ANNUAL REPORT 2016

Annual Report on the Implementation of
State Government Energy Conservation

ENERGY OFFICE

Annual Report on the Implementation of State Government Energy Conservation

Pursuant to Section 48-52-620, South Carolina Code of Laws

December 2016

Contact:

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This document may be downloaded from the State Energy Office website

ENERGY.SC.GOV/Public

South Carolina Office of Regulatory Staff

Energy Office

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Background

The South Carolina Energy Efficiency Act of 1992 (Act) established the State Energy Office (Energy Office) within the State Budget and Control Board in order to address energy issues in a consistent and professional manner. The Energy Office carries out the state policy and program mandates of this Act and also administers the State Energy Program funded by the United States Department of Energy. The mission of the Energy Office is to increase energy efficiency, enhance environmental quality, and save energy dollars for South Carolina.

The South Carolina Restructuring Act of 2014 dissolved the Budget and Control Board and created the Energy Office within the Office of Regulatory Staff (ORS). This reorganization has not altered the legislatively mandated duties of the Energy Office.

Section 48-52-620 of the South Carolina Code of Laws requires affected state agencies, public school districts, and public colleges and universities (public entities) to develop energy conservation plans and work to reduce their energy consumption by 20 percent by 2020, as compared to 2000 levels. These public entities are required to submit annual energy conservation reports to the Energy Office. The reports consist of data showing energy cost and use per square foot (energy intensity) and a narrative that outlines actions taken to implement the public entity's energy conservation plan; it also chronicles progress made in achieving the entity's energy-use goals (see Section III for more detail). Section 48-52-620(E) requires the Energy Office to compile this information and report it to the General Assembly by December 31 of each year.

To ensure the development of a fair and equitable methodology for implementing this legislative requirement, the Energy Office established an advisory group in 2008. The group consisted of representatives from a variety of state agencies, school districts, and public colleges and universities – all of which were affected by the new legislative mandate. The composition of this group reflected the diversity of public entities affected by this legislation, both in size and type of institution.

Based on the advisory group's suggestions, the Energy Office offered four energy-plan development workshops around the state. A total of 147 people participated in these workshops; participants represented 20 state agencies, 49 school districts, and 17 public colleges and universities. After concluding the workshops, Energy Office staff developed a sample energy conservation plan template that was provided to all public entities and remains available on the Energy Office website.

Activities in Support of Implementation

Section 48-52-620(E) requires the Energy Office to provide the technical assistance necessary for state agencies and school districts to satisfy the requirements of the law. In addition to the energy plan development workshops noted above, the Energy Office has provided the following:

Training

In 2009, the Energy Office and the Association of South Carolina Energy Managers created a state-specific alternative to the national Certified Energy Manager© training. While the South Carolina Accredited Commercial Energy Manager (ACEM) program has provided hands-on training to a broad range of participants, its primary purpose is to educate facility and energy managers as they work to reduce energy consumption in support of the legislative requirements. The course teaches participants to identify projects that can reduce their energy consumption and how to calculate their projected energy savings.

Since 2009, a total of 16 ACEM training classes have been held, one of which occurred during FY 2016. A total of 277 individuals have received this extensive energy-management training. The pass rate for the course averages approximately 81 percent, with those passing the test receiving ACEM certification.

Assistance to Agencies

The Energy Office staff works with public entities requesting assistance with reporting requirements and often devotes considerable effort to identifying and correcting reporting errors. The Energy Office invites public entities to report using the mechanism most convenient for them, which can range from elaborate facility and energy management software to a simple reporting spreadsheet developed by the Energy Office in an Excel format. To improve tracking and reporting, assistance is available to help public entities import their data into Portfolio Manager, a free online tool offered by the U.S. Environmental Protection Agency. The program not only helps with long-term benchmarking but also allows users to apply for ENERGY STAR® designations for individual buildings.

Through May of 2016, additional technical assistance was available from professional energy consultants through a federally funded program that provided energy assessments and advice about funding mechanisms to various public sector organizations. That function is now carried out by Energy Office personnel who are available to perform energy assessments for public entities upon request. See Technical Assistance at www.ENERGY.SC.GOV/Public

ConserFund

Funding assistance for energy-efficiency improvements is available through the ConserFund and ConserFund Plus low-interest loan programs. The loans are available to state agencies, public colleges or universities, school districts, local governments, and private non-profit organizations with a fixed annual interest rate currently set at 1.5 percent. ConserFund is structured so that the cost savings resulting from the energy-efficiency upgrades can be used to repay the loan. ConserFund Plus, a recently initiated program, offers funding as 70 percent loan and 30 percent grant and is only available to state agencies, public colleges and universities, and public K-12 schools.

Energy Performance Contracting

Energy Performance Contracts (EPCs) are another way for agencies and schools to fund energy-efficiency improvements. EPCs are turn-key services provided by an Energy Services Company (ESCO). The ESCO identifies a set of energy-saving opportunities and recommends a package of improvements to be paid for through energy savings. These savings are guaranteed, thus requiring the ESCO to pay the difference if the savings do not materialize.

The Energy Office has conducted three workshops (in December of 2012, February of 2013, and May of 2016) to familiarize government entities with performance contracting. Approximately 75 ESCOs and public agencies attended each of the meetings.

Milestone Recognition Awards

A grant from the Emily Hall Tremaine Foundation has allowed the Energy Office to provide tangible recognition for those public entities that have met their mandated 20 percent reduction in energy intensity since the year 2000.

Spartanburg School District Five

SC Department of Mental Health

Florence-Darlington Technical College

Richland School District One

Barnwell School District 29 (Williston)

Florence School District One

College Of Charleston

The agencies listed below have received Energy Reduction Milestone Achievement Awards to acknowledge meeting the 20 percent energy-use reduction goal. (Note that recognition does not ensure that an agency's energy use will not rise at some point in the future.)

Aiken Technical College	Richland County School District 1
Barnwell County School District 29	Rock Hill School District 3
Barnwell County School District 45	SC Department of Corrections
Beaufort County School District	SC Department of Disabilities & Special Needs
Chesterfield County School District	SC Department of Employment and Workforce
The Citadel	SC Department of Health & Environmental Control
Clarendon County School District 1	SC Department of Mental Health
Clover School District	SC Department of Natural Resources
Coastal Carolina University	SC Department of Parks, Recreation & Tourism
Colleton County School District	SC Department of Public Safety
Darlington County School District	SC Department of Transportation
Florence County School District 1	SC Division of General Services
Florence-Darlington Technical College	SC ETV
Fort Mill School District	SC Forestry Commission
Francis Marion University	SC Law Enforcement Division
Georgetown County School District	SC Sea Grant Consortium
Greenville County School District	Spartanburg Community College
Greenville Technical College	Spartanburg County School District 4
Greenwood County School District 50	Spartanburg County School District 5
Greenwood County School District 51	Sumter County School District
Lancaster County School District	Tri-County Technical College
Laurens County School District 55	USC Aiken
Lee County School District	USC Columbia
The Military Department	USC Upstate
Newberry County School District	Williamsburg County School District
Northeastern Technical College	Williamsburg Technical College
Patriots Point Development Authority	Winthrop University
Pickens County School District	York County School District 1
Piedmont Technical College	

The Tremaine Foundation has also provided funding to document and publicize energy-efficiency successes among the state's public schools receiving funds from the American Recovery and Reinvestment Act of 2009. A selection of successful case studies is included in Appendix A.

Submission of Annual Progress Reports

During 2016, public entities were required to complete the following five sections of the report:

Section 1: Energy Conservation Measures

This section requires an inventory of energy conservation measures implemented during the year, including any measured or projected energy savings.

Section 2: Energy Consumption Data

In this section, overall energy consumption data is reported, either through a web-based reporting tool or a spreadsheet provided by the Energy Office.

Section 3: Purchase of Energy Conservation Products

This section requests a disclaimer that all purchased energy conservation products have been certified and/or approved by the Energy Office, as per § 48-52-640.

Section 4: Energy Retrofit Financing

This section solicits information about current and past performance contracts and assesses interest in the ConserFund loan program.

Section 5: Energy Plan Update and Success Stories

This section requests that organizations send a current copy of their energy conservation plans to the Energy Office if they made significant changes since 2009. If no major revisions occurred, agencies are asked to provide an update on progress toward achieving the goals outlined in their plans, including both successes and barriers faced.

Ninety-seven percent of the public entities submitted complete reports by the deadline. Three percent did not submit a report.[1]

Public Entities by Type[2]	Total Number of Entities	Complete	% Complete	Partially Complete	% Partially Complete	Non- Submitting	% Non-Submitting
State Agencies	33	32	100%	1	3%	0	0%
Residential Colleges and Universities[3]	12	11	92%	1	8%	0	0%
Non-Residential Colleges and Universities	21	20	95%	0	0%	1	5%
School Districts	81	70	86%	7	9%	4	5%
Totals	**147**	**133**	**92%**	**9**	**6%**	**5**	**3%**

A list of non-submitting entities is included in Appendix B. Energy Office staff continues to offer ongoing assistance to public entities upon request.

A sample of completed Annual Progress Reports is attached in Appendix C. These reports are included to illustrate the range of energy conservation and efficiency activities used by many public entities. This attachment is a sampling of complete reports and is not intended to imply Energy Office endorsement of the reports included in the sampling over those not included.

1 Please note that these percentages may not total 100% due to independent rounding.

2 For reporting purposes, public entities were separated into peer groups that most closely mirrored their energy consumption and energy expenditure levels. These group types are as follows: state agencies, residential colleges and universities, non-residential colleges and universities, and school districts.

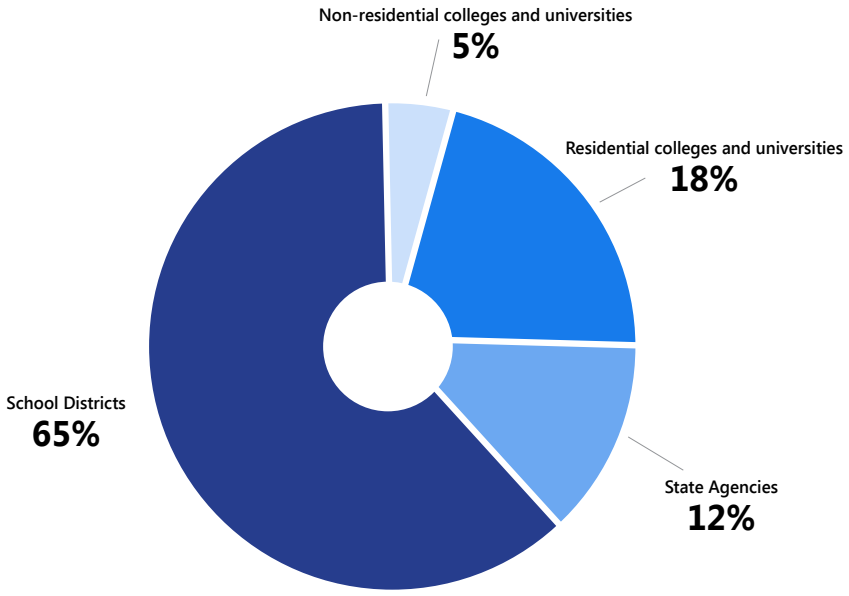
3 The Medical University of South Carolina is included in the Residential Colleges and Universities organization type for this report as its energy consumption levels are most similar to this peer group.

Progress toward Energy Conservation Goals

The General Assembly requires public entities to work toward meeting specific goals in reducing their energy intensity (defined as total site energy consumption measured in BTUs per gross square foot). The Energy Office has collected data on energy consumption, energy spending, and building square footage from public entities on an annual basis for more than 20 years. This data can be used as a basis for estimating the progress made by public entities toward meeting required energy goals. However, this data is accepted as received, and the Energy Office can make no representation regarding accuracy. In addition, some entities did not submit reports to the Energy Office, which introduces a potential source of bias. Additional inconsistencies have been introduced because the 2008 legislation exempted buildings constructed under the Energy Independence and Sustainable Construction Act of 2007 as well as buildings not in existence in both 2000 and 2008. However, many agencies and schools report on all their buildings together, and certainly plan for all their buildings together, so the data collected generally include energy intensity in buildings that are not necessarily used to determine whether an agency has met its 20 percent reduction goal. Consequently, the statistics reported in this section should be interpreted with caution.

For the purpose of reporting trends, public entities were separated into peer groups that most closely mirrored their energy consumption and energy expenditure levels. These group types are as follows: state agencies, residential colleges and universities, non-residential colleges and universities, and school districts. The Medical University of South Carolina is included in the Residential Colleges and Universities organization type for this report as its energy consumption levels are most similar to this peer group. Individual reports for each reporting entity are available upon request.

Square Footage by Public Entity Type *FY 2016*



In FY 2016, school districts accounted for the largest share of square footage by type of public entity (65 percent). The next largest category (18 percent) was residential colleges and universities. State agencies (12

percent) and non-residential colleges and universities (5 percent) accounted for the smallest categories of reporting entities.

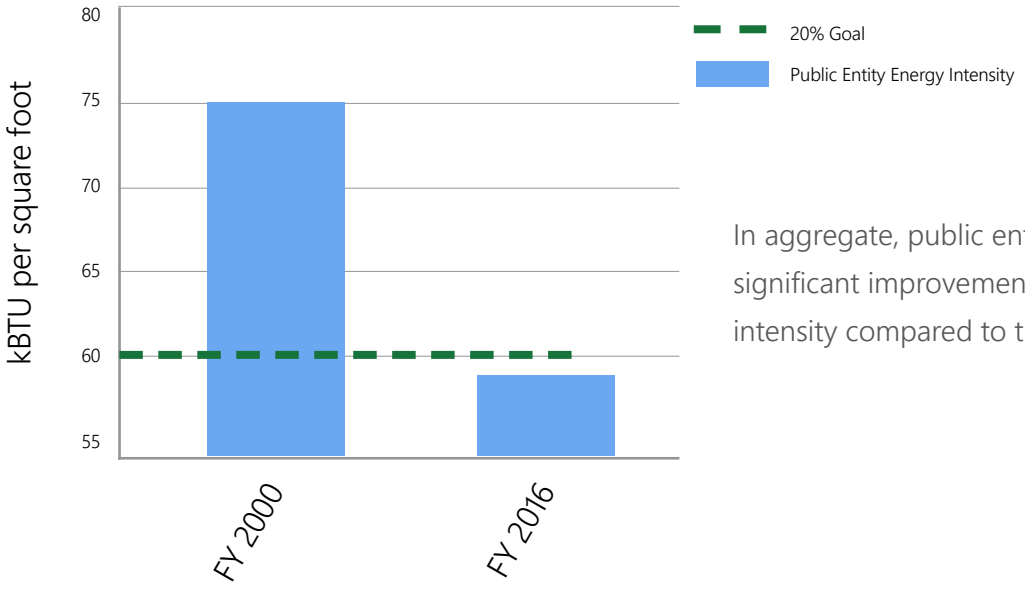
Data submitted for the most recent fiscal year (FY 2016) indicate that public entities reduced their energy intensity by 21 percent compared to the FY 2000 baseline. School districts – the least energy-intensive category of public entities – reported improvements of 20 percent. Residential colleges – the most energy-intensive category – reported improvements of 19 percent.

Although reporting entities were able to reduce their energy use per square foot, energy spending per square foot (as reported and adjusted for inflation) increased by 1 percent over 2000 levels during this period, due to increasing energy costs. However, overall energy spending per square foot dropped from $1.50 to $1.43 from 2015 to 2016, a decrease of 5 percent.

Public Entities by Type	Average Energy Use per Square Foot (site kBTU)			Average Energy Spending per Square Foot ($)		
	FY 2000	FY 2016	% change	FY 2000[4]	FY 2016	% change
State Agencies	113	89	-21%	$1.89	$1.91	+1%
Residential Colleges and Universities	143	116	-19%	$1.85	$2.15	+16%
Non-Residential Colleges and Universities	80	64	-20%	$1.65	$1.65	+0%
School Districts	45	36	-20%	$1.19	$1.13	-5%
Overall	**75**	**59**	**-21%**	**$1.42**	**$1.43**	**+1%**

Note: These statistics are based on self-reported data submitted by public entities. The Energy Office makes no representation regarding the accuracy of these data. Dollars adjusted using the Consumer Price Index-Urban, BLS (data.bls.gov).

[4] *These figures have been adjusted for inflation using the Bureau of Labor Statistics of the U.S. Department of Labor CPI Inflation Calculator. Therefore the figures here are presented in 2016 dollars.*



In aggregate, public entities have reported significant improvements in energy intensity compared to the FY 2000 baseline.

Based on the information submitted to the Energy Office, public entities have achieved, as a whole, the 20 percent goal set by the General Assembly. Energy savings are being realized, and FY 2017 will provide an opportunity for public entities to continue to reduce their energy consumption. The Energy Office is only able to report on the data submitted by public entities. Partially complete or missing data also affect the savings metrics and can lead to difficulty in year-by-year comparisons of energy use.

Public Entities Energy Usage	
Year	**kBTU per ft2**
2000	75
2016	59

The 20% reduction goal will be met when the kBTU/ft2 value is less than or equal to 60.

These statistics are based on data submitted by public entities.
The Energy Office makes no representation regarding the accuracy of these data.

Conclusion

The Energy Office continues to provide training, technical assistance, and funding to public entities in support of their efforts to achieve energy-conservation goals. In addition, the Energy Office has identified agencies that appear to be having difficulty meeting the goals and is prepared to conduct energy audits, if those agencies are interested. Overall, the state's agencies and public schools have done an excellent job of reducing energy use, even as energy costs increase. As a group, they have achieved the mandated goal. The Energy Office continues to work with individual agencies to help them achieve the mandated goal as well.

APPENDIX A:

Success Story

Richland County School District One

Every bit of savings counts.

Richland One
South Carolina's Capital Schools

At least, that is the sentiment of Richland County School District One Chief Architect Miles Hanley.

Hanley, who has been with the district since 2003, was involved with the installation of several M2G boiler-optimization control units in buildings throughout the district.

The project commenced after the district was approached by Greffen Systems, a company that provides energy and emissions saving technology.

M2G devices monitor and record the temperature of the water flowing in and out of the boiler at least every 10 seconds. That data, along with other operating data such as heat transfer raters during firing and interval periods, is used by the device to control the boiler's signal to fire when a demand is made on the system.

"The result is energy savings while ensuring maximum capacity during heavy load periods; this is accomplished with no impact on building comfort levels," according to a M2G Pilot Study Report published by Greffen Systems in 2013. "M2G minimizes the waste heat…while preserving the transfer of beneficial heat into the building."

Nevertheless, Hanley was skeptical. The district at that time, he indicated, was pursuing other energy-efficient measures such as lighting retrofits, not boiler controls.

"We're not a heavy gas district," he said.

However, after reviewing the projected savings and double-checking the numbers, Hanley got on board.

According to Hanley, the devices were installed in late 2011 at a cost of approximately $70,000. The district was reimbursed for funds spent on the project through the ConserFund loan program, administered by the ORS Energy Office.

Compared to the low installation cost, the savings were substantial, Hanley indicated. We're seeing it," he said.

Three buildings have experienced significant energy savings since the installation: Lower Richland High School, Logan Elementary School, and the Facilities Services building. From 2011 to 2015, Lower Richland's usage decreased by nearly 31%, while Logan saw a decrease of 28%, and the Facilities Services building's usage dropped by 7% .

Richland County School District One was also acknowledged for its overall energy savings this year; the district received the Milestone Recognition Award for meeting the mandatory 20% reduction in energy intensity since the year 2000.

APPENDIX B:

Non-Reporting Entities

At the time this annual report was written, the following entities had not submitted any reports:

Darlington County School District
Denmark Technical College
Florence County School District 4
Hampton County School District 1
Marion County School District

APPENDIX C:

Sample Progress Reports

Disclaimer: The reports in this section are re-printed as submitted to the Energy Office by the reporting entities and are meant to illustrate the programs undertaken in FY 2016. Errors contained in this section are not the responsibility of the Energy Office and the reports have not been altered or corrected.

FY16 Annual Progress Report

To be submitted to the Office of Regulatory Staff, Energy Office
State Government Energy Conservation Act, Code of Laws of South Carolina

Organization Name:

Barnwell School District 45

Person(s) Filing Report (name, phone number, email):

1. Franklin McCormack, 803.682.1555, fmccormack@barnwell45.k12.sc.us

Please complete this report and return it to Julia Parris at the Office of Regulatory Staff, Energy Office (jparris@regstaff.sc.gov) no later than September 15, 2016. Completion of Section II requires the submission of energy consumption data, as described below. You may use the attached reporting tool or the format you normally use to track your energy use.

This report will allow the Energy Office to verify your compliance with the State Government Energy Conservation Act (§48-52-610 through 680 and §48-52-910, Code of Laws of South Carolina). In addition, the energy consumption data you provide will be made available to assist in statewide energy planning efforts. Please ensure that your submission is as complete and accurate as possible. If you need additional space, please attach pages or documents as necessary. If you have questions, please contact Julia Parris at 803-737-9825 or jparris@regstaff.sc.gov.

Section I: Energy Conservation Measures

§48-52-820 requires entities to report activities undertaken to implement their Energy Conservation Plan. For this section, please list each energy conservation measure that you implemented in FY16. For each measure, please include the following:

1. A description of the energy conservation measure implemented including an estimate of square footage affected.
2. The estimated and/or observed annual energy savings (if available) and estimation method (if applicable.).

If you implemented no energy conservation measures in FY16, simply write "None."

Several energy-saving measures were implemented in FY16. A description of the energy-saving measures is listed below.

Continued to implement the district-wide Transformation Energy Management® process through Cenergistic (formerly Energy Education, Inc.)

An energy specialist performs the following duties: (1) conducts ~10 energy audits per week; (2) implements nightly, weekend, and holiday shutdowns throughout the year; (3) updates an energy conservation webpage; (4) sends quarterly energy-saving emails to school administrators, teachers, and staff; (5) presents semi-annually to the school board, and (6) inputs utility bills and checks data using the ECAP software

Based on FY16 utility data (electricity and natural gas), Barnwell 45 achieved an energy savings of 28% when compared to FY09 (the baseline year)

Section II: Energy Consumption Data

To verify progress made toward state energy conservation goals and to assist in statewide energy planning efforts, please provide your complete energy consumption data for FY16 (including all sources of energy used in your buildings) in a format described below:

- *If you use energy accounting software, please submit a file containing data showing energy consumption, energy cost, and gross square footage in FY16:*
  - *As totals for your organization*
  - *If available, for each meter and/or each building in your organization*
- *If you do not use any energy accounting software:*
  - *You may choose to complete and submit the file entitled "SCEO Consumption Reporting Tool", which can be downloaded from our website (please click here).*
  - *You might also want to consider using Portfolio Manager, the free, web-based energy accounting system provided by ENERGY STAR. To access Portfolio Manager, please click here. If you would like more assistance with entering your data into Portfolio Manager, please email jparris@regstaff.sc.gov.*
  - *Otherwise please submit data using Excel.*

Section III: Purchase of Energy Conservation Products

§48-52-640 mandates that all state agencies "shall submit a disclaimer statement to the State Energy Office with [their] annual report stating that [they] did not purchase an energy conservation product that had not been certified by the State Energy Office." The Energy Office has posted a list of pre-certified and/or approved energy conservation

products/measures on our website (please click here). For any products/measures not listed here, agencies should contact Conn Fraser at cfraser@regstaff.sc.gov or by telephone at 803-737-5229.

Statement	Initials
I hereby certify that my organization did not purchase any energy conservation products that have not been certified and/or approved by the Energy Office.	**HFM**

Section IV: Energy Retrofit Financing

*Did you enter into a performance contract in Fiscal Year 2016? Yes or **No** (Circle one)*

If so, please indicate the Energy Services Company (ESCO) or consultant used:

*Have you used a performance contract in prior years? **Yes** or No (Circle one)*

*If so, please indicate the ESCO or consultant used: **Cenergistic***

*Are you interested in receiving information about the ConserFund loan program, ConserFund Plus (an expansion of ConserFund that includes a 30% grant/70% loan option) and/or performance contracting? **Yes** No (Circle one)*

Section V: Energy Plan Update & Success Stories

Energy Plan Updates

A. *You submitted an Energy Conservation Plan, required by law, to the Energy Office in 2009; if you have significantly revised your Plan please send a copy for our files to jparris@regstaff.sc.gov.*

B. *If you have not made significant revisions to your Plan, but have only refined it, please provide a brief write-up addressing any changes that may have occurred since submission of your Plan in 2009. Please include energy team training and education. In addition, please let us know about any successes deserving mention, or barriers to improvement that you have faced. We want to publicize your successes and assist with obstacles where we can.*

The Energy Specialist (ES) participated in the following intensive three-day course in October of 2015: South Carolina Accredited Commercial Energy Manager Course. On the fourth day the ES passed a cumulative exam and is now an Accredited Commercial Energy Manager (ACEM).

FY16 Annual Progress Report

To be submitted to the Office of Regulatory Staff, Energy Office
State Government Energy Conservation Act, Code of Laws of South Carolina

Organization Name:

South Carolina Department of Public Safety

Person(s) Filing Report (name, phone number, email):

Glenn Ashe Jr., Facility Manager / 803-608-5905 cell / bgashe@scdps.gov

Please complete this report and return it to Julia Parris at the Office of Regulatory Staff, Energy Office (jparris@regstaff.sc.gov) no later than September 15, 2016. Completion of Section II requires the submission of energy consumption data, as described below. You may use the attached reporting tool or the format you normally use to track your energy use.

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1. A description of the energy conservation measure implemented including an estimate of square footage affected.
2. The estimated and/or observed annual energy savings (if available) and estimation method (if applicable.).

If you implemented no energy conservation measures in FY16, simply write "None."

Upgraded assorted lighting areas to LED, including bollard lights along the walkway. We have the LED changeover lights for the cafeteria, food serving and eating area. (approximately 40 fixtures will be removed and all lighting will be replaced with LED lights)
All HVAC units at Blythewood DMV and DPS buildings have and will be readjusted to accommodate needs for heating and cooling while being cycled on and off to lower monthly electric bill.
Headquarters Boiler system was shut down in June. All water pumps to outside storage tank were closed manually and all pumps were shut down for summer months.

FY16 Annual Progress Report

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State Government Energy Conservation Act, Code of Laws of South Carolina

Section II: Energy Consumption Data

To verify progress made toward state energy conservation goals and to assist in statewide energy planning efforts, please provide your complete energy consumption data for FY16 (including all sources of energy used in your buildings) in a format described below:

- *If you use energy accounting software, please submit a file containing data showing energy consumption, energy cost, and gross square footage in FY16:*
  - *As totals for your organization*
  - *If available, for each meter and/or each building in your organization*
- *If you do not use any energy accounting software:*
  - *You may choose to complete and submit the file entitled "SCEO Consumption Reporting Tool", which can be downloaded from our website (please click here).*
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Statement	Initials
I hereby certify that my organization did not purchase any energy conservation products that have not been certified and/or approved by the Energy Office.	BGA

FY16 Annual Progress Report

To be submitted to the Office of Regulatory Staff, Energy Office
State Government Energy Conservation Act, Code of Laws of South Carolina

Section IV: Energy Retrofit Financing

Did you enter into a performance contract in Fiscal Year 2016? Yes or No (Circle one)

If so, please indicate the Energy Services Company (ESCO) or consultant used:

Have you used a performance contract in prior years? Yes or No (Circle one)

If so, please indicate the ESCO or consultant used:

Are you interested in receiving information about the ConserFund loan program, ConserFund Plus (an expansion of ConserFund that includes a 30% grant/70% loan option) and/or performance contracting? Yes No (Circle one)

Section V: Energy Plan Update & Success Stories

Energy Plan Updates

A. *You submitted an Energy Conservation Plan, required by law, to the Energy Office in 2009; if you have significantly revised your Plan please send a copy for our files to jparris@regstaff.sc.gov.*

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I am currently working with a State Vendor on upgrading outside lighting at our Headquarters location to LED. We have been gradually upgrading interior lighting to LED.
We are looking into changing our Fire Exit lighting to the LED style with battery operated LED backup lighting.

FY16 Annual Progress Report

To be submitted to the Office of Regulatory Staff, Energy Office
State Government Energy Conservation Act, Code of Laws of South Carolina

Organization Name:

Technical College of the Lowcountry

Person(s) Filing Report (name, phone number, email):

Kelly Taylor (843)525-8249 ktaylor@tcl.edu

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If you implemented no energy conservation measures in FY16, simply write "None."

1.Energy Conservation Measures:
*New River Campus changed all 50w Halogen fixtures to 6w LED bulbs
*Building #22 finished changing all fixtures interior and exterior to LED
*Building #23 replaced 1 exterior fixture to LED
*Replaced 6 250w parking bulbs with 40w LED bulbs
*Replaced 3 High Pressure Parking lights with 3 LED fixtures
*Buildings #6&9 replaced 48 100w overhang bulbs with 8.5w LED bulbs

FY16 Annual Progress Report

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*Building #3 replaced all exteriors to LED fixtures
*Building #4 removed all bollards and added 2 LED wall packs to light walkway
*Building #24 replaced to exterior fixtures with new LED fixtures
*By tunnel replaced a 150w hp fixture to a 36w LED fixture
*Building #12 replaced 4 175w MH overhang cans to 14w LED bulbs
*Building #15 replaced a 150 hp bulb to a 30w LED bulb
*Replaced 11 150w exterior walkway pole lights to 26w LED Fixtures
*Replaced 41 100w led bollards to 15w LED Bollards
*Building #12 changed out 24 t12 to t8 fixtures
*Installed 3KW grid-tied array that powers building #26 with excess power pushed onto the grid. The system is a ground mount with 10 SolarWorld modules with a Fronius inverter. The system went online in November 2015.

2.Estimated annual energy savings:
*Original wattage of old fixtures/bulbs and annual cost - 19368 watts/hr x 12/hr = $12725
New Led watts and annual cost - 3348 watts/hr x12/hr = $ 2200
Electric Cost savings/year just in Lighting $10525
*Expected output of 3KW grid-tied array:

My Location 29902 » Change Location HELP FEEDBACK ALL NREL SOLAR TOOLS

RESOURCE DATA SYSTEM INFO RESULTS

Go to system info

RESULTS

Print Results

4,357 kWh per Year *

System output may range from 4,179 to 4,444kWh per year near this location.
Click HERE for more information.

Month	Solar Radiation (kWh / m² / day)	AC Energy (kWh)	Energy Value ($)
January	4.48	337	46
February	5.24	352	48
March	5.06	372	51
April	6.58	453	62
May	5.27	375	51
June	5.02	339	46
July	5.73	392	53
August	5.15	357	49
September	4.78	323	44
October	5.67	403	55
November	4.85	338	46
December	4.22	316	43
Annual	5.17	4,357	$ 594

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Section II: Energy Consumption Data

To verify progress made toward state energy conservation goals and to assist in statewide energy planning efforts, please provide your complete energy consumption data for FY16 (including all sources of energy used in your buildings) in a format described below:

- *If you use energy accounting software, please submit a file containing data showing energy consumption, energy cost, and gross square footage in FY16:*
  - *As totals for your organization*
  - *If available, for each meter and/or each building in your organization*
- *If you do not use any energy accounting software:*
  - *You may choose to complete and submit the file entitled "SCEO Consumption Reporting Tool", which can be downloaded from our website (please click here).*
  - *You might also want to consider using Portfolio Manager, the free, web-based energy accounting system provided by ENERGY STAR. To access Portfolio Manager, please click here. If you would like more assistance with entering your data into Portfolio Manager, please email jparris@regstaff.sc.gov.*
  - *Otherwise please submit data using Excel.*

Section III: Purchase of Energy Conservation Products

§48-52-640 mandates that all state agencies "shall submit a disclaimer statement to the State Energy Office with [their] annual report stating that [they] did not purchase an energy conservation product that had not been certified by the State Energy Office." The Energy Office has posted a list of pre-certified and/or approved energy conservation products/measures on our website (please click here). For any products/measures not listed here, agencies should contact Conn Fraser at cfraser@regstaff.sc.gov or by telephone at 803-737-5229.

Statement	Initials
I hereby certify that my organization did not purchase any energy conservation products that have not been certified and/or approved by the Energy Office.	KT

Section IV: Energy Retrofit Financing

*Did you enter into a performance contract in Fiscal Year 2016? Yes or **No** (Circle one)*

If so, please indicate the Energy Services Company (ESCO) or consultant used:

*Have you used a performance contract in prior years? Yes or **No** (Circle one)*

If so, please indicate the ESCO or consultant used:

*Are you interested in receiving information about the ConserFund loan program, ConserFund Plus (an expansion of ConserFund that includes a 30% grant/70% loan option) and/or performance contracting? Yes **No** (Circle one)*

Section V: Energy Plan Update & Success Stories

Energy Plan Updates

A. *You submitted an Energy Conservation Plan, required by law, to the Energy Office in 2009; if you have significantly revised your Plan please send a copy for our files to jparris@regstaff.sc.gov.*

B. *If you have not made significant revisions to your Plan, but have only refined it, please provide a brief write-up addressing any changes that may have occurred since submission of your Plan in 2009. Please include energy team training and education. In addition, please let us know about any successes deserving mention, or barriers to improvement that you have faced. We want to publicize your successes and assist with obstacles where we can.*

None.

FY16 Annual Progress Report

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Organization Name:

USC Upstate

Person(s) Filing Report (name, phone number, email):

Kent Orr. 864-503-5539. korr@uscupstate.edu

Please complete this report and return it to Julia Parris at the Office of Regulatory Staff, Energy Office (jparris@regstaff.sc.gov) no later than September 15, 2016. Completion of Section II requires the submission of energy consumption data, as described below. You may use the attached reporting tool or the format you normally use to track your energy use.

This report will allow the Energy Office to verify your compliance with the State Government Energy Conservation Act (§48-52-610 through 680 and §48-52-910, Code of Laws of South Carolina). In addition, the energy consumption data you provide will be made available to assist in statewide energy planning efforts. Please ensure that your submission is as complete and accurate as possible. If you need additional space, please attach pages or documents as necessary. If you have questions, please contact Julia Parris at 803-737-9825 or jparris@regstaff.sc.gov.

Section I: Energy Conservation Measures

§48-52-820 requires entities to report activities undertaken to implement their Energy Conservation Plan. For this section, please list each energy conservation measure that you implemented in FY16. For each measure, please include the following:

1. A description of the energy conservation measure implemented including an estimate of square footage affected.
2. The estimated and/or observed annual energy savings (if available) and estimation method (if applicable.).

If you implemented no energy conservation measures in FY16, simply write "None."

1. Installed LED light fixtures both inside and outside at various locations throughout campus.
2. The above were installed in all type areas and buildings so it is impossible to meter.

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A. No changes.
B. No changes made.

ENERGY.SC.GOV

Office of Regulatory Staff
1401 Main Street
Suite 900
Columbia, SC 29201

ENERGY OFFICE