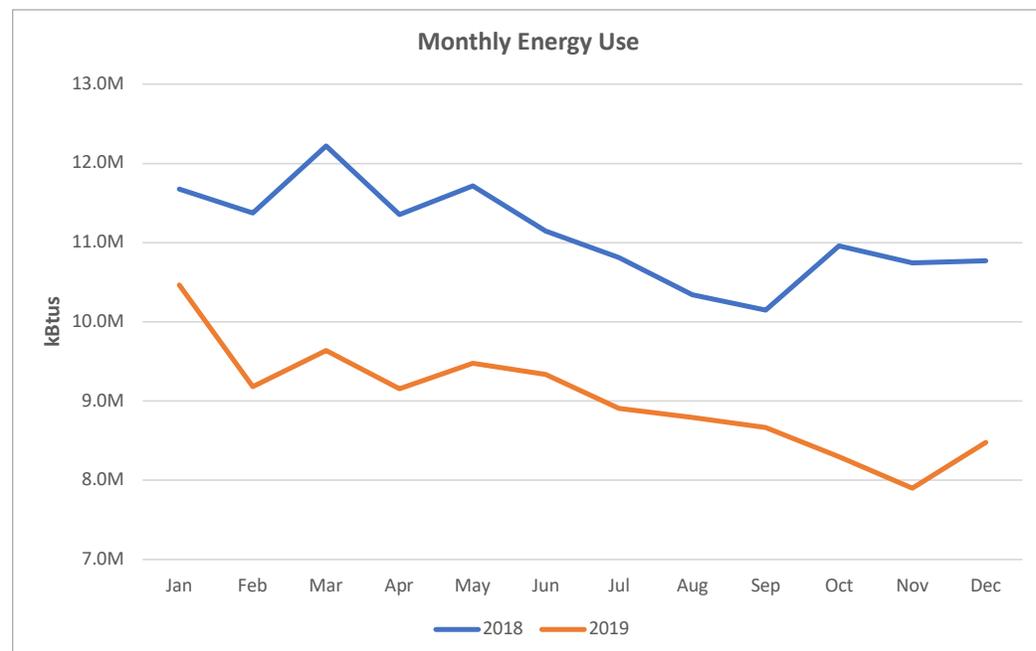
Total employees (FTE): 1,166

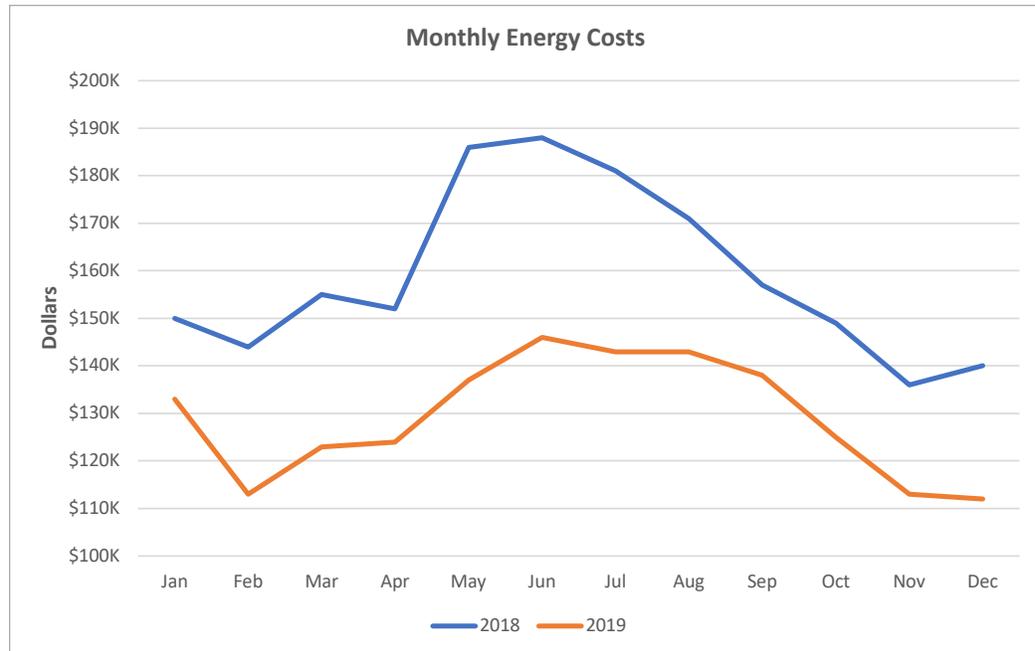
Maintenance staff employees: 14

Atrium Health Cleveland, located in Shelby, N.C. and part of the Atrium Health system, is the winner of the 2020 Energy to Care Energy Champion Award. The hospital facility received this award in recognition of significant energy efficiency gains — the result of capital and operational investments, a committed plant operations and maintenance staff, and the fostering of a culture that brought together energy savings and patient care.

Atrium Health Cleveland has made great strides in energy efficiency in the last decade. In 2011, the facility’s ENERGY STAR® score was 2, and in August 2020 it achieved ENERGY STAR certification with a score of 77. A renewed focus on energy reduction, along with staff engagement and leadership support, has led to impressive outcomes.

Over the two-year period from January 2018 to December 2019, Atrium Health Cleveland’s energy consumption and costs decreased significantly. Monthly energy use at the facility dropped over 27%, from 11.7 million kBtus to 8.5 million, and energy costs decreased over 25%, from \$150,000 per month to \$112,000.





These energy savings accomplishments were the result of a combination of capital and staff investments. An energy plant upgrade in 2018 contributed to the 19% decrease in energy use intensity by the end of the following year. The upgrade project included a 1,200-ton chiller, an 800-ton heat exchanger, three cooling towers and new sequences of operation to optimize the efficiency of the system.

Numerous additional operations improvements have helped boost the facility's energy efficiency, including schedules and occupied/unoccupied set points in all non-acute spaces; tighter thermostat dead bands; discharge air temperature resets on all air-handling units (AHUs); heating water resets; lower plant steam pressure; lower AHU static pressure; balancing, calibration and repair of variable air volume boxes; AHU damper and valve control calibration; T8 LED lamp replacements; and installation of motion detectors.

The plant operations and maintenance team is supported by Atrium Health's Enterprise Energy Management Program, which includes dedicated professionals specializing in building automation controls and energy monitoring. Joe Ross, director and senior service line leader at Atrium Health, says that the renewed focus on energy reduction was a way to put into action the energy savings lessons learned from other facilities in the system. But as Atrium Health Cleveland embarked on its energy management journey, he also saw a chance to use new and creative approaches tailored to the facility that had the potential to yield significant results.

"We started on the ground floor and looked at each piece of equipment to see how we could make it more efficient," Ross says. "Our strategy is to look at the facility needs, the opportunities and the available equipment and to think about how to make the most of what we have. For example, if a unit isn't occupied 24/7, is there something we can do from a scheduling standpoint? For pneumatic controls, are there things we can do when the system is not in operation?"

The plant operations and maintenance staff has been integral to Atrium Health Cleveland's energy efficiency success. High teammate engagement has helped integrate energy efficiency into the daily work of staff. As team members see progress, through metrics such as the ENERGY STAR Portfolio Manager and the Energy to Care Dashboard, they become even more invested in achieving operational excellence through energy efficiency.

Atrium Health Cleveland did not start with a major capital project and the goal to reduce consumption by a certain amount. Instead, the program developed through an organizational shift in the mindset around energy savings and ways to provide a safe and comfortable environment with available equipment. The plant operations and maintenance staff stepped up to this challenge by identifying opportunities that required minimal capital upfront.

Ross also points to the time invested in understanding the passions and skill sets of team members in order to maximize their contributions to the program. "The energy successes at Atrium Health Cleveland are indicative of these efforts to evaluate the team," he says. "The energy savings results are just a manifestation of finding the right role for each person. People love what they do, and this facility has been very successful in this regard."

Atrium Health's Energy Connect program also helped bolster staff engagement. This multiyear energy efficiency training program is a partnership with the University of North Carolina to provide advanced training to plant operations and maintenance staff. Through Energy Connect, two Atrium Health Cleveland team members received over 50 hours of site-based training. These Energy Performance Experts now provide leadership on energy optimization, ongoing commissioning, and fault detection and resolution, in addition to inspiring and encouraging their teammates.

This staff engagement reflects a broader shift in culture at Atrium Health Cleveland, where energy efficiency efforts now reflect a collaborative process that involves leadership at all levels, facility administration, clinical staff and vendors. In addition, energy savings and patient care are no longer considered mutually exclusive goals. The focus instead is on providing high-quality patient care while also promoting energy-efficient operations.

The facility's energy savings efforts have resulted in improved occupant satisfaction and fewer complaints. In addition to the energy savings, the prolonged lifespan of equipment and the decrease in needed repairs have resulted in additional cost savings. Energy efficiency has supported patient care by providing funds for renovating clinical spaces, purchasing new equipment and offering more affordable hospital services to the community.

Atrium Health Cleveland reached three of its major energy goals this year when it received ENERGY STAR certification, an Energy to Care Award and the Energy Champion Award. By the end of August 2020, the facility had also reduced its energy consumption by another 6%. These achievements, however, are milestones in an ongoing and evolving energy management program that strives to lower energy consumption year over year and seek out new opportunities to improve energy efficiency.

"We've always approached things from the bottom up and asked what we can do better today than yesterday," Ross says. "The team is less concerned with a particular end goal. As a result, the Atrium Health Cleveland team is just as excited now as it was when our energy savings journey started two years ago."



**The American Society for Health Care Engineering (ASHE)
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