

ANNUAL REPORT 2024



Annual Report on the Implementation of
State Government Energy Conservation

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Executive Summary

The State Energy Office within the SC Office of Regulatory Staff (State Energy Office) presents this Annual Report on the Implementation of State Government Energy Conservation. The performance period for this report is Fiscal Year 2024 (FY 2024).

Background:

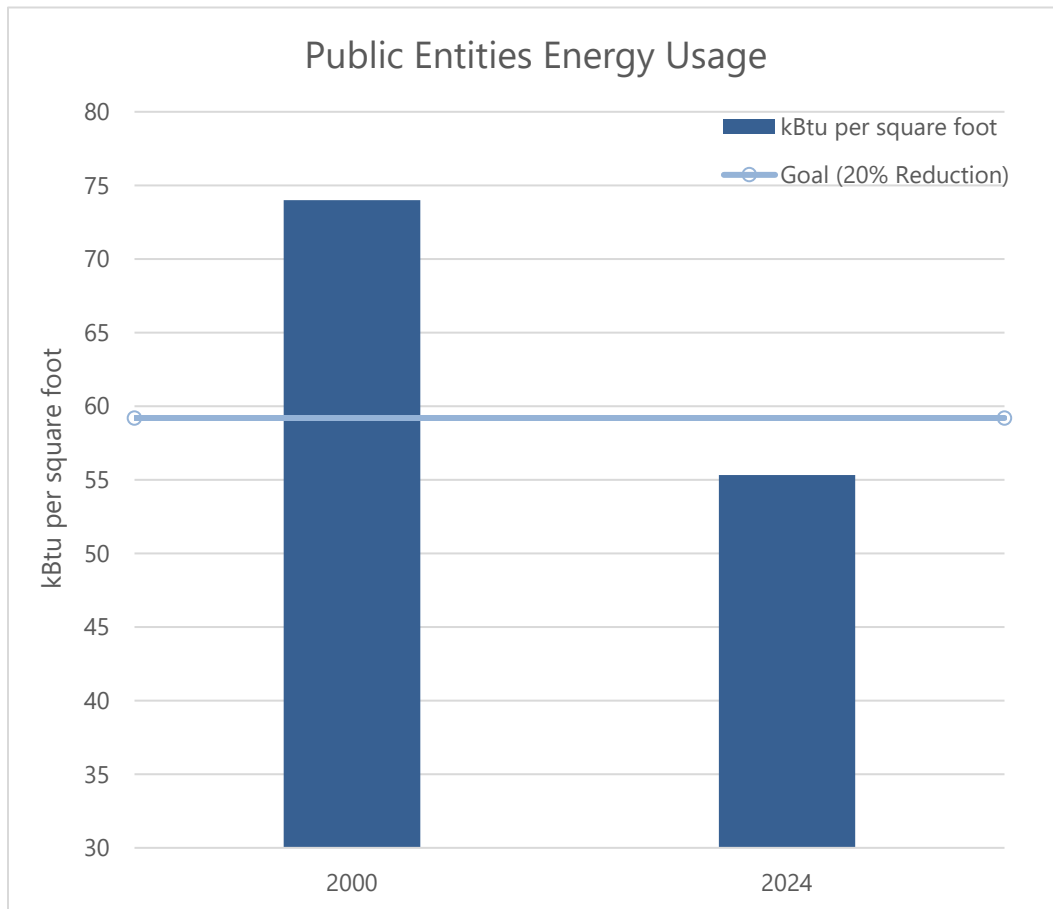
Section 48-52-620 of the South Carolina Code of Laws required state agencies, public school districts, and public colleges and universities (public entities) to develop energy conservation plans and work to reduce their energy consumption by 20% by 2020, as compared to 2000 levels. The State Energy Office was tasked with collecting each public entity's annual report and tracking their progress towards the 20% energy usage reduction goal. While this initiative successfully concluded with the state collectively reaching the energy usage reduction goal, the State Energy Office has continued to collect energy data and progress reports from the public entities. To achieve further reductions in energy consumption by the state and assist public entities that have not met the 20% reduction goal, the State Energy Office also continues to provide ongoing training, workshops, and technical assistance, and makes available low-interest loans for energy efficiency projects.

Findings:

Data submitted for FY 2024 indicates that, compared to the Fiscal Year 2000 baseline, public entities reduced their energy use per square foot by 25% and energy spending per square foot by 20%. Collectively, public entities have achieved the 20% goal mandated by the General Assembly. (Note: an entity reaching the 20% reduction goal does not preclude their energy use from rising again.)

Public Entities by Type	Average Energy Use per Square Foot (site kBtu)			Average Energy Spending per Square Foot (\$)		
	FY 2000	FY 2024	% change	FY 2000	FY 2024	% change
State Agencies	113	76.47	-32%	\$2.46	\$1.98	-20%
Residential Colleges and Universities	143	110.23	-23%	\$2.38	\$2.13	-10%
Non-Residential Colleges and Universities	80	61.18	-24%	\$2.13	\$1.67	-21%
School Districts	45	34.46	-23%	\$1.55	\$1.19	-23%
Overall	74	55.32	-25%	\$1.87	\$1.49	-20%

Note: These statistics are based on self-reported data submitted by public entities. The State Energy Office makes no representation regarding the accuracy of these data.



Overall, the state’s agencies, public school districts, and public colleges and universities have done an excellent job of reducing energy use. As a group, they have achieved the mandated goal and have continued in their efforts to reduce their energy consumption despite the conclusion of the goal period.

Background

The State Energy Office was established by the South Carolina Energy Efficiency Act of 1992 to serve as the principal energy planning entity for the state. The mission of the State Energy Office is to advance South Carolina's energy strategy and policy through education and outreach. The State Energy Office is funded by the US Department of Energy's State Energy Program.

Section 48-52-620 of the South Carolina Code of Laws required 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% by 2020, as compared to 2000 levels. While the initiative successfully concluded, public entities continue to submit annual energy conservation reports to the State Energy Office. Each report consists of data showing energy use and cost per square foot 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 Progress toward Energy Conservation Goals for more detail). Section 48-52-620(E) required the State Energy Office to compile this information and report it to the South Carolina General Assembly (General Assembly) by December 31 of each year.

In October 2019, the State Energy Office launched the South Carolina Energy Efficiency Roadmap initiative. Facilitated by the Duke University Nicholas Institute, the initiative brought stakeholders together to review the remaining energy efficiency recommendations from the 2016 Energy Plan and reassess them according to current priorities, as well as to identify new opportunities and develop next steps. Guided by an advisory committee, six working groups were formed to focus on different areas. One of these groups focused on non-profit and public entities; in consideration of the conclusion of the 20% by 2020 performance period, a resulting recommendation was to propose new legislation to re-establish the state's energy conservation goals for public entities. The goal proposed by the stakeholders involved in this initiative would require state agencies, public colleges and universities, and public school districts to: (1) develop a new energy conservation plan, and (2) reduce their energy consumption by 10% by 2030, as compared to 2015 levels. As of the writing of this report, no new legislation pertaining to state government energy conservation has been pursued.

Activities in Support of Implementation

Section 48-52-620(E) required the State 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 State Energy Office has provided the following:

Training

In 2009, the State Energy Office and the Association of South Carolina Energy Managers created a state-specific alternative to the national Certified Energy Manager® training: the Accredited Commercial Energy Manager (ACEM) training. The primary purpose of this training 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 inception, a total of 23 ACEM training classes have been held, most recently in December 2023. A total of 415 individuals have received this extensive energy management training. The pass rate for the course averages approximately 78%, with those passing the test receiving the ACEM certification.

In Fiscal Year 2024 (FY 2024), the State Energy Office also facilitated two courses offered by other organizations. In coordination with the State Energy Office, the Building Performance Institute offered the Building Science Principles virtual course that provided a comprehensive training in building science, energy efficiency, and construction fundamentals. It also equipped participants with a deep understanding of the principles governing the energy performance of residential buildings, encompassing both new and older structures.

The State Energy Office also facilitated the Boiler Efficiency Institute's two-day Steam Plant Improvement (Boiler) Workshop. The goal of the workshop was to train a range of South Carolina professionals, such as boiler operators, technicians, licensed engineers, and registered architects, in energy efficiency measures. Each participant also received a textbook that served as a valuable resource guide.

Assistance to Agencies

The State Energy Office works with public entities requesting assistance with energy use reporting requirements and often devotes considerable effort to identifying and correcting reporting errors. The State 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 Excel-format reporting spreadsheet developed by the State Energy Office. 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 United States 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.

In addition, the State Energy Office – through its Energy Technical Assistance Program – provides free energy assessments for facilities owned by state and local governments as well as other entities. These walk-through assessments help to identify cost-effective energy conservation measures and set priorities for action. More information on Energy Technical Assistance may be found at <https://energy.sc.gov/programs/technical-assistance>.

In July 2020, the State Energy Office also launched its Energy Saver Tool, which enables both commercial and residential end users to find energy saving programs that may be available to them. By inputting certain information including their end use, utility provider, and county, the tool will provide a list of applicable grants, loans, rebates, tax incentives, and other programs that may be available from various sources. These results can be printed or saved, and the website also offers tips on how to save energy. The Energy Saver Tool can be found at <https://energysaver.sc.gov/https://energysaver.sc.gov/>.



ConserFund

Funding assistance for energy efficiency improvements is available through the ConserFund low-interest loan program. Loans are available to state agencies, public colleges and universities, school districts, local governments, and private non-profit organizations. Loans have a fixed annual interest rate currently set at 1.5%, and the program is structured so that the cost savings resulting from the energy efficiency upgrades can be used to repay the loan. More information on ConserFund may be found at <https://www.energy.sc.gov/programs/funding/loans/conserfund>.

Workforce Development Tool

The State Energy Office has developed a [Clean Energy Workforce Development Tool](#) designed to connect individuals and organizations with training resources to adapt to the rapidly evolving clean energy field. Students, job seekers, technical trade workers, and employers may use the database to find information on a variety of clean energy training opportunities such as apprenticeships, certificates, degree programs, and stand-alone courses. In-person and online training opportunities in numerous clean energy subfields are included in the Clean Energy Workforce Development Tool including solar, energy efficiency, HVAC, refrigeration, and more. The opportunities listed in the database are South Carolina-focused and are not exhaustive but will be updated periodically to ensure they are as accurate as possible. If you have any questions about this or would like to suggest additional resources to be added, please [email](#) the State Energy Office.

Milestone Recognition Awards

The State Energy Office provides tangible recognition for those public entities that have met their mandated 20% reduction in energy intensity since the year 2000. The following entities were issued awards after completion of the Fiscal Year 2023 report based on having two or more consecutive years of meeting the 20% reduction goal:



TECHNICAL COLLEGE OF THE LOWCOUNTRY

Technical College of the Lowcountry



Spartanburg County School District Two

For FY 2024, 70 public entities are recognized for achieving the 20% energy intensity reduction goal and are eligible to receive an Energy Reduction Milestone Achievement Award offered by the State Energy Office (Note that recognition does not ensure that an agency's energy use has not since risen or may not rise in the future.)

Aiken School District	Piedmont Technical College
Aiken Technical College	Rock Hill School District 3
Allendale School District	Saluda County School District
Anderson School District 2	SC Department of Administration - Facilities Management and Property Services
Barnwell School District 45	SC Department of Agriculture
Beaufort School District	SC Department of Corrections
Charleston School District	SC Department of Disabilities & Special Needs
Chesterfield School District	SC Department of Health and Environmental Control
Clemson University	SC Department of Juvenile Justice
Coastal Carolina University	SC Department of Labor, Licensing, & Regulation - Division of Fire and Life Safety
College of Charleston	SC Department of Natural Resources
Colleton School District	SC Department of Parks, Recreation & Tourism
Dorchester School District 4	Lancaster School District
Edgefield School District	SC Department of Transportation
Fairfield School District	SC Educational Television Commission
Florence School District 5	SC Forestry Commission
Francis Marion University	SC Governor's School for Agriculture at John de la Howe
Georgetown School District	SC Law Enforcement Division
Greenville School District	SC Military Department
Greenville Technical College	SC Sea Grant Consortium
Greenwood School District 50	SC State University
Greenwood School District 51	Spartanburg Community College
Hampton School District	Spartanburg School District 4
	Spartanburg School District 5

Kershaw School District	Spartanburg School District 7
Lancaster School District	Sumter School District
Laurens School District 55	Technical College of the Low Country
Laurens School District 56	The Citadel
Lee School District	Trident Technical College
McCormick School District	Union School District
Medical University of SC	University of SC - Aiken
Midlands Technical College	University of SC – Lancaster
Old Exchange Building Commission	University of SC – Union
Orangeburg School District	Williamsburg School District
Patriots Point Development Authority	Williamsburg Technical College
Pickens School District	Winthrop University

Since the initial performance period of FY 2001, 111 of 140 (79%) of public entities have achieved the 20% energy intensity reduction goal in at least one fiscal year.

Submission of Annual Progress Reports

For FY 2024, public entities were asked to complete the following five sections:

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 State Energy Office.

Section 3: Purchase of Energy Conservation Products

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

Section 4: Additional Questions

This section solicits information about organizations' interest in obtaining technical assistance from the State Energy Office or in receiving the *Energy Connection* newsletter. Additional information is requested on any installed photovoltaic systems.

Section 5: Energy Plan Update and Success Stories

This section requests that organizations send a current copy of their energy conservation plans to the State Energy Office if they have 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.

Of the 140 public entities, 126 (90%) submitted complete reports and 9 (6%) did not submit a report. The remaining 5 (4%) submitted an incomplete report.

Public Entities by Type¹	Total Number of Public entities	Complete	% Complete	Partially Complete	% Partially Complete	Non- Submitting	% Non- Submitting
State Agencies	33	32	97%	0	0%	1	3%
Residential Colleges and Universities ²	12	11	92%	1	8%	0	0%
Non-Residential Colleges and Universities	21	19	90%	1	5%	1	5%
School Districts	74	64	86%	3	4%	7	9%
Totals	140	126	90%	5	4%	9	6%

A sample of completed Annual Progress Reports is provided in Appendix A. These reports are included to illustrate the range of energy conservation and efficiency activities used by many public entities.

This appendix includes a sampling of complete reports and is not intended to imply State Energy Office endorsement of the reports included in the sampling over those not included.

¹ 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.

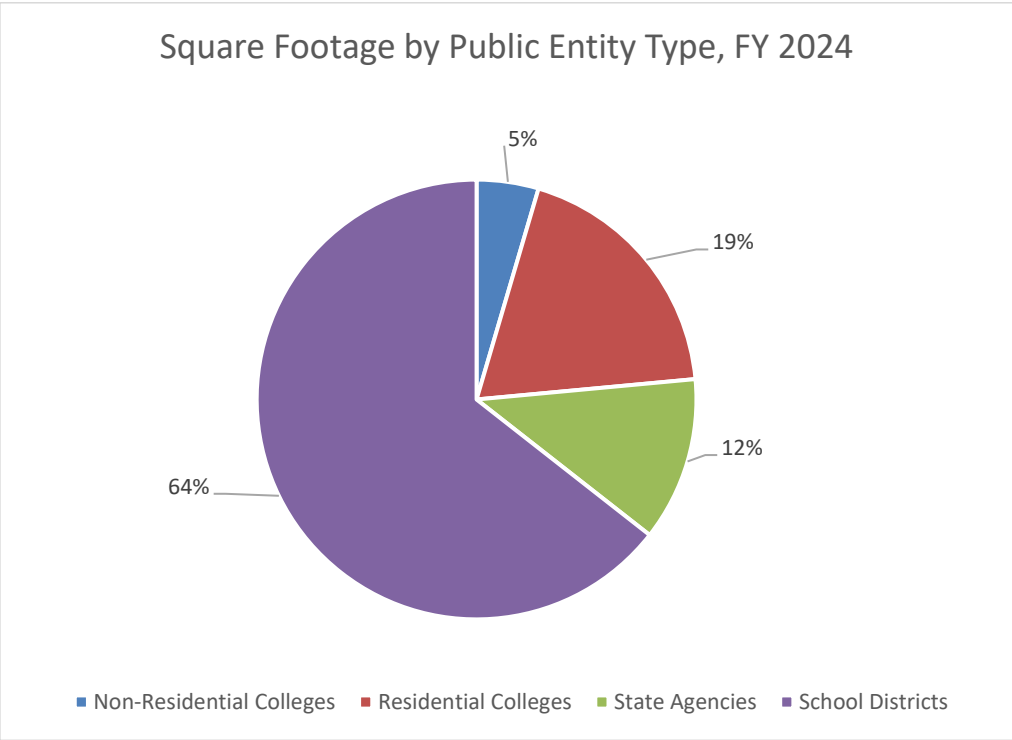
² The Medical University of South Carolina is included in the Residential Colleges and Universities organization type for this report as its energy consumption levels are most similar to this peer group.

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 thousands of British Thermal Units (kBtu) per gross square foot). The State 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. The data can be used as a basis for estimating the progress made by public entities toward meeting required energy goals. However, the data is accepted as received, and the State Energy Office makes no representation regarding accuracy. In addition, some entities did not submit reports to the State Energy Office, which introduces a potential source of bias. Additional inconsistencies exist because buildings constructed under the Energy Independence and Sustainable Construction Act of 2007, as well as buildings not in existence in both 2000 and 2008 are exempt from reporting. However, many agencies and schools simply report on all their buildings, and certainly plan for all their buildings, so the data collected may include energy intensity in buildings that should be excluded from the 20% reduction goal. Consequently, the statistics reported in this section should be interpreted with caution.

For reporting trends, public entities were separated into peer groups that most closely mirrored their energy consumption and energy expenditure levels. The 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.

In FY 2024, school districts (64%) accounted for the largest share of square footage by type of public entity reporting. The next largest category (19%) was residential colleges and universities. State agencies (12%) and non-residential colleges and universities (5%) accounted for the smallest categories of reporting entities.



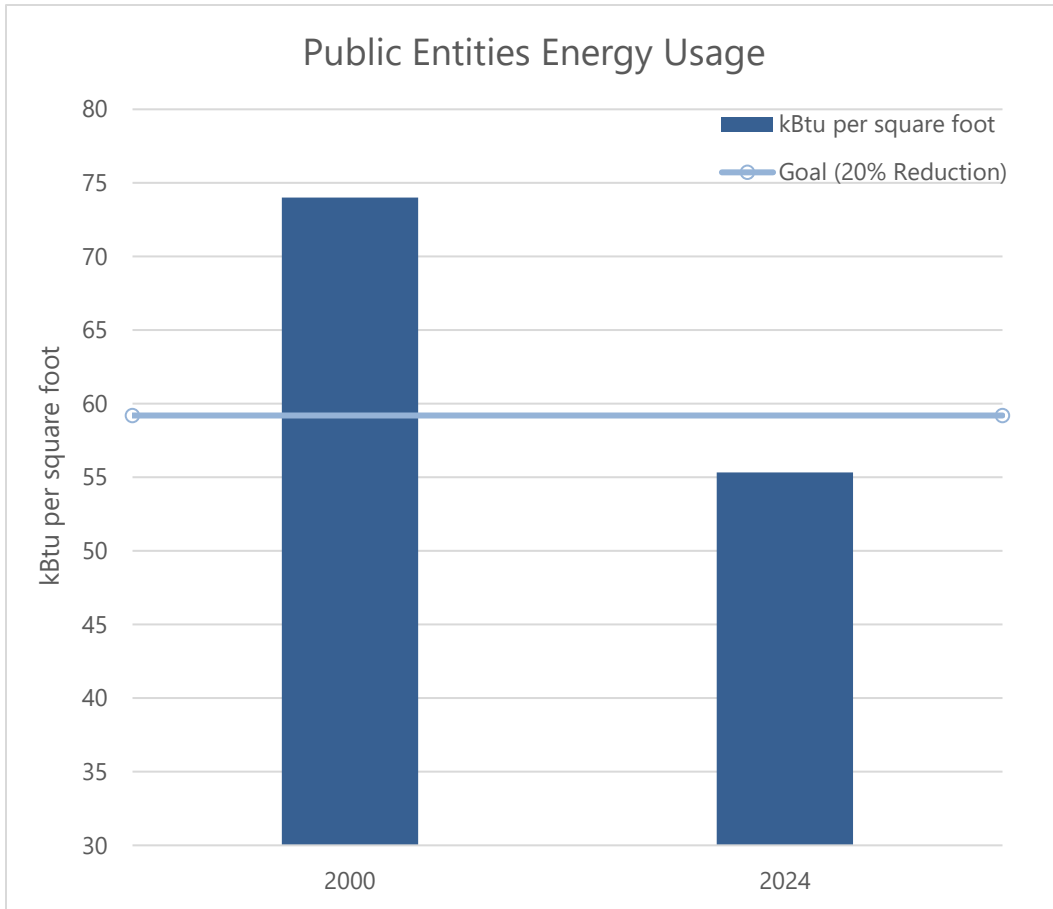
Data submitted for FY 2024 indicates that, overall, public entities reduced their energy use intensity by 25% compared to the Fiscal Year 2000 baseline. School districts – the least energy intensive category of public entities – reported improvements of 23%. Residential colleges – the most energy intensive category – also reported improvements of 23%.

Public entities reduced their energy spending per square foot by 20% from 2000 levels (adjusted for inflation). This differential indicates that the reporting public entities’ efforts to control energy use are paying off. Without those efforts, rising energy costs are likely to have a significant effect on agency budgets.

Public Entities by Type	Average Energy Use per Square Foot (site kBtu)			Average Energy Spending per Square Foot (\$)		
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School Districts	45	34.46	-23%	\$1.55	\$1.19	-23%
Overall	74	55.32	-25%	\$1.87	\$1.51	-20%

Note: These statistics are based on data submitted by public entities. The State Energy Office makes no representation regarding the accuracy of the data it received.

³ These figures have been adjusted for inflation using the Bureau of Labor Statistics' CPI Inflation Calculator (available at <https://data.bls.gov/cgi-bin/cpicalc.pl>). Therefore, figures here are presented in 2024 dollars.



In aggregate, public entities have reported significant improvements in energy intensity compared to the FY 2000 baseline. As noted in the table below, overall energy intensity has decreased from 74 kBtu per square foot to 55 kBtu per square foot. The 20% reduction goal of 59 kBtu per square foot has been exceeded.

Public Entities' Energy Usage	
Year	kBtu per ft ²
2000	74
2024	55

Note: These statistics are based on data submitted by public entities. The State Energy Office makes no representation regarding the accuracy of the data it received.

Based on information submitted to the State Energy Office, public entities have collectively achieved the 20% goal set by the General Assembly. Energy savings are being realized, and Fiscal Year 2025 will provide an opportunity for public entities to continue to reduce their energy consumption. The State 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.

Conclusion

The State Energy Office continues to provide training, technical assistance, and funding to public entities in support of their efforts to achieve energy conservation goals. Overall, South Carolina's public entities have done an excellent job of reducing energy use. As a group, they have achieved the mandated goal. The State Energy Office continues to work with individual agencies to help them achieve, maintain, and exceed the mandated goal as well. The State Energy Office looks forward to further savings in Fiscal Year 2025 and will continue to provide assistance in support of South Carolina's energy conservation goals.

APPENDIX A:

Sample Progress Reports

Disclaimer: The reports in this section are re-printed as submitted to the State Energy Office by the reporting entities and are meant to illustrate the programs undertaken in FY 2023. Errors contained in this section are not the responsibility of the State Energy Office, and the reports have not been altered or corrected.

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