

Comfort, Savings, and Conservation at Edgecombe Community College



Challenge

Edgecombe Community College in eastern North Carolina recently celebrated a milestone—50 years of service to its students and communities! Since its founding in 1967, ECC has been actively committed to equipping the people of Edgecombe County and surrounding areas with the knowledge and skills that will help them improve their quality of life and the economic strength of their communities.

ECC offers its more than 13,000 annual students 130 degree, diploma, and certificate programs as well as more than 1,000 continuing education classes. As the college's services and enrollment have grown over the past five decades, so have its physical facilities. What began as one building in Tarboro in 1967 is now 14 buildings at campuses in both Tarboro and Rocky Mount. Two very recent endeavors at ECC are the new Biotechnology and Medical Simulation Center on the Rocky Mount campus, and the in-process Center for Innovation on the Tarboro campus.

In 2010, the college administration

*Guaranteed
Energy
Savings over
\$2.5 million*



reviewed the history and operating costs for their physical facilities and realized that inefficient and aging equipment at many of their buildings was driving energy costs upward each year. The same issues were also contributing to less than ideal indoor environments at their campuses. ECC also realized they needed help identifying creative ways to finance the needed upgrades.

Solution

The college called on Brady to design a comprehensive improvement plan that would be funded by guaranteed energy savings. Brady worked with the college administration and facility engineers to design the system upgrades that would best meet ECC's needs and goals. The project focused on eight buildings at the Tarboro campus and two buildings at the Rocky Mount campus.

Brady was also retained to install the new systems and equipment. The work was conducted in 2012–2013 and included the following energy-efficient measures:

- Installation of automated control systems in three buildings
- Installation of 2,721 high-efficiency lighting fixtures
- Upgrading of 52 light sensors and their control systems
- Installation of three new water chillers and their pumping systems
- Installation of 11 new air-handling units
- De-lamping of 20 vending machines

De-lamping of the vending machines not only reduced the college's energy use, it also helped ECC comply with the energy

savings requirements of North Carolina Senate Bill 668.

The total project cost was \$1,461,253 with guaranteed energy savings of \$2,355,810 over the 15-year operations term.

Results

The college has been operating their new systems since 2013 and enjoying the benefits of the upgrades. The students, professors, and staff at ECC are enjoying a consistently comfortable learning and work environment throughout the 240,620 square feet covered by the project improvements.

From a financial standpoint, the annual energy savings realized during Years 1–4 ranged from \$131,490 to \$164,432. Add to that the \$3,193 to \$4,461 of savings in O&M time and costs, and the annual savings is even greater. Based on this savings rate, the projected 15-year savings is more than \$2.5 million, leaving ECC with extra savings to cover financing interest fees or other college needs.

The college is also pleased to be reducing their environmental footprint thanks to the project upgrades. The total energy conservation realized during Years 1–4 is equivalent to reducing CO2 emissions from the use of 336,544 gallons of gasoline. These savings include the following non-renewable resource conservation:

- Electricity: 4,067,213 kWh
- Natural gas: 17,877 therms

Comfortable classrooms, energy savings, and resource conservation. It doesn't get any better than that for Edgecombe Community College!

