

South Carolina School Success Stories

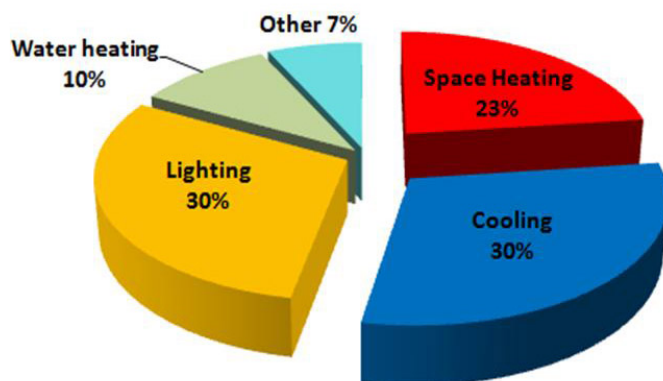
Lighting

Lighting can be a significant expense for school districts. The commercial energy sector, which includes institutional buildings, consumed about 275 billion kWh for lighting or 21 percent of commercial sector electricity consumption in 2011. Public schools spend more than \$6 billion dollars annually on energy. Nationwide, as much as 30 percent of that energy use is the result of inefficiency. By installing energy efficient lighting systems, districts can begin to cut their energy costs while improving light quality in classrooms and reducing heat gain. Remember to check with your local utility to see if additional rebates are available.

As part of the American Reinvestment and Recovery Act (ARRA), school districts across South Carolina replaced inefficient lightbulbs in classrooms and gymnasiums to improve energy usage. Funding allowed more than 70 schools to upgrade to energy efficient lighting; the bulk of upgrades involved the replacement of T-12 fluorescent bulbs with the more efficient T-8 bulbs. A T8 bulb can provide the same quality of light while drawing less power making the T8 a more energy-efficient bulb to use. In addition to lightbulb upgrades, districts also added motion sensors to lessen energy usage when classrooms and buildings were unoccupied. See project examples on the back of this handout.

Typical Energy Usage in Facilities

Courtesy U.S. Department of Energy



- The average school building in the United States is more than forty years old. Older buildings were not designed to meet the energy needs of today's students.
- K-12 schools use, on average, 10 kWh of electricity per square foot per year.
- A mid-sized school district with 800,000 square feet of building space spends more than \$1 million annually for energy.
- According to the National Center for Education Statistics, per student energy expenditure rose 19% from 2007-2008.
- Lighting, cooling, and plug loads are the top three energy uses for school buildings.



Tremain Foundation



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For more information, please visit our website: www.energy.sc.gov*

Fairfield County School District
1226 US Highway 321 By-Pass South
Winnsboro, SC 29180
(803) 635-4607

Project Title: Fairfield Central High School Lighting Upgrade
Funding Amount: \$172,246
Project Cost: \$180,946
Annual Savings: \$35,994
Lifetime Savings: \$719,877
Equipment Lifetime: 20 years
Projected Payback Period: 4.8 years

Project Description: At Fairfield Central High School, the District replaced existing T12 lamps with T8 lamps, upgraded magnetic ballasts to electronic ballasts, and installed dual sensor dual switching occupancy sensors.

Horry County School District
335 Four Mile Rd (PO Box 26005)
Conway, SC 29528
(843) 488-6700

Project Title: Horry Co. Schools Occupancy Sensor Project
Funding Amount: \$598,438
Project Cost: \$598,438
Annual Savings: \$289,588
Lifetime Savings: \$2,895,882
Equipment Lifetime: 10 years
Projected Payback Period: 2.1 years

Project Description: The District installed district-wide (in 49 schools) ceiling mount occupancy sensors.

Jasper County School District
10942 North Jacob Smart Blvd. (PO Box 848)
Ridgeland, SC 29936
(843) 717-1100

Project Title: Jasper Co. School District Energy Efficiency
Funding Amount: \$87,790
Project Cost: \$87,790
Annual Savings: \$79,554
Lifetime Savings: \$1,704,828
Equipment Lifetime: 20 years
Projected Payback Period: 1.1 years

Project Description: The District replaced metal halide lamps, installed magnetic contact switches, and installed light sensors. The District also planted deciduous shade trees to aid in building cooling.

Laurens County School District 55
1029 West Main St.
Laurens, SC 29360
(864) 984-3568

Project Title: Laurens School District 55 Performance Contract
Funding Amount: \$338,988
Project Cost: \$3,656,618
Annual Savings: \$416,413
Lifetime Savings: \$7,582,460
Equipment Lifetime: 20 years
Projected Payback Period: 8 years

Project Description: The District established an Energy Performance Contract to reduce energy consumption by 15%, which included five energy measures for improvements in lighting, sensors, mechanical (buildings), control systems, windows, and doors.

Aiken County School District
1000 Brookhaven Dr.
Aiken, SC 29803
(803) 641-2428

Project Title: Aiken County Public Schools lighting and electrical energy upgrades
Funding Amount: \$586,739
Project Cost: \$702,491
Annual Savings: \$82,354
Lifetime Savings: \$1,782,212
Equipment Lifetime: 20 years
Projected Payback Period: 7.1 years

Project Description: The district conducted 24 energy measures for lighting and electrical upgrades district wide.

Dorchester County School District 4
500 Ridge St.
St. George, SC 29477
(843) 563-4535

Project Title: Dorchester County District 4 T8 Lighting Conversion
Funding Amount: \$97,784
Project Cost: \$97,784
Annual Savings: \$30,410
Lifetime Savings: \$608,194
Equipment Lifetime: 20 years
Projected Payback Period: 3.2 years

Project Description: The district conducted a lighting retrofit for St. George Middle School.