Success Stories are funded through a grant from the Emily Hall Tremaine Foundation.

The Emily Hall Tremaine Foundation (EHTF) is a family foundation established in 1986 by Emily Hall Tremaine. Based in Connecticut, the Foundation seeks to promote innovative solutions to basic and enduring problems in the United States through grant-making programs related to art, environment, and learning disabilities. In addition to annual grant-making, the Foundation also hosts periodic meetings on non-profit organizations, government agencies, and other stakeholders to facilitate collaboration among sectors to achieve common goals.

The South Carolina Energy Office is grateful for the support of the Emily Hall Tremaine Foundation in creating this document. Any errors or opinions expressed herein are those of the South Carolina Energy Office and do not necessarily reflect the views of the Emily Hall Tremaine Foundation.
The District made HVAC chiller replacements at three different schools.
SC Energy Office Financial Programs

The South Carolina Energy Office (SCEO), through the Plan for State Energy Policy, provides a broad range of resources designed to help citizens, businesses, and public entities save energy - and money - through greater efficiency, better information, and enhanced environmental quality. The SCEO has several financial programs that can assist both public and private entities with energy efficiency retrofits. Since their inception, these programs have loaned out nearly $25 million and have a projected lifetime energy savings of more than $60 million.

ConserFund

To continue the success of the American Reinvestment and Recovery Act (ARRA) grant projects, the SCEO created low interest loans to fund energy-efficiency improvements in state agencies, public colleges or universities, school districts, local governments, and private 501(c)(3) organizations. The ConserFund Loan Program is focused on supporting the implementation of energy-efficient improvements that provide long-term cost reductions and energy savings.

Loans may cover up to 100% of eligible project costs allowing borrowers to finance projects from $25,000 up to $500,000 per state fiscal year. For government borrowers, the first payment is not due for one year after construction is completed and payments will be made annually thereafter. For 501(c)(3) borrowers, the first payment is not due until the first quarter after construction is complete, and loan payments will be made quarterly thereafter.

For more information about ConserFund, visit the SCEO website at www.energy.sc.gov/incentives.

ConserFund Plus

The ConserFund Loan program was established by the South Carolina Energy Office to assist government and non-profit entities in carrying out energy efficiency projects. The program has recently been expanded using funds repaid to the State by entities which received loans under the American Recovery and Reinvestment Act (ARRA). ConserFund Plus loans will only be available to the state entities eligible for the original ARRA grants, and will consist of a 70% loan/30% grant option.

The minimum loan amount for the ConserFund Plus program is $25,000 and the maximum is $500,000 per (state) fiscal year. This will include the 30% grant amount. In other words, an agency borrowing the maximum amount would receive disbursements up to $500,000 but would repay only $350,000. Borrowers must comply with all ARRA requirements, including Davis Bacon wage reporting, (ARRA) Buy American requirements, and restrictions on transfer or sale of equipment costing more than $5,000 without approval of the SCEO. ARRA requirements apply to both the grant and loan portions of the transaction.

For more information about the ConserFund Plus program, visit the SCEO website at: www.energy.sc.gov/incentives.

Energy Efficiency Revolving Loan (EERL)

The Energy Efficiency Revolving Loan (EERL) program was established through the US Department of Energy/South Carolina Energy Office using “stimulus” funding. It is administered by the Business Development Corporation (BDC) by contract with the Jobs-Economic Development Authority (JEDA). The purpose of the loan fund is to enable business and industry to save money by saving energy. Although the primary target of this program is business and industry, utilities, non-profits and government entities could be eligible under certain circumstances.

For more information about the Energy Efficiency Revolving Loan program, visit the SCEO website at: www.energy.sc.gov/incentives.

SUCCESS STORY: Randolph Trucking

In 2014, Randolph Trucking was able to use a mix of financing options to begin converting its diesel fleet to compressed natural gas (CNG). Phase one of the project covered the purchase of ten new CNG trucks for the Randolph fleet. The Business Development Corporation and South Carolina Bank and Trust joined with the South Carolina Jobs-Economic Development Authority to help Randolph expand its use of natural gas in its truck fleet through the use of two statewide energy conservation financing programs.

“Switching from diesel fuel to CNG fuel not only makes my trucking fleet more competitive, it is also good for the environment of South Carolina and for the health and well-being of its citizens,” says Charles Randolph, President and owner of Randolph Trucking, LLC. With these ten trucks in operation, Randolph plans on displacing consumption of 138,000 gallons of diesel fuel annually with CNG fuel, resulting in fuel cost savings approaching fifty percent and reducing greenhouse gas emissions by the equivalent of 640 metric tons annually due to CNG’s reduced emissions, which is the same as removing 135 cars from the road.”
ARRA Project Overview

On February 17, 2009, President Barack Obama signed into law the American Reinvestment and Recovery Act (ARRA). Commonly referred to as “the Stimulus”, a portion of the money made available as part of ARRA was intended to save and create jobs by investing in infrastructure, education, health, and renewable energy. A total of $27.2 billion was invested in energy efficiency and renewable energy research and investment nationwide.

To maximize the benefits of energy-related ARRA funding coming to South Carolina, the state focused on projects that would benefit all taxpayers by reducing energy expenditures in the public sector, encouraging the private sector through smaller, more targeted programs, and using the funds to maintain momentum for energy efficiency and clean energy in the years ahead. In order to ensure the success of these projects and to establish the foundation for a well-trained energy workforce going forward, the SCEO also planned a statewide training program through the technical college system.

The largest portion of South Carolina ARRA funding (75%) was devoted saving money in the public sector by increasing energy efficiency in state-owned buildings. It was distributed to state agencies, public colleges and universities, and school districts that have tracked and reported energy use to the SCEO over the course of almost two decades. Those entities were awarded funding based on past energy use and were charged with developing energy efficiency projects with a return on investment of 2.5 or better. The expected savings to the taxpayers of the state over the life of these energy conservation projects is $193.7 million, based on applications as submitted. Eighty-six of South Carolina’s public school districts participated in the ARRA programs, using the monies to upgrade outdating heating and air equipment, replacing inefficient lighting, and installing energy management systems to help manage energy use.

Nationwide, public schools spend more than $6 billion dollars annually on energy. As much as 30 percent of that energy use is the result of inefficiency. To ensure that participating agencies were taking a comprehensive look at their energy needs, the SCEO asked grantees to develop retrofit plans that outline a long-term strategy to manage energy use effectively. In 2008 the SC General Assembly passed a law requiring state agencies, public colleges and universities, and public school districts to reduce energy use by 20% by 2020, and to develop energy use plans. Completion of a comprehensive energy plan, required by legislation, was also made a condition of the ARRA grants, which encouraged state entities to take a long-term view of their energy management needs before finalizing grant requests.

<table>
<thead>
<tr>
<th>SC ARRA GRANT TOTALS</th>
<th>K-12 Public Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Buildings Retrofitted: 604</td>
<td></td>
</tr>
<tr>
<td>Square Feet Retrofitted: 30,528,189</td>
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</tr>
<tr>
<td>Total Project Cost: $28,244,555</td>
<td></td>
</tr>
<tr>
<td>ARRA Funding: $19,779,468</td>
<td></td>
</tr>
<tr>
<td>Projected Annual Savings*: $5,206,517</td>
<td></td>
</tr>
<tr>
<td>Projected Lifetime Savings*: $86,088,111</td>
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</tbody>
</table>

*These numbers are estimates based on square footage, equipment life, and energy prices at the time the project was completed. Actual totals may vary.

South Carolina School Districts

These are the school districts that were in existence at the beginning of the ARRA grant program. Since that time, several of the districts have combined, separated, or changed names.

1. Abbeville County School District
2. Aiken County School District
3. Allendale County School District
4. Anderson County School District 1
5. Anderson County School District 2
6. Anderson County School District 3
7. Anderson County School District 4
8. Anderson County School District 5
9. Bamberg County School District 1
10. Bamberg County School District 2
11. Barnwell County School District 19
12. Barnwell County School District 45
13. Beaufort County School District
14. Berkeley County School District
15. Calhoun County School District 1 (did not participate)
16. Charleston County School District
17. Cherokee County School District
18. Chester County School District
19. Chesterfield County School District
20. Clarendon County School District 1
21. Clarendon County School District 2
22. Clarendon County School District 3
23. Colleton County School District
24. Darlington County School District
25. Dillon County School District 1
26. Dillon County School District 2
27. Dillon County School District 3
28. Dillon County School District 4
29. Dorchester County School District 2
30. Dorchester County School District 4
31. Edgefield County School District
32. Fairfield County School District
33. Florence County School District 1
34. Florence County School District 2
35. Florence County School District 3
36. Florence County School District 4
37. Florence County School District 5
38. Georgetown County School District
39. Greenville County School District
40. Greenwood County School District 52
41. Hampton County School District 1
42. Hampton County School District 2
43. Horry County School District
44. Jasper County School District
45. Kershaw County School District
46. Lancaster County School District
47. Laurens County School District 55
48. Laurens County School District 56
49. Lee County School District
50. Lexington County School District 1
51. Lexington County School District 2
52. Lexington County School District 3
53. Lexington County School District 4
54. Lexington County School District 5
55. Marion County School District 1
56. Marion County School District 2
57. Marion County School District 3
58. Marlboro County School District
59. McCormick County School District
60. Newberry County School District
61. Oconee County School District
62. Orangeburg County School District 3
63. Orangeburg County School District 4
64. Orangeburg County School District 5
65. Pickens County School District
66. Richland County School District 1
67. Richland County School District 2
68. Saluda County School District
69. Spartanburg County School District 1
70. Spartanburg County School District 2
71. Spartanburg County School District 3
72. Spartanburg County School District 4
73. Spartanburg County School District 5
74. Spartanburg County School District 6
75. Spartanburg County School District 7
76. Sumter County School District 1
77. Sumter County School District 17
78. Union County School District
79. Williamsburg County School District
80. Williston School District 29
81. York County School District 1
82. York County School District 2
83. York County School District 3
84. York County School District 4
Abbeville

Abbeville County School District
400 Greenville Street
Abbeville, SC 29620

Project Title: Direct Digital Energy Management HVAC Control System for Abbeville County School District

- Funding Amount: $88,540
- Project Cost: $287,826
- Annual Savings: $39,381
- Lifetime Savings: $787,612
- Equipment Lifetime: 20 years
- Projected Payback Period: 2.2 years

Project Overview: Abbeville County School District began installing a Direct Digital Control system for HVAC equipment in 2001. This project used stimulus funds to continue installing the automated direct digital controls, which control 13 split system HVAC units at both Diamond Hill Elementary School and Cherokee Trail Elementary School.

Abbeville Facilities Director Samuel Jones stated, “Everybody wants to be warm and cool as the seasons change, but you have to moderate that to what your budget can afford.”

With direct digital controls on heating and air units, one maintenance person can adjust heat and air settings using a computer, to adjust and monitor the temperatures for multiple District facilities.

Abbeville School District will reduce its energy use and save money with this monitoring system, especially during the colder months. The direct digital controls project has a projected return on investment of five percent.

Aiken

Aiken County School District
1000 Brook Haven Drive
Aiken, SC 29803

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 Overview: Aiken County School District, the sixth largest school District in the state, used stimulus funds to finance lighting and electrical upgrades. These funds allowed the school District to replace high intensity discharge (HID) with energy efficient linear high bay fluorescent lights in over twenty school gymnasiums.

“Aiken County School District took advantage of stimulus funding to retrofit lighting in over twenty school gymnasiums. These projects will lower energy bills and continuously save money for the school District.”

Using American Recovery and Reinvestment Act funds in 2009, the state’s sixth largest school District upgraded gym lights in almost half of its schools. With over 24,000 students in the District, the gyms are used for assemblies, gathering places before and after school, physical education classes, and athletic events.

“We haven’t had a lighting upgrade for probably fifteen years so the need was great,” said Deputy Superintendent David Caver.

The District includes 41 schools covering 1,000 square miles and many are older buildings that are not energy efficient.

With a campus that large, Caver says the District is always seeking “ways to decrease energy usage.” Decreasing the District’s energy usage means a considerable reduction in energy costs. The recent re-lighting project has a projected return on investment of four percent.
Allendale

Allendale County School District
PO Box 458
Allendale, SC 29810

Project Title: Lighting Retrofits Allendale and Fairfax Elementary Schools

Funding Amount: $88,540
Project Cost: $287,826
Annual Savings: $39,381
Lifetime Savings: $787,612
Equipment Lifetime: 20 years
Projected Payback Period: 2.2 years

Project Overview: This project used stimulus money to implement lighting retrofits at Allendale and Fairfax Elementary Schools.

Replacing T12 fluorescent bulbs (top) with the more efficient T8 bulbs (center) can provide the same quality of light while drawing less power and reducing heat output, making the T8 a more efficient choice.

Anderson Districts 1, 2, 3, 4 & 5

Anderson County School District 1
801 North Hamilton Street
Williamston, SC 29697

Project Title: Anderson District 1 Controlling Energy in the Middle: Energy Efficient Controls for Wren Middle School

Funding Amount: $175,837
Project Cost: $175,837
Annual Savings: $34,742
Lifetime Savings: $694,848
Equipment Lifetime: 20 years
Projected Payback Period: 5.1 years

Project Overview: Anderson County School District One used stimulus funds to install an automated logic WebCTRL Energy Management System to have better control of HVAC equipment at Wren Middle School. This project also used stimulus funds to install a tank-free water heating system at Wren Middle School.

Web-Based Controls

Anderson School District

Web-based control systems give energy managers the ability to set and monitor temperature and equipment function digitally.

Anderson County School District 2
10990 Belton Honea Path Highway
Honea Path, SC 29654

Project Title: Anderson District 2 Energy Efficient Funding

Funding Amount: $113,709
Project Cost: $113,709
Annual Savings: $33,735
Lifetime Savings: $406,450
Equipment Lifetime: 20 years
Projected Payback Period: 3.4 years

Project Overview: Anderson County School District Two used funds to add electric utility metering to seven schools and link them to the pre-existing District-wide energy management system. The District also replaced telephone modems with Ethernet connections to energy management panels in four schools. Two schools used funds to replace old thermostats with new programmable thermostats.

Anderson County School District 3
335 West Front Street
Iva, SC 29655

Project Title: Anderson District 3 Energy Efficient Funding

Funding Amount: $92,296
Project Cost: $92,296
Annual Savings: $26,162
Lifetime Savings: $265,072
Equipment Lifetime: 10 years
Projected Payback Period: 3.5 years

Project Overview: This project used stimulus funds to connect five separate schools to the District’s energy management system. In 11 areas the District installed occupancy sensors for lighting control. In four schools Ethernet connections replaced old telephone modems in the energy panels. The stimulus funded lighting upgrades in parking lots and the installation of exhaust fan time controls.
Project Overview: Pendleton Elementary and High School used stimulus funds to replace outdated HVAC units. “Anytime we have to replace equipment, we want to take a look at buying more efficient equipment that consumes less energy,” said Chief Operations Officer Randy Abbot. “... these [new HVAC] units have a higher SEER rating.”

Project Title: Anderson 4-ARRA Energy Project
Funding Amount: $98,929
Project Cost: $98,929
Annual Savings: $10,485
Lifetime Savings: $209,710
Equipment Lifetime: 20 years
Projected Payback Period: 9.4 years

Project Overview: This project replaced inefficient boilers at Westside High School and Southwood Middle School. T-series lights replaced metal halide lights at T.L. Hannah High School and Westside High School. Also, thirteen schools installed motion detector lighting controls in various rooms.

Project Title: Anderson School District 5 Energy Conservation Project
Funding Amount: $336,537
Project Cost: $347,447
Annual Savings: $42,208
Lifetime Savings: $874,269
Equipment Lifetime: 20 years
Projected Payback Period: 8 years

Project Overview: Anderson County School District 5’s project installed occupancy sensors in 69 classrooms. The District upgraded five HVAC units with heat pump replacements. In two schools, the District replaced inefficient T12 lighting with T8 lights.

Project Title: Anderson County School Districts 1 & 2

Bamberg County School District 1
3830 Faust Street
Bamberg, SC 29003

Project Title: Bamberg School District 1 Energy Efficiency Funding Project
Funding Amount: $71,859
Project Cost: $133,575
Annual Savings: $32,323
Lifetime Savings: $646,463
Equipment Lifetime: 20 years
Projected Payback Period: 2.2 years

Project Overview: Bamberg County School District's project installed occupancy sensors in 69 classrooms. The District upgraded five HVAC units with heat pump replacements. In two schools, the District replaced inefficient T12 lighting with T8 lights.

Project Title: Installation of direct digital controls in Denmark-Olar High School
Funding Amount: $82,239
Project Cost: $82,239
Annual Savings: $13,399
Lifetime Savings: $267,974
Equipment Lifetime: 20 years
Projected Payback Period: 6.1 years

Project Overview: Denmark-Olar High School used stimulus funds to install direct digital controls (DDC) on forty-two HVAC units. Initially, the equipment was not on an energy management system and was controlled by individual room thermostats. The new system will optimize temperature settings and extend the equipment’s life.

As a result of having SEP Stimulus Funds at Denmark-Olar High School, the following savings were realized: improved the overall cost efficiency for building, temperature is regulated in classrooms, HVAC will not activate if the room is not occupied which is cost effective...

- Superintendent
Dr. Thelma F. Sojourner
**Barnwell**

**Districts 19 & 45**

Barnwell County School District 19
297 Pascallas Street
Blackville, SC 29817

**Project Title:** Energy Efficient Lighting Upgrade

- Funding Amount: $63,040
- Project Cost: $63,076
- Annual Savings: $8,378
- Lifetime Savings: $167,565
- Equipment Lifetime: 20 years
- Projected Payback Period: 7.5 years

**Project Overview:** Barnwell County School District 19’s project included lighting replacements in elementary school classrooms and hallways. Blackville-Hilda High School switched to energy efficient lighting in the auditorium, classrooms, and science rooms.

Williston School District
12255 Main Street
Williston, SC 29853

**Project Title:** Williston School District 2009/2010 Energy Efficiency Upgrades

- Funding Amount: $67,283
- Project Cost: $67,470
- Annual Savings: $15,709
- Lifetime Savings: $280,767
- Equipment Lifetime: 15 years
- Projected Payback Period: 4.3 years

**Project Overview:** In this project, efficient T8 lights replaced outdated T12 lighting. In order for the District to have more control over energy usage they installed new digital programmable thermostats with locking covers.

**Beaufort**

Beaufort County School District 19
300 King Street
Beaufort, SC 29902

**Project Title:** Lighting Retrofits

- Funding Amount: $89,372
- Project Cost: $89,743
- Annual Savings: $25,428
- Lifetime Savings: $508,560
- Equipment Lifetime: 20 years
- Projected Payback Period: 3.5 years

**Project Overview:** Barnwell County School District 45 retrofitted T12 lights with energy efficient T8 lights.

Beaufort County School District 45
770 Hagood Avenue
Barnwell, SC 29812

**Project Title:** Energy Conservation Measures for Beaufort County School District

- Funding Amount: $737,034
- Project Cost: $737,054
- Annual Savings: $721,248
- Lifetime Savings: $13,517,487
- Equipment Lifetime: 20 years
- Projected Payback Period: 1 year

**Project Overview:** Beaufort County School District used stimulus funds to replace inefficient ballasts and metal halide/halogen lights. They also installed motion sensors in several Beaufort County school gymnasia to save energy when spaces are unoccupied.

Beaufort County School District is saving time and money after extending its energy management system to include two more facilities. The county-wide school District includes thirty-one schools on the mainland and island groups stretching from Hilton Head to Port Royal.

“We have challenges because we have to go around the water,” said Chief Operational Services Director Phyllis White.

High humidity on the coast creates wear and tear on school equipment like heating and air units. Another challenge due to high humidity is controlling indoor air quality in coastal school buildings. As part of a grant funded by the American Recovery and Reinvestment Act (ARRA) in 2009, the District installed direct digital controls on HVAC units in two island schools, linking them into the District’s pre-existing energy management system. Instead of making a day-long trip to Daufuskie Island, technicians now adjust air settings from the mainland, reducing the man hours needed to travel.

“In our mind it was an opportunity to make a difference,” said White about the recent upgrades to the school District’s equipment.

ARRA money funded other maintenance projects, including lighting upgrades in five school gymnasia. Beaufort School District’s projected return on investment for all the energy projects is 16 percent.
**Berkeley**

**Berkeley County School District**  
2226 Old Highway 52  
Moncks Corner, SC 29461

**Project Title**: Energy Stimulus Project for Berkeley County Schools

Funding Amount: $711,992  
Project Cost: $711,992  
Annual Savings: $144,180  
Lifetime Savings: $2,519,141  
Equipment Lifetime: 20 years  
Projected Payback Period: 4.9 years

**Project Overview**: This project replaced outdated water pumps on the HVAC unit at Stratford High School and replaced the chiller at Sedgefield Middle School. Direct digital controls were installed on the HVAC units at Stratford High School, Cross Elementary School, Marrington Elementary and Middle School, Stephen Middle School, HE Bonner Elementary School, Howe Hall Elementary School. Three schools also upgraded to more efficient lighting.

**Charleston**

**Charleston County School District**  
3999 Bridge View Drive  
Charleston, SC 29405

**Project Title**: 2009-2010 Stimulus Upgrade

Funding Amount: $1,296,664  
Project Cost: $1,296,664  
Annual Savings: $523,941  
Lifetime Savings: $9,882,937  
Equipment Lifetime: 20 years  
Projected Payback Period: 2.5 years

**Project Overview**: This project used funds to install over two thousand occupancy sensors in classrooms. Also, it installed two variable frequency drives and thirty-seven two-way valves on existing pumps. Additionally, it funded the new open cooling tower with a stainless steel closed circuit tower at West Ashley High School.

**Cherokee**

**Cherokee County School District**  
PO Box 460  
Gaffney, SC 29342

**Project Title**: Cherokee County Schools Energy Efficiency Measures

Funding Amount: $273,307  
Project Cost: $273,307  
Annual Savings: $68,497  
Lifetime Savings: $1,537,286  
Equipment Lifetime: 20 years  
Projected Payback Period: 4 years

**Project Overview**: This project used funds to replace five boilers at Blacksburg Middle and High School, Luther Vaughan Elementary School, and Mary Bramlett Elementary School. The funds were also used to replace one chiller at Cherokee Technology Center and to replace one rooftop HVAC unit at Blacksburg High School. The District also upgraded the energy management system.

**CHARLESTON COUNTY SCHOOL DISTRICT REDUCES ENERGY USE**

Charleston County School District implemented a one-million-dollar project to make energy-efficient lighting upgrades in over twenty schools. A year after the project, the District is still seeing a 25 percent reduction in its energy consumption. As part of a grant funded by the American Recovery and Reinvestment Act (ARRA) in 2009, the District installed over 2,000 occupancy sensors in various classrooms. The occupancy sensors detect an empty room and switch off the lights accordingly, saving both energy and money.

As the state’s second largest school District, Charleston County School District includes almost eighty schools across 1,000 square miles, and serves over 43,000 students. It was important to District personnel that the students benefit from the new lights. The School District’s Physical Plant Supervisor, Mike Stone, recognizes that the lights aid in the overall education process.

“There is a tremendous difference in being able to see the appearance of the schools,” Stone said.

In addition, the project focused attention toward the District’s Sustainable Schools Initiative, a program committed to cost-efficient and sustainable education.

“There is a District wide effort to raise awareness and make energy efficiency upgrades on the higher level,” said Sustainable Schools Initiative Co-Coordinator Maggie Harrelson.

Stimulus funds were also used to install variable frequency drives and two-way valves on pumps. Two new stainless steel closed-circuit towers replaced the old open-cooling tower at West Ashley High School.

The District plans to move forward with energy-focused equipment upgrades in other schools while applying for more rebates through Energy Wise.

**EQUIPMENT FACES FIRST TEST AGAINST WINTER WEATHER**

Cherokee school District replaced five outdated boilers as part of an American Reinvestment and Recovery Act (ARRA) funded energy project. The District is eager to test the new equipment’s heating performance during cold weather.

In addition to the installation of new boiler units, the stimulus funds also provided a new chiller and rooftop HVAC unit in the District. The District also upgraded its energy management system at Gaffney High School, the state’s thirteenth largest school, which houses over 2,000 students. The system upgrade is a big help to HVAC technicians who can now control facility heat settings more efficiently.

Maintenance Supervisor Jeff Willis, who has worked in the District for over a year now, says “I see it’s going to save us a lot on gas costs this coming year.”

Willis predicts there will be more equipment upgrades in the future because there are still areas where the District can save energy. The ARRA funded projects have a projected return on investment of almost five percent.

“We have a lot of older equipment in our District,” said Willis. “Within the next few years we’ll replace chillers and boilers in other schools because they’re less efficient than the newer equipment.”

**SUSTAINABLE SCHOOLS INITIATIVE**

The Sustainable Schools Initiative focuses on raising awareness and making energy efficiency improvements across all schools. The initiative provides resources and support to schools to help them reduce energy consumption and increase sustainability.

The initiative has several components, including:

1. **Energy Efficiency**: Implementing energy-efficient lighting and equipment to reduce energy consumption.
2. **Water Conservation**: Reducing water usage through efficient fixtures and devices.
4. **Transportation**: Encouraging sustainable transportation options for students and staff.
5. **Education**: Providing education and resources to students and teachers about sustainability.

By implementing these strategies, the Sustainable Schools Initiative aims to create a sustainable future while also saving money and improving the overall learning environment.
**Chesterfield**

Chesterfield County School District
401 West Boulevard
Chesterfield, SC 29709

**Project Title:** Additions to the Existing Siemens direct digital controls System

- Funding Amount: $263,669
- Project Cost: $263,669
- Annual Savings: $91,124
- Lifetime Savings: $1,822,473
- Equipment Lifetime: 20 years
- Projected Payback Period: 2.9 years

**Project Overview:** Chesterfield County used ARRA stimulus funds to install new direct digital controls (DDC) on HVAC units at Central High School and twelve additional HVAC units at Cheraw High School. The funds were also used to install DDCs at Cheraw Intermediate School and Pageland Elementary School on 132 water pumps to connect them to the District’s energy management system.

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**Clarendon Districts 1, 2 & 3**

Clarendon County School District 1
PO Box 38
Summerton, SC 29148

**Project Title:** Clarendon District 1 Stimulus Project

- Funding Amount: $68,109
- Project Cost: $68,109
- Annual Savings: $38,712
- Lifetime Savings: $735,920
- Equipment Lifetime: 20 years
- Projected Payback Period: 1.8 years

**Project Overview:** The District made lighting upgrades at Scott Branch High School. The District linked the HVAC units at three facilities into the District-wide Ethernet system in order to time control the HVAC units. These facilities were Scott Branch High School, the school Administration Building, and the Summerton Early Childhood Center.

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Clarendon County School District 2
15 Major Drive
Manning, SC 29102

**Project Title:** Clarendon District 2 Stimulus Project

- Funding Amount: $107,124
- Project Cost: $113,551
- Annual Savings: $15,099
- Lifetime Savings: $301,977
- Equipment Lifetime: 20 years
- Projected Payback Period: 7.1 years

**Project Overview:** The District updated HVAC units with 20 heat pumps at Manning Elementary School. The project included lighting improvements with the installation of 24 motion sensors at Manning High School.

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**CLARENDON 1 SCHOOL DISTRICT EARN OVER $20,000 IN UTILITY REBATES**

Energy-efficient utility upgrades brought utility rebates to Clarendon School District One, in addition to lower energy use and costs. Clarendon School District One used ARRA funds to upgrade light fixtures at Scott’s Branch High School and extended its energy management system to three more facilities.

The school District serves over 3,500 people in four schools. Director of Finance, Lyde Graham, believes the District is doing the best it can for students. “We try to do a lot as far as energy conservation”, said Graham. “The superintendent, principal, and staff know the biggest energy saver is turning off the light switch.”

“We have to use the money we have in a purposeful manner to provide the best instruction we can to kids in the community,” said Graham.

The new lighting fixtures lowered operating expenses in the District. The ARRA funded energy projects have a predicted return on investment of 4.5 percent.

“The District has earned over $21,000 in utility rebates for the new lights and similar energy-efficient equipment. “(Superintendent) Dr. Rose H. Wilder and the Board of Trustees of the District played an integral part in insuring the success of the energy conservation efforts in the District,” said Graham.
Colleton County School District  
213 North Jefferies Blvd. 
Walterboro, SC 29488

**Project Title:** Installation of direct digital controls for the High School and Middle School  
**Funding Amount:** $65,575  
**Project Cost:** $65,575  
**Annual Savings:** $9,784  
**Lifetime Savings:** $195,672  
**Equipment Lifetime:** 20 years  
**Projected Payback Period:** 6.7 years

**Project Overview:** Both schools added direct digital controls to HVAC units. The middle school also added zone controls to the rooftop HVAC units.

Colleton County used ARRA funds to replace T12 light fixtures with T8 lamps and ballasts at the Thunderbolt Career and Technology Center. The District replaced dry-type transformers at Colleton County High School. The county is replacing mercury vapor and incandescent gymnasium lights with fluorescent lighting at Colleton High School.

Dillon County District 1 (4)  
405 West Washington Street  
Dillon, SC 29536

**Project Title:** Installation of direct digital controls at Stewarts Elementary School  
**Funding Amount:** $58,647  
**Project Cost:** $58,647  
**Annual Savings:** $14,252  
**Lifetime Savings:** $270,994  
**Equipment Lifetime:** 20 years  
**Projected Payback Period:** 4.1 years

**Project Overview:** The project used ARRA funds to add Stewarts Heights Elementary School to the District’s direct digital control (DDC) system. The DDCs were installed on the school’s existing 35 Bard and 15 rooftop HVAC units.

Dillon County Districts 2 & 3 installed Direct digital controls and/or time controls to increase energy efficiency at area schools.

Dillon County School District 2 (4)  
PO Box 644 207 E. Third Ave.  
Lake View 29563

**Project Title:** Replace Heat Pumps and Re-lamp Specific Fixtures  
**Funding Amount:** $80,000  
**Project Cost:** $80,000  
**Annual Savings:** $13,667  
**Lifetime Savings:** $273,345  
**Equipment Lifetime:** 20 years  
**Projected Payback Period:** 5.9 years

**Project Overview:** The project updated HVAC equipment in the schools by replacing 23 split system heat pumps. The project included lighting upgrades for T8 bulbs and electronic ballasts.
Dillon County School District 3
205 King Street
Latta, SC 29565

Project Title: Installation of direct digital controls at Stewarts Elementary School
Funding Amount: $58,647
Project Cost: $58,647
Annual Savings: $14,252
Lifetime Savings: $270,994
Equipment Lifetime: 20 years
Projected Payback Period: 4.1 years

Project Overview: The project used ARRA funds to add Stewart Heights Elementary School to the District's Direct Digital Control (DDC) system. The DDCs were installed on the school's existing 35 Bard and 15 rooftop HVAC units.

Dorchester County School District 2
102 Green Wave Blvd.
Summerville, SC 29483

Project Title: Dubose Middle School Installation Siemens direct digital controls
Funding Amount: $391,060
Project Cost: $426,132
Annual Savings: $49,158
Lifetime Savings: $983,153
Equipment Lifetime: 20 years
Projected Payback Period: 8 years

Project Overview: The District installed direct digital controls at Dubose Middle School and Oakbrook Middle and High Schools. The District also replaced two rooftop HVAC units at Summerville High School.

Fairfield County School District
PO Drawer 622
Winnsboro, SC 29180

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 Overview: The District replaced T12 lamps with T8 lamps. Specifically, the metal halide fixtures in Fairfield Central High School's Media Center and Gymnasium were replaced with fluorescent T8 high-bay fixtures.

Dorchester County School District 4
2121 S. Pamplico Highway
Pamplico, SC 29583

Project Title: Edgefield County School Districts ARRA
Funding Amount: $121,478
Project Cost: $125,480
Annual Savings: $18,636
Lifetime Savings: $372,726
Equipment Lifetime: 20 years
Projected Payback Period: 6.5 years

Project Overview: The 126-ton centrifugal water-cooled chiller at the elementary school was classified as an ozone depleting refrigerant and this type is now banned on new equipment. The District replaced this chiller with a new water-cooled scroll chiller.

Edgefield County School District
17 Par Drive
Johnston, SC 29832

Project Title: Edgefield County School Districts ARRA
Funding Amount: $323,642
Project Cost: $389,142
Annual Savings: $45,683
Lifetime Savings: $995,292
Equipment Lifetime: 25 years
Projected Payback Period: 7.1 years

Project Overview: The District replaced T12 lamps with T8 lamps. Specifically, the metal halide fixtures in Fairfield Central High School's Media Center and Gymnasium were replaced with fluorescent T8 high-bay fixtures.

Fairfield County School District 1
319 South Dargan Street
Florence, SC 29506

Project Title: Dewey L. Carter Elementary School
Funding Amount: $323,642
Project Cost: $389,142
Annual Savings: $45,683
Lifetime Savings: $995,292
Equipment Lifetime: 25 years
Projected Payback Period: 7.1 years

Project Overview: This project included T12 lighting replacements with T8's at Hannah Pamplico High School's gym, District office, career center, and other areas.

Florence County School District 2
2121 S. Pamplico Highway
Pamplico, SC 29583

Project Title: Florence School District 2 Stimulus Project
Funding Amount: $70,219
Project Cost: $76,414
Annual Savings: $14,208
Lifetime Savings: $284,153
Equipment Lifetime: 20 years
Projected Payback Period: 4.9 years

Project Overview: This project included T12 lighting replacements with T8's at Hannah Pamplico High School's gym, District office, career center, and other areas.
Florence County School District 3
P.O. Box 1389
125 S. Blanding Street
Lake City, SC 29560

Project Title: Florence County School District 3 Stimulus Funding HVAC Upgrades
Funding Amount: $130,615
Project Cost: $130,615
Annual Savings: $24,202
Lifetime Savings: $484,030
Equipment Lifetime: 20 years
Projected Payback Period: 5.4 years

Project Overview: Some HVAC equipment in the school was between 19-25 years old. This project replaced older HVAC equipment and included the addition of energy management controls.

Florence County School District 5
PO Box 98
156 E. Marion Street
Johnsonville, SC 29555

Project Title: A/C Replacement
Funding Amount: $71,517
Project Cost: $72,000
Annual Savings: $210,140
Lifetime Savings: $263,265
Equipment Lifetime: 20 years
Projected Payback Period: 0.3 years

Project Overview: This project replaced a total of 7 air conditioning units between Johnsonville Elementary, Middle and High Schools.

Georgetown County School District
2018 Church Street
Georgetown, SC 29440

Project Title: Georgetown County School District Energy Measures
Funding Amount: $348,752
Project Cost: $348,752
Annual Savings: $82,838
Lifetime Savings: $1,656,754
Equipment Lifetime: 20 years
Projected Payback Period: 4.2 years

Project Overview: Project Overview: The District installed an energy management system on ten HVAC units at Waccamaw Elementary School and on 58 HVAC units at Waccamaw High School. The District also replaced 21 old HVAC units at Pleasant Hill Elementary School with 15 new HVAC units. The non-programmable thermostats at the school were replaced with seven-day programmable controls.

Georgetown School District implemented behavioral cues that helped to reduce energy consumption by over 1 million kBtus. The Energy Management Department upgraded the District’s energy management system, replaced HVAC units, and implemented easy-to-follow “no cost” measures. Every Friday they sent a lighthearted “Weekly Reminder” through the District e-mail to every faculty member as a reminder to turn off unnecessary equipment before leaving on Fridays and holidays.

They also encouraged staff to report any areas where they felt energy could be saved and created an online form that could be filled out and submitted to the District Energy Management Department. The energy management system also allowed the District to track and compare energy savings in each building, creating friendly competition between local schools.
GREENVILLE

Greenville County School District
PO Box 2848
301 Camperdown Way
Greenville, SC 29602

Project Title: Greenville County School District Energy Work
Funding Amount: $1,979,340
Project Cost: $1,979,340
Annual Savings: $404,192
Lifetime Savings: $6,359,735
Equipment Lifetime: 15 years
Projected Payback Period: 4.9 years

Project Overview: The project upgraded lighting in Hillcrest High School, Heritage Elementary School, and Bethel Elementary School. HVAC units were upgraded at Hillcrest High School by installing a heat recovery chiller, installing variable frequency drives on the pumps, and installing a condensing boiler. The heat recovery chillers were also replaced at Wade Hampton and Greenville High Schools.

New chiller at Wade Hampton High School

GREENWOOD

GREENWOOD DISTRICTS 50, 51 & 52

Greenwood County School District 50
1855 Calhoun Road
PO Box 248
Greenwood, SC 29649

Project Title: Lighting upgrades and window replacements.
Funding Amount: $130,615
Project Cost: $130,615
Annual Savings: $24,202
Lifetime Savings: $484,030
Equipment Lifetime: 20 years
Projected Payback Period: 5.4 years

Project Overview: The District upgraded T12 lights to T8s with electronic ballasts in their career center and District offices. They also replaced old windows, added new 12 SEER HVAC units to the Instructional Services Center and an energy management system.

Greenwood County School District 51

Project Title: Install new 13 SEER wall mounted heat pumps and add direct digital controls at Ware Shoals High School.
Funding Amount: $130,615
Project Cost: $130,615
Annual Savings: $24,202
Lifetime Savings: $484,030
Equipment Lifetime: 20 years
Projected Payback Period: 5.4 years

Project Overview: The District installed 13 SEER wall mounted heat pump units and added direct digital controls for heating and cooling the Darby building at Ware Shoals High School.

Greenwood County School District 52

Project Title: Making our Primary and Elementary Schools More Efficient
Funding Amount: $79,569
Project Cost: $287,429
Annual Savings: $37,414
Lifetime Savings: $589,506
Equipment Lifetime: 20 years
Projected Payback Period: 2.1 years

Project Overview: The District made lighting retrofits at Ninety Six Primary School. Additionally, they installed an energy management system to better control energy usage.
**Hampton**

Districts 1 & 2

Hampton County School District 1
PO Box 177
Hampton, SC 29924

**Project Title:** Hampton One Air Conditioners and Water Heater

- Funding Amount: $94,731
- Project Cost: $94,731
- Annual Savings: $14,044
- Lifetime Savings: $249,264
- Equipment Lifetime: 25 years
- Projected Payback Period: 6.7 years

**Project Overview:** The District installed a solar hot water heater at Ben Hazell Primary. Fluorescent lights in kitchens and temporary classrooms were upgraded to T8 fixtures. The District also replaced several outdated heat pumps.

Hampton County School District 2
319 Fourth Street
PO Box 1028
Estill, SC 29918

**Project Title:** Hampton 2 Buildings

- Funding Amount: $74,933
- Project Cost: $74,933
- Annual Savings: $22,588
- Lifetime Savings: $427,428
- Equipment Lifetime: 20 years
- Projected Payback Period: 3.3 years

**Project Overview:** The District installed lighting controls on the Estill High School parking lot lights. Fluorescent lighting in kitchens and classrooms were upgraded to T8 lamps and electronic ballasts. Outdated heat pumps were also replaced in the District.

**Jasper**

Jasper County School District

**Project Title:** Jasper County 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 Overview:** The District installed ceiling-mounted occupancy sensors in 49 schools served by Santee Cooper and 1651 various locations in the District.

**Laurens**

Districts 55 & 56

Laurens County School District 55
1029 West Main Street
Laurens, SC 29360

**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 Overview:** This District made an energy performance contract to reduce its overall energy use by fifteen percent. There were T12 to T8 lighting upgrades in ten buildings and the District’s Direct Digital Control system was expanded to include areas not previously linked to the system. Window and door replacements were made at Hickory Tavern schools. Also at Hickory Tavern, 21 Bard units and 2 packaged units were replaced.

**Kershaw**

**Project Title:** Lugoff-Elgin Middle School HVAC Upgrade

- Funding Amount: $248,270
- Project Cost: $544,424
- Annual Savings: $34,884
- Lifetime Savings: $697,681
- Equipment Lifetime: 20 years
- Projected Payback Period: 7.1 years

**Project Overview:** The District replaced five rooftop HVAC units with new heat pumps. Sixty-two PTAC units in classrooms and offices were replaced with 26 wall-mounted heat pumps in classrooms and eight ductless split system heat pumps in offices.

**Lancaster**

Lancaster County School District 56
211 North Broad St., Suite B
Clinton, SC 29325

**Project Title:** Replacement of water heater in kitchen at existing Clinton High School

- Funding Amount: $112,000
- Project Cost: $112,000
- Annual Savings: $14,165
- Lifetime Savings: $283,300
- Equipment Lifetime: 20 years
- Projected Payback Period: 7.9 years

**Project Overview:** The gas fired boiler at Clinton High School was built in 1974. The District replaced this and the water storage tank with two new condensing, gas-fired water heaters. The District also replaced the fifty-year-old cast iron gas fired hot water heating boiler with a new copper hot water boiler.
Lexington County School District 3
338 West Columbia Avenue
Batesburg-Leesville, SC 29006

**Project Title:** Lexington School District 3 Lighting Retrofit

- **Funding Amount:** $108,316
- **Project Cost:** $118,000
- **Annual Savings:** $23,822
- **Lifetime Savings:** $476,433
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 5.5 years

**Project Overview:**
This project included T12 to T8 lighting upgrades and metal halide replacements at Batesburg-Leesville Primary, Elementary, and Middle schools.

Lexington County School District 4
607 East 5th Street
Swansea, SC 29160

**Project Title:** Lexington District 4 Stimulus Application

- **Funding Amount:** $128,353
- **Project Cost:** $128,353
- **Annual Savings:** $23,347
- **Lifetime Savings:** $466,944
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 5.5 years

**Project Overview:**
The District replaced outdated HVAC units at the District Office, First Steps Office, and Francis Mack Elementary School.

Lexington County School District 5
1020 Dutch Fork Road
Irmo, SC 29063

**Project Title:** Lexington Richland District 5 ARRA Lighting and Controls Project

- **Funding Amount:** $386,296
- **Project Cost:** $397,311
- **Annual Savings:** $62,408
- **Lifetime Savings:** $1,248,169
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 6.2 years

**Project Overview:**
Lighting upgrades were made at Dutch Fork and Irmo High Schools. These upgrades were made in school offices, storage rooms, classrooms, gyms, cafeterias, and restrooms.

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Lee County School District
PO Box 507
521 Park Street
Bishopville, SC 29010

**Project Title:** Replace inefficient HVAC for five of our schools

- **Funding Amount:** $78,000
- **Project Cost:** $78,000
- **Annual Savings:** $16,698
- **Lifetime Savings:** $333,951
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 4.7 years

**Project Overview:**
The District replaced twelve HVAC units at various schools including Mt. Pleasant Middle School, Dennis Middle School, Bishopville Primary School, Lower Lee Elementary School, and West Lee Elementary School. This project also included installation of automatic changeover thermostats to allow for regulation of the HVAC units.

Lexington County School District 1
PO Box 1869
100 Tarrar Springs Road
Lexington, SC 29071

**Project Title:** Saxe Gotha Elementary School

- **Funding Amount:** $407,613
- **Project Cost:** $506,000
- **Annual Savings:** $61,310
- **Lifetime Savings:** $1,226,205
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 6.6 years

**Project Overview:**
The HVAC system at SGES was 18 years old. The project replaced the HVAC system (55 units) while incorporating humidity controls and upgrading the energy management system.

Lexington County School District 2
715 Ninth Street
West Columbia, SC 29169

**Project Title:** Replacement of HVAC units

- **Funding Amount:** $253,818
- **Project Cost:** $271,269
- **Annual Savings:** $34,242
- **Lifetime Savings:** $684,833
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 7.4 years

**Project Overview:**
The project replaced 21 HVAC units at BC Grammar #1 School that were installed in 1974. The project also installed Direct Digital Controls on them.
Marion County School District 1
719 North Main Street
Marion, SC 29571

**Project Title:** Installation of direct digital controls in Johnakin Middle School and Easterling Primary School.

- Funding Amount: $116,904
- Project Cost: $116,904
- Annual Savings: $15,797
- Lifetime Savings: $315,933
- Equipment Lifetime: 20 years
- Projected Payback Period: 7.4 years

**Project Overview:** The District expanded its energy management system by installing direct digital controls on five HVAC units at Easterling and 48 HVAC units at Johnakin.

Marion County School District 2
PO Box 689
200 Broad Street
Mullins, SC 29574

**Project Title:** Installation of direct digital controls in Palmetto Middle School and McCormick Elementary School

- Funding Amount: $89,166
- Project Cost: $89,166
- Annual Savings: $12,361
- Lifetime Savings: $247,212
- Equipment Lifetime: 20 years
- Projected Payback Period: 7.2 years

**Project Overview:** The District installed direct digital controls on 40 HVAC units at Palmetto Middle and McCormick Elementary Schools, linking them to the District’s pre-existing energy management system.

Marion County School District 7
PO Drawer 1439
Rains, SC 29589

**Project Title:** Direct Digital Control System
Elementary Schools

- Funding Amount: $57,500
- Project Cost: $57,500
- Annual Savings: $7,252
- Lifetime Savings: $154,041
- Equipment Lifetime: 20 years
- Projected Payback Period: 7.9 years

**Project Overview:** The District installed Direct Digital Control Systems on 28 total HVAC units at Britton’s Neck Elementary School and on seven HVAC units at the Rains Centenary Early Childhood Center.

McCormick County School District
821 North Mine Street
McCormick, SC 29835

**Project Title:** Replacement of HVAC & Lighting System

- Funding Amount: $24,810
- Project Cost: $24,810
- Annual Savings: $5,796
- Lifetime Savings: $89,450
- Equipment Lifetime: 20 years
- Projected Payback Period: 5.8 years

**Project Overview:** The District replaced the T12 lights in the kitchen of Building A of the McCormick Learning Center. Manual thermostats were replaced with automatic thermostats in Building B of the Center. Also, window units were replaced with HVAC units in the Adult Ed Buildings A and C.

Marlboro County School District
122 Broad Street
Bennettsville, SC 29512

**Project Title:** Classroom HVAC Upgrade

- Funding Amount: $151,575
- Project Cost: $193,145
- Annual Savings: $25,933
- Lifetime Savings: $518,655
- Equipment Lifetime: 20 years
- Projected Payback Period: 5.8 years

**Project Overview:** The District replaced 64 wall-mounted HVAC units with newer energy efficient HVAC units in Bennettsville Primary and Elementary Schools and McColl Elementary School. The estimated age of the units is around twenty years old.

**Lighting retrofits and/or upgrades can make a significant impact to a building’s efficiency. By installing energy efficient lighting systems, districts can begin to cut their energy costs while improving light quality in classrooms and reducing heat gain.**
Newberry County School District
1539 Martin Street
Newberry, SC 29108

Project Title: Newberry County School District Stimulus Application
Funding Amount: $186,143
Project Cost: $186,143
Annual Savings: $28,790
Lifetime Savings: $575,805
Equipment Lifetime: 20 years
Projected Payback Period: 6.5 years

Project Overview: The project included the replacement of T12 with T8 lights in the Newberry HS Learning Center and 400 Wing and also in the Mid-Carolina Middle School. To prevent air infiltration through the attic, the walls were extended outward to the roof deck.

Oconee County School District
414 South Pine Street
Walhalla, SC 29691

Project Title: West Oak High School Chiller System Replacement
Funding Amount: $311,823
Project Cost: $950,000
Annual Savings: $60,735
Lifetime Savings: $1,518,376
Equipment Lifetime: 25 years
Projected Payback Period: 5.1 years

Project Overview: The District replaced the 25-year-old chiller at West-Oak High School with a newer energy efficient chiller. The project also included replacing the single natural draft boiler with three high efficiency boilers. In conclusion, the original pneumatic control system was upgraded to a direct digital controls Building Automation System.

Orangeburg County School District 3
Post Office Box 98
Holly Hill, SC 29059

Project Title: Saxe Gotha Elementary School
Funding Amount: $407,613
Project Cost: $506,000
Annual Savings: $61,310
Lifetime Savings: $1,226,205
Equipment Lifetime: 20 years
Projected Payback Period: 6.6 years

Project Overview: The HVAC system at SGES was 18 years old. The project replaced the HVAC system (55 units) while incorporating humidity controls and upgrading the energy management system.

Orangeburg County School District 4
6030 Slab Landing Road
Cope, SC 29038

Project Title: Update remote monitoring and alert for HVAC to wide area networking controls
Funding Amount: $311,823
Project Cost: $950,000
Annual Savings: $60,735
Lifetime Savings: $1,518,376
Equipment Lifetime: 25 years
Projected Payback Period: 5.1 years

Project Title: Orangeburg Wilkinson HVAC Controls Upgrade and Cooling Tower Rebuild
Funding Amount: $241,055
Project Cost: $241,055
Annual Savings: $41,368
Lifetime Savings: $827,362
Equipment Lifetime: 20 years
Projected Payback Period: 5.8 years

Project Overview: The District installed direct digital controls on HVAC units.

Orangeburg County School District 5
578 Ellis Avenue
Orangeburg, SC 29115

Project Title: Orangeburg Wilkinson HVAC Controls Upgrade and Cooling Tower Rebuild
Funding Amount: $241,055
Project Cost: $241,055
Annual Savings: $41,368
Lifetime Savings: $827,362
Equipment Lifetime: 20 years
Projected Payback Period: 5.8 years

Project Overview: The District installed direct digital controls on HVAC units.

Orangeburg County School District 5
578 Ellis Avenue
Orangeburg, SC 29115

Project Title: Orangeburg Wilkinson HVAC Controls Upgrade and Cooling Tower Rebuild
Funding Amount: $241,055
Project Cost: $241,055
Annual Savings: $41,368
Lifetime Savings: $827,362
Equipment Lifetime: 20 years
Projected Payback Period: 5.8 years

Project Overview: The District installed direct digital controls on HVAC units.

Orangeburg County School District 5
578 Ellis Avenue
Orangeburg, SC 29115

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578 Ellis Avenue
Orangeburg, SC 29115

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Orangeburg, SC 29115

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578 Ellis Avenue
Orangeburg, SC 29115

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Annual Savings: $41,368
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Orangeburg County School District 5
578 Ellis Avenue
Orangeburg, SC 29115

Project Title: Orangeburg Wilkinson HVAC Controls Upgrade and Cooling Tower Rebuild
Funding Amount: $241,055
Project Cost: $241,055
Annual Savings: $41,368
Lifetime Savings: $827,362
Equipment Lifetime: 20 years
Projected Payback Period: 5.8 years

Project Overview: The District installed direct digital controls on HVAC units.

Orangeburg County School District 5
578 Ellis Avenue
Orangeburg, SC 29115

Project Title: Orangeburg Wilkinson HVAC Controls Upgrade and Cooling Tower Rebuild
Funding Amount: $241,055
Project Cost: $241,055
Annual Savings: $41,368
Lifetime Savings: $827,362
Equipment Lifetime: 20 years
Projected Payback Period: 5.8 years

Project Overview: The District installed direct digital controls on HVAC units.
**Pickens**

Pickens County School District
1348 Griffin Mill Road
Easley, SC 29640

**Project Title:** Pickens County School District Energy Savings Project

- **Funding Amount:** $393,000
- **Project Cost:** $393,000
- **Annual Savings:** $89,095
- **Lifetime Savings:** $1,336,430
- **Equipment Lifetime:** 15 years
- **Projected Payback Period:** 4.4 years

**Project Overview:** The District made HVAC chiller replacements at A.R. Lewis Elementary School, Pickens High School, and Forest Acres Elementary School. Energy management system controls were added to the HVAC.

**Richland Districts 1 & 2**

Richland County School District 1
201 Park Street
Columbia, SC 29201

**Project Title:** Measure 1 and Measure 2

- **Funding Amount:** $921,962
- **Project Cost:** $921,962
- **Annual Savings:** $227,579
- **Lifetime Savings:** $4,551,580
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 4.1 years

**Project Overview:** The District installed Direct Digital Control on HVAC units at AC Flora High School. The District also implemented upgrades on HVAC unit controls at nine schools to link them into an updated energy management system.

Richland County School District 2
6831 Brookfield Road
Columbia, SC 29206

**Project Title:** Lighting Upgrades

- **Funding Amount:** $613,740
- **Project Cost:** $613,740
- **Annual Savings:** $131,568
- **Lifetime Savings:** $2,631,354
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 4.7 years

**Project Overview:** The District replaced T8 and T12 light fixtures with 25-watt lamps and ballasts. They also integrated an EMS into the District.

**Saluda**

Saluda County School District
404 N. Wise Road
Saluda, SC 29138

**Project Title:** HVAC and Controls Upgrade at Hollywood Elementary School

- **Funding Amount:** $90,891
- **Project Cost:** $90,891
- **Annual Savings:** $13,200
- **Lifetime Savings:** $264,010
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 6.9 years

**Project Overview:** There were 18 heat pump units over 30 years of age. The District replaced these in addition to installing time-of-day controls on the new HVAC units.

**Spartanburg Districts 1 & 2**

Spartanburg County School District 1
PO Box 218
Campobello, SC 29349

**Project Title:** New Prospect Elementary School HVAC Upgrade

- **Funding Amount:** $97,318
- **Project Cost:** $150,397
- **Annual Savings:** $12,263
- **Lifetime Savings:** $245,261
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 7.9 years

**Project Overview:** The District replaced two pipe HVAC units at New Prospect Elementary School with self-contained heat pumps. Metal halide light fixtures were replaced at three schools.

Spartanburg County School District 2
4606 Parris Bridge Road
Boiling Springs, SC 29316

**Project Title:** Lake Middle School Geothermal HVAC Project

- **Funding Amount:** $218,281
- **Project Cost:** $270,079
- **Annual Savings:** $40,853
- **Lifetime Savings:** $817,061
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 5.3 years

**Project Overview:** The District installed a two-pipe water source HVAC system with ground source piping (using geothermal energy with a ground source heat exchange system) and water wells at Rainbow Lake Middle School.
Spartanburg County School District 3
3535 Clifton Glendale Road
Spartanburg, SC 29307

**Project Title:** Cowpens Elementary School

- **Funding Amount:** $110,404
- **Project Cost:** $119,623
- **Annual Savings:** $30,691
- **Lifetime Savings:** $613,814
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 3.6 years

**Project Overview:** The HVAC system at Cowpens ES was over 30 years old. The District replaced the closed circuit cooler with an open cooling tower and plate frame heat exchanger. The electric heating boiler was replaced with a gas fired boiler.

Spartanburg County School District 4
118 McEdco Road
Woodruff, SC 29388

**Project Title:** Woodruff High School Chiller

- **Funding Amount:** $93,993
- **Project Cost:** $188,150
- **Annual Savings:** $44,164
- **Lifetime Savings:** $883,290
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 3.6 years

**Project Overview:** The project replaced metal halide light fixtures with high bay fixtures, replaced T12 lamps with T8 lamps, and removed external wall pack light fixtures with core and coil ballasts to replace them with CFL lamps and electronic ballasts.

Spartanburg County School District 5
P.O. Box 307
Duncan, SC 29334

**Project Title:** Spartanburg District 5 Energy Efficiency Improvement Plan

- **Funding Amount:** $157,939
- **Project Cost:** $157,939
- **Annual Savings:** $44,164
- **Lifetime Savings:** $883,290
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 3.6 years

**Project Overview:** The project replaced metal halide light fixtures with high bay fixtures, replaced T12 lamps with T8 lamps, and removed external wall pack light fixtures with core and coil ballasts to replace them with CFL lamps and electronic ballasts.

Spartanburg County School District 6
1390 Cavalier Way
Roebuck, SC 29376

**Project Title:** Lighting Retrofits at Jesse Bobo Elementary and Dawkins Middle Schools

- **Funding Amount:** $258,726
- **Project Cost:** $298,871
- **Annual Savings:** $42,067
- **Lifetime Savings:** $829,767
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 6.2 years

**Project Overview:** The District made lighting retrofits at Jesse Bobo Elementary School and Dawkins Middle School.

Spartanburg School District 7
610 Dupre Drive
Spartanburg, SC 29307

**Project Title:** HVAC and Lighting Upgrades

- **Funding Amount:** $258,649
- **Project Cost:** $298,871
- **Annual Savings:** $32,471
- **Lifetime Savings:** $649,423
- **Equipment Lifetime:** 20 years
- **Projected Payback Period:** 8 years

**Project Overview:** The District made HVAC upgrades in three buildings and upgraded their lighting from metal halide fixtures to CFL bulbs.

**SPARTANBURG SCHOOL DISTRICT 7 RE-COMMITS TO ENERGY EDUCATION**

Spartanburg School District 7 used ARRA funds to upgrade heating and air units in three facilities. Funds were also used to replace incandescent light fixtures with fluorescent fixtures in eleven gymnasiums.

HVAC upgrades in the elementary schools were met with positive feedback. The quietness and comfort level of the new heating units were welcome changes in classrooms that were used to noise from the original units.

In addition to the new comfort level, the utilities had an educational benefit. The lighting upgrades provide a springboard for environmental discussions among students and teachers, according to Assistant Superintendent Thomas White.

“I think it helped renew our commitment to our own energy education program that we’ve had in the District for at least the last five years,” White said about the stimulus project.

“We’ve had a lot of compliments from students and teachers,” White said.

The District is exploring further opportunities for energy upgrades despite the lack of further grant funding.
SUMTER SCHOOL DISTRICT 17
NEW UTILITIES EARN REBATES

Sumter School District 17 (previously Sumter School District Two) earned almost $100,000 through Progress Energy’s rebate program.

“When we initially did the [stimulus] application we didn’t know about the rebates”, said Energy Conservation Consultant J. Blaine Walker. “… after we started we became aware and met with the power companies.”

Walker and his company partnered with Sumter School District 17 during the initial stimulus project and following rebate process.

ARRA funds provided eight District facilities with direct digital controls on HVAC units, linking them into an energy management system.

In addition, funds were used to upgrade lighting fixtures in three schools.

“Lighting ... is a no-brainer.” said Walker. “It just saves an intense amount of energy and it pays back and they [Sumter School District 17] got a rebate.”

Union County School District
130 West Main Street
Union, SC 29379

Project Title: Installation of direct digital controls in Buffalo Elementary School and upgrade lighting at Buffalo Elementary School

Funding Amount: $139,077
Project Cost: $139,077
Annual Savings: $17,378
Lifetime Savings: $347,565
Equipment Lifetime: 20 years
Projected Payback Period: 4.8 years

Project Overview: The District installed direct digital controls on 36 HVAC units in Buffalo Elementary School. Previously, HVAC in the school was controlled by individual room thermostats. In the same school, the District upgraded 572 light fixtures from T12 to T8 lamps and ballasts.

Williamsburg County School District
423 School Street
Kingstree, SC 29556

Project Title: Williamsburg County School District Efficiency Upgrades

Funding Amount: $124,766
Project Cost: $125,966
Annual Savings: $26,239
Lifetime Savings: $426,612
Equipment Lifetime: 20 years
Projected Payback Period: 4.8 years

Project Overview: The District made lighting upgrades at DP Cooper Elementary School. The project also included the replacement of over thirty HVAC units, which were over twenty years old, with new HVAC units in three buildings. These units will be linked to the District’s energy management system.
York County School District 1
PO Box 770
York, SC 29745

**Project Title:** York School District 1 Energy Conservation Plan

Funding Amount: $159,764
Project Cost: $159,764
Annual Savings: $89,022
Lifetime Savings: $1,707,074
Equipment Lifetime: 20 years
Projected Payback Period: 1.8 years

**Project Overview:** The District installed an energy management system for computers and vending machines. The District made lighting upgrades, from T12 to T8 fixtures, and the previous exit signs were converted to LED lighting controls.

York County School District 2
604 Bethel Street
Clover, SC 29710

**Project Title:** Light replacement and control

Funding Amount: $183,724
Project Cost: $323,581
Annual Savings: $854,189
Lifetime Savings: $1,083,770
Equipment Lifetime: 20 years
Projected Payback Period: 3.4 years

**Project Overview:** The project included replacing T12 light fixtures with T8’s at Clover High School in Clover District Two of Union County. Motion detectors and automatic lighting controls were added to classroom

York County School District 3
660 N. Anderson Road
Rock Hill, SC 29730

**Project Title:** Energy Conservation Measures for York School District 3, Rock Hill Schools

Funding Amount: $471,000
Project Cost: $471,000
Annual Savings: $163,497
Lifetime Savings: $3,248,474
Equipment Lifetime: 20 years
Projected Payback Period: 2.9 years

**Project Overview:** The District re-commissioned direct digital controls (DDC) on three buildings, installed DDCs in another building, and improved exterior lighting in another building. In one school, the electric duct heaters were replaced with a hot water boiler. In another school, the variable frequency drives were replaced on the central hot water pump.

York County School District 4
120 E. Elliott Street
Fort Mill, SC 29715

**Project Title:** Lighting Retrofits and Hot Water Replacement

Funding Amount: $195,419
Project Cost: $195,419
Annual Savings: $131,336
Lifetime Savings: $2,626,728
Equipment Lifetime: 20 years
Projected Payback Period: 1.5 years

**Project Overview:** The District replaced the hot water tank at the Fort Mill High School complex, which includes two schools and an annex. This project also included lighting retrofits within the complex and lighting replacements at Fort Mill High School's Auditorium. Additionally, an energy management system was installed to better control energy usage.
Total Projects Per County

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