

# Energy Use in South Carolina's Public Facilities, FY 1996

## EXECUTIVE SUMMARY

This report summarizes fiscal year 1996 energy consumption and cost data for most public school districts, state agencies and state higher education institutions in South Carolina. It is required by the South Carolina Energy Conservation and Efficiency Act of 1992.

The reporting public entities spent \$141.6 million on energy in 1996, 85 percent of which was spent on electricity. Natural gas accounted for 12.5 percent of energy expenditures. State agencies and four-year colleges and universities benefited from the lowest unit prices for electricity and natural gas. School districts paid the highest average energy costs, with two-year colleges falling in between.

The 88 reporting school districts (three did not respond) spent \$70.8 million to provide energy for 84.2 million square feet of building space. South Carolina school districts averaged \$0.84 per square foot, compared to a national median of \$0.89 per square foot. All school districts averaged 48.3 kbtu per square foot.

Fourteen colleges, universities and other state institutions with dormitories spent \$33.8 million to provide energy for 27.4 million square feet of building space. They averaged spending \$1.25 per square foot for energy. The national median for four-year colleges is \$1.00 per square foot. Average energy use was 116.6 kbtu per square foot.

Twenty-two state colleges without housing, a group composed of technical colleges and two-year campuses of the University of South Carolina, spent \$8.1 million on energy, averaging \$1.14 per square foot. This compares to the national median for two-year colleges of \$1.27 per square foot. They averaged 76.4 kbtu per square foot over their 6.8 million square feet of building space.

State agencies vary enormously in types of energy requirements, building types, non-building energy use, size and other factors relating to energy use. They spent \$28.9 million in identifiable energy costs. Because a number of agencies have utility costs included in their rent payments to private sector landlords, the actual energy costs for state government are somewhat larger, but not known. State agencies generally spent between \$0.80 and \$1.60 per square foot, a wide range, and there were significant exceptions on both sides of this range. Average cost for 21.3 million square feet of building space owned by 29 agencies was \$1.38 per square foot. Average use per square foot was 121.6 kbtu.

A handful of state agencies are responsible for a majority of state building space, and thus pay a high proportion of state agency energy bills. The largest energy bills for state agencies were \$8.5 million for 5.7 million square feet operated by the Department of Corrections, \$4.7 million for 3.8 million square feet managed by the Office of General Services, Facilities Management and \$3.3 million for 2 million square feet operated by the Department of Mental Health.

Many factors influence the high variability in energy use by public facilities, including age of buildings, energy conservation activities, energy efficiency of building design, hours of operation, building uses, outdoor lighting, high technology equipment, fuel types, fuel costs, and climatic differences.

The report is an aggregate summary of information provided by 153 entities. Institution-specific information is used both by the institutions themselves and by the South Carolina Energy Office in providing assistance to public entities in order to reduce their energy costs. An important result of the energy consumption reporting process is that it provides necessary information for institutions to use in helping themselves save energy and develop energy conservation plans and goals.

**Table 1. Summary Data**

	Total Energy \$ (in millions)	Total Sq.ft. (in millions)	Avg. \$/sq.ft.	Avg. kbtu/sq.ft.
School Districts (88)	\$70.8	84.2	\$0.84	48.3
State Agencies (29)	28.9	21.3	1.38	121.6
Colleges with Housing (14)	33.8	27.4	1.25	116.6
Colleges without Housing (22)	8.1	6.8	1.14	76.4

# Table of Contents

Executive Summary .....	i
Table of Contents.....	iii
Introduction.....	1
Purposes.....	1
Review of Responses.....	1
Findings.....	2
Energy Consumption Review.....	2
Cost Overview.....	4
Detailed Review.....	6
School Districts.....	6
State Agencies.....	8
Colleges with Housing.....	11
Colleges without Housing.....	13
Conclusion.....	14
Appendix A: Legal Requirements.....	A-1
Appendix B: Responding and Non Responding Entities.....	B-1
Appendix C: Information Received from Respondents.....	C-1

## **INTRODUCTION**

### **PURPOSES**

The information contained in this report represents the South Carolina Energy Office's fifth compilation of energy consumption reports submitted by individual school districts, agencies and colleges. This report summarizes fiscal year 1996 data for 88 public school districts, and 65 state agencies and public colleges. Included is an analysis of information solicited from each district, agency or college on energy costs and energy consumption.

This report is required by the South Carolina Energy Conservation and Efficiency Act of 1992 (see Appendix A). It provides aggregate energy use numbers so that the Energy Office can determine state public sector baselines and goals and measure results over time. The data enables identification of success stories which can be used as models, and also allows identification of institutions and buildings which are likely candidates for help in reducing energy costs. A very important result of the reporting process is that it provides necessary information for institutions to use in helping themselves save energy. It allows institutions to develop energy conservation plans and goals. Most importantly, the reporting process provides accurate information to the general public and to public officials about energy use involving taxpayer dollars.

### **REVIEW OF RESPONSES**

This report includes information from 88 public school districts. Three school districts did not submit any data. School districts reported \$70.8 million in energy costs for 84.2 million square feet of space.

A total of 49 state agencies responded, representing 20 agencies that lease facilities, and 29 that own facilities. Energy data for some of the leased facilities were included with information from the Office of General Services, which operates many of the state buildings in Columbia. Energy data for leased facilities outside of the Office of General Services are not included in this report. The data for state agencies comprises 21.3 million square feet of building space and \$28.9 million in energy costs.

Because dormitories have unique energy use characteristics, public colleges and other state-run schools are divided into two groups depending upon whether or not they offer

housing: colleges with housing (mainly four-year colleges), numbering 14; and colleges without housing (mainly technical colleges), numbering 22. All public colleges and state-run schools submitted data, totaling \$41.9 million in energy costs for a total of 34.3 million square feet of space.

Appendix B provides lists of responding and non-responding entities.

Since 1995, the energy use data has been compiled in FASER, a computerized energy accounting program. There are 19 different building classifications established within the program, and energy data is summarized and evaluated by building type. This will enable the Energy Office to establish standards by building type over the next few years.

## **FINDINGS**

### **ENERGY CONSUMPTION OVERVIEW**

Two performance indicators are used: energy cost per square foot and energy use per square foot.

The first indicator, annual cost per square foot, is widely used for comparison. The advantage to this measure is that energy costs can be readily identified and compared. However, this indicator does not account for differences due to energy prices rather than energy use.

The second performance indicator is energy use per square foot. By converting energy use to a standard measurement of British thermal units (btu), a building owner may compare the energy efficiency of buildings using different energy sources. (A btu is equal to the quantity of heat required to raise the temperature of one pound of water by one degree Fahrenheit.) This method also provides a comparative measure of performance that allows valid comparisons of energy use from year to year regardless of variations in energy costs and reductions or increases in building space.

Energy cost figures include all facilities reported to the South Carolina Energy Office. However, some of these facilities are not comparable to other buildings. For purposes of calculating per-square-foot measures (cost per square foot, use per square foot), such facilities are not counted. For example, buildings for which no square footage was reported were excluded because their inclusion would skew the energy cost per square foot and energy use per square foot figures for all other buildings. In addition, an effort was made to confine this analysis to buildings that are heated and/or cooled, and to exclude buildings for which the primary energy expense is for outdoor lighting.

There is great variation among reporting entities. Some of the reasons for this variation include the following:

**Age of buildings**

Older buildings were usually built with less concern for energy efficiency. Deterioration over the years compounds this effect.

**Energy conservation activities**

Many entities have implemented energy conservation plans which include low cost and no cost methods of energy use reduction. Some have carried out extensive energy conservation retrofits.

Walhalla High School in Oconee School District is a real success story in energy efficient design. In spite of facing electricity prices somewhat higher than the average school district pays, Walhalla High keeps energy costs low. How do they do it? Skylights. There are over 100 skylights at Walhalla High, taking the place of electric lighting. Students and staff get to enjoy sunshine indoors while the school district saves money on electricity.

**Energy efficient design**

Great strides have been made in recent decades to incorporate energy efficiency into building design. Many South Carolina public facilities reflect these advances.

**Hours of operation**

Some buildings are lightly used, while some are in use 24 hours a day. Some facilities, such as schools, are in use only nine or ten months of the year.

**Building uses**

Although many state-owned buildings are primarily office buildings, uses for state facilities vary greatly. Libraries, cafeterias, warehouses, laboratories, meeting facilities, prisons, maintenance garages and security buildings, for example, have widely varying energy needs.

**Metering issues**

Sometimes outside lights are metered to buildings. If the building is small and the outdoor lighting is extensive (e.g., parking areas), this can dramatically skew the per square foot figures for cost and use.

**High technology**

Facilities with high reliance on electronic equipment (including computers) will show high cost and usage results.

**Fuel types**

Different fuel sources entail different levels of expense. It may cost more to heat with electricity than with natural gas, for example. However, in some areas, electricity is the only choice available.

**Fuel costs**

Fuel costs can vary regionally, from utility to utility, and from small purchaser to large purchaser.

**Climate**

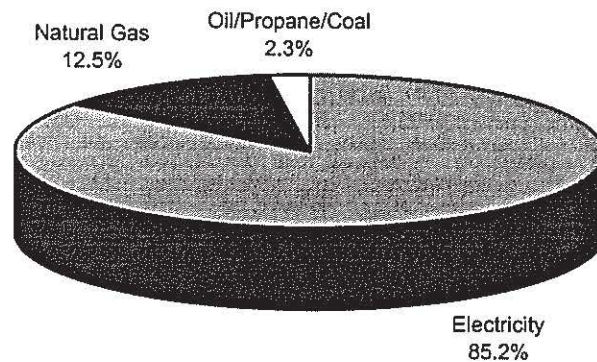
In the upper part of the state, air conditioning is needed considerably less than in the rest of the state. Conversely, this region is likely to need more winter heating.

**COST OVERVIEW**

Respondents fall into several categories, which are reported and evaluated separately. The categories are as follows: public school districts; state agencies; colleges with housing; and colleges without housing. Reported energy costs were \$70.8 million for public school districts, \$28.9 million for state agencies, \$33.8 million for colleges with housing, and \$8.1 million for colleges without housing, totaling \$141.6 million in FY 1996.

The expenditures by all categories of respondents on each energy source are illustrated below.

**Figure 1. Energy Expenditures - FY 1996**





**Table 2. Energy Expenditures (in millions of dollars) by Fuel Source - FY 1996**

	School Districts	State Agencies	Colleges with Housing	Colleges without Housing	TOTALS
Electricity	\$63.709	\$22.744	\$26.868	\$7.230	\$120.551
Natural Gas	6.136	5.130	5.628	0.842	17.736
Fuel Oil	0.588	0.275	0.212	0.003	1.078
Propane	0.332	0.754	0.044	0.000	1.130
Coal	0.000	0.000	1.061	0.000	1.061
<b>Total Expenditures<sup>1</sup></b>	<b>\$70.765</b>	<b>\$28.904</b>	<b>\$33.812</b>	<b>\$8.075</b>	<b>\$141.556</b>

As illustrated above, the primary energy expense in each category is for electricity. Public school districts and colleges without housing spend a larger proportion (both at 90 percent) of their energy budgets on electricity than do colleges with housing and state agencies (80 and 79 percent, respectively). The latter two make up the difference through a slightly greater reliance on natural gas. Fuel oil, propane and coal expenditures comprise a small percentage for all categories.

Table 3 illustrates that public institutions in South Carolina face a wide range of energy costs, with school districts paying the highest prices. Colleges with housing and state agencies, paying the least, have unit energy costs less than two-thirds those of public school districts, with colleges without housing falling in between.

**Table 3. Average Unit Energy Costs (Cost/kbtu) - FY 1996**

	School Districts	State Agencies	Colleges with Housing	Colleges without Housing
Electricity	\$0.023	\$0.016	\$0.014	\$0.018
Natural Gas	0.006	0.006	0.005	0.006
Fuel Oil	0.005	0.005	0.003	0.005
Propane	0.008	0.006	0.008	n.a.
Coal	n.a.	n.a.	0.003	n.a.
<b>Average for All Energy Sources</b>	<b>\$0.018</b>	<b>\$0.011</b>	<b>\$0.011</b>	<b>\$0.015</b>

n.a.=not applicable

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<sup>1</sup> Figures do not necessarily sum to totals due to rounding.

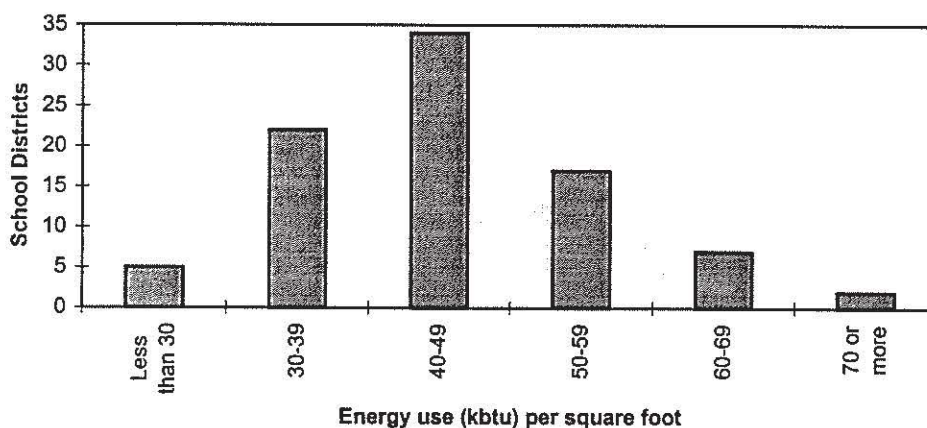
## DETAILED REVIEW

### SCHOOL DISTRICTS

#### *Use per Square Foot*

Figure 2 illustrates that the annual use per square foot ranges from 30 to 60 kbtu for most public school districts. The reported average annual kbtu (1,000 btu) per square foot for public school districts is 48.3 kbtu per square foot. The data for public school districts has a more normal distribution than for state agencies because of more uniform building use.

**Figure 2. School Districts, Energy Use per Square Foot, FY96 (87 school districts<sup>2</sup>)**



**Table 4. School Districts, Lowest Energy Use/Square Foot, FY96**

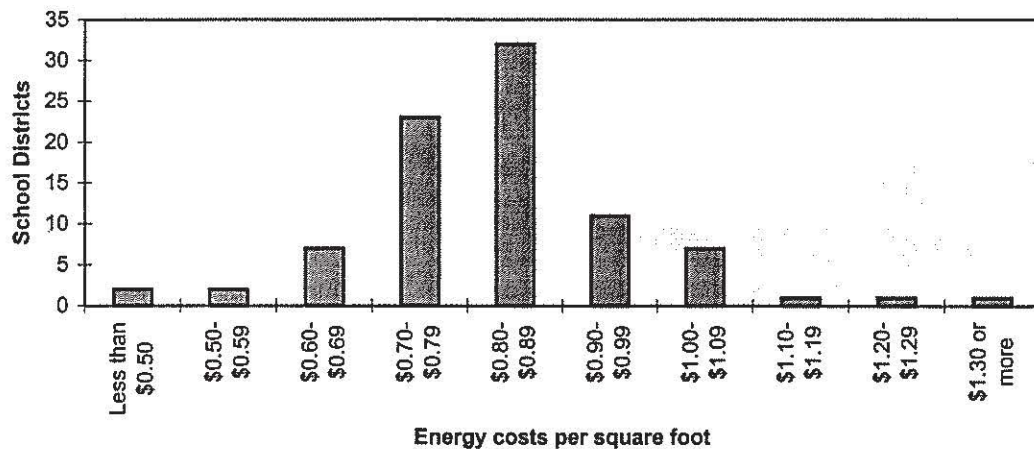
School District	kbtu/sf
Marion SD3	21.98
Barnwell SD19	23.35
Dillon SD1	24.48
Marlboro SD	28.77
Lexington SD1	29.95
Orangeburg SD2	30.08
Clarendon SD2	30.51
Marion SD2	32.16
Orangeburg SD8	32.19
Florence SD3	32.46

<sup>2</sup> One school district was omitted from the per square foot analysis due to insufficient data.

### Cost per Square Foot

Figure 3 illustrates that the cost per square foot ranges from \$0.60 to \$1.10 for most public school districts. The national median is \$0.89 per square foot.<sup>3</sup> The reported average cost per square foot for South Carolina public school districts is \$0.84 per square foot. Several factors help explain this. South Carolina has reasonable electric rates, compared to many other parts of the country. Also, schools are not generally in session during the summer, which is South Carolina's season for high energy expense due to air conditioning costs. By contrast, northern schools must operate during their most expensive season for energy, winter.

**Figure 3. School Districts, Energy Cost per Square Foot, FY96 (87 school districts<sup>2</sup>)**



**Table 5. School Districts, Lowest Energy Cost/Square Foot**

School District	\$/sf
Barnwell SD19	\$0.39
Orangeburg SD8	\$0.41
Oconee SD	\$0.57
Lexington SD1	\$0.59
Marion SD3	\$0.62
Orangeburg SD2	\$0.62
Hampton SD1	\$0.63
Dillon SD1	\$0.66
York SD1	\$0.68
Barnwell SD45	\$0.68

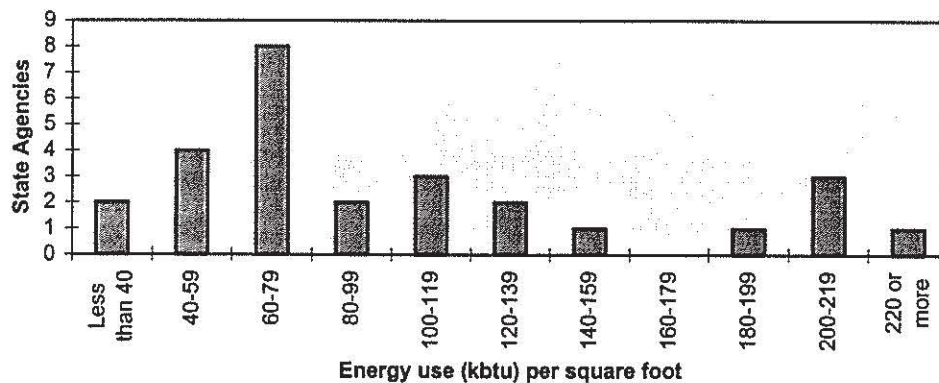
<sup>3</sup> American School and University, April 1997, pp. 18-19.

## STATE AGENCIES

### *Use per Square Foot*

Annual energy use ranges from 40 to 140 kbtu per square foot for most state agencies. Average use per square foot is 121.6 kbtu per square foot. This average is pulled up by outliers at the high end. There is a variety of reasons for high usage among some state agencies; most often it is due to heavy concentrations of electrical equipment. Part of the explanation for greater variability among state agencies is that there were many buildings within the state agency category with extreme costs per square foot. Welcome centers, rest areas, fire towers, and transmitters—all facilities in which energy use is not primarily for conditioned space—have been excluded from the analysis.

**Figure 4. State Agencies, Energy Use per Square Foot, FY96 (27 agencies<sup>4</sup>)**



<sup>4</sup> Two agencies were left out of the analysis due to irresolvable data problems.

Moreover, agencies vary greatly in size. Table 6, which shows the state agencies with the lowest average annual energy use per square foot, also reflects the variability in agency size. The agency with the lowest energy use per square foot, Sea Grant Consortium, is also among the smallest agencies, with one building comprising 5,000 square feet.

The Department of Agriculture, while larger, presents different problems. Three of the four buildings reported by the department are farmers' markets. These facilities have very little heated and/or cooled space, and much of their energy use is for outdoor lights. Therefore, the farmers' markets were excluded from the use per square foot analysis, leaving only a Metrology Laboratory, which reported quite low energy use.

In addition, many buildings are reported not by the individual agencies using them, but by the State Budget and Control Board's Office of General Services, which manages them. Furthermore, some of those agencies also have additional facilities which they manage themselves, and these are reported by the agency instead of General Services. Therefore, it can be difficult to sort out an individual agency's actual energy expenditures and use, and this problem is compounded by the existence of several joint-use facilities.

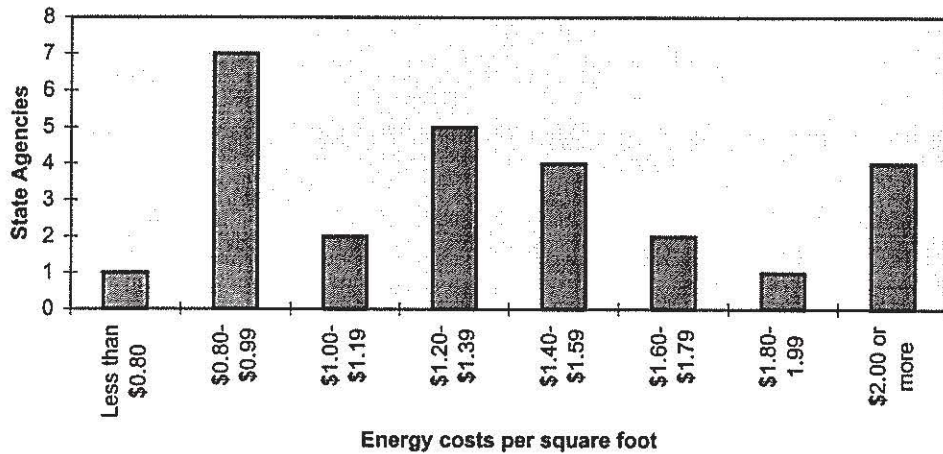
**Table 6. State Agencies, Lowest Energy Use/Square Foot, FY96**

<b>Agency</b>	<b>kbtu/sf</b>
Sea Grant Consortium	36.43
Agriculture, Dept. of	38.17
Forestry Commission	40.16

### Cost per Square Foot

For state agencies, annual energy cost is \$1.38 per square foot. State agency buildings fail to show a clear pattern, but most results fall between \$0.80 and \$1.60 per square foot. High outliers bring the average up.

**Figure 5. State Agencies, Energy Cost per Square Foot, FY96 (26 agencies<sup>4,5</sup>)**



**Table 7. State Agencies, Lowest Energy Costs/Square Foot**

Agency	\$/sf
Education, Dept. of	\$0.70
Juvenile Justice, Dept. of	\$0.80
Agriculture, Dept. of	\$0.88
Forestry Commission	\$0.88

A handful of state agencies manage the greatest amount of building space and pay a majority of the energy bills. The largest energy bills for state agencies were \$8.5 million for 5.7 million square feet operated by the Department of Corrections, \$4.7 million for 3.8 million square feet managed by the Office of General Services, Facilities Management, and \$3.3 million for 2 million square feet managed by the Department of Mental Health.

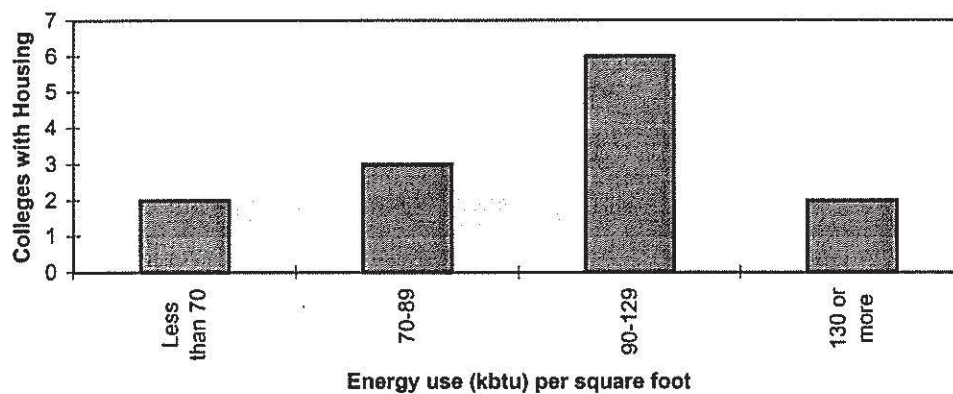
<sup>5</sup> Santee Cooper was not included in the unit energy cost analysis. As they are a power provider, they do not pay for energy; including them at \$0/sf would have skewed the averages.

## COLLEGES WITH HOUSING

### *Use per Square Foot*

Entities reported as colleges with housing include ten four-year colleges, plus four other schools with dormitories: Denmark Technical College, John de la Howe School, Wil Lou Gray Opportunity School and South Carolina School for the Deaf and Blind. Colleges with housing range widely in energy use. The majority of schools fall between 70 and 130 kbtu/sf. Average annual energy use for colleges with housing is 116.6 kbtu per square foot.

**Figure 6. Colleges With Housing, Energy Use per Square Foot, FY96 (13 colleges<sup>6</sup>)**



**Table 8. Colleges with Housing, Lowest Energy Use/Square Foot, FY96**

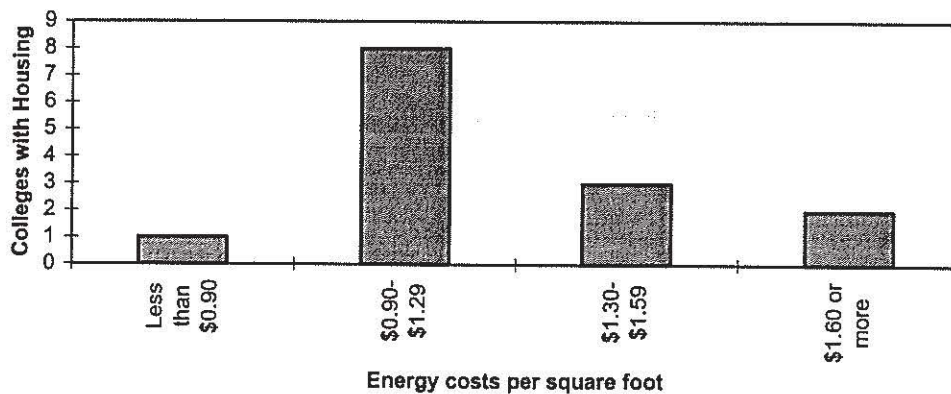
College/School	kbtu/sf
Winthrop University	61.74
Lander University	65.29
John de la Howe School	72.29

<sup>6</sup> One college with housing was left out of the per square foot analysis due to irresolvable data difficulties.

### Cost per Square Foot

Annual cost per square foot ranges widely for colleges with housing, but most such institutions fall between \$0.90 and \$1.60. Average cost per square foot for colleges with housing is \$1.25 per square foot. This compares to the national median energy expenditure for four-year colleges of \$1.00 per square foot.<sup>7</sup>

**Figure 7. Colleges With Housing, Energy Cost per Square Foot, FY96 (13 colleges<sup>6</sup>)**



**Table 9. Colleges with Housing, Lowest Energy Costs/Square Foot, FY96**

College/School	\$/sf
SC School for the Deaf & Blind	\$0.88
Wil Lou Gray Opportunity School	\$0.90
Winthrop University	\$0.90

<sup>7</sup> American School and University, April 1997, p. 40c.

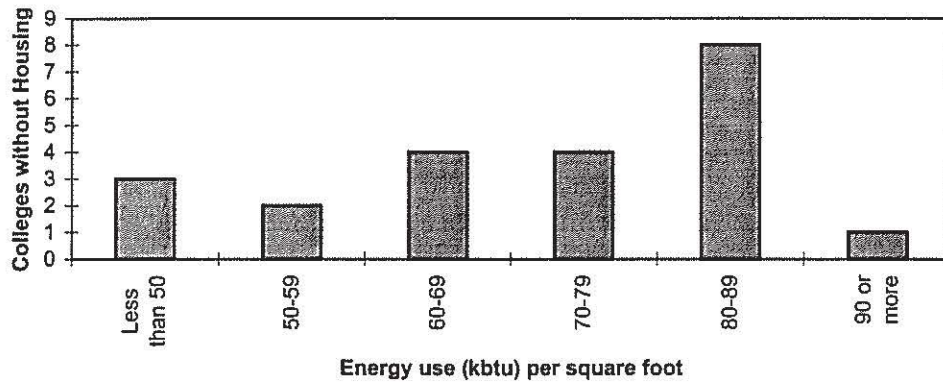


## COLLEGES WITHOUT HOUSING

### *Use per Square Foot*

Annual energy use per square foot for most colleges without housing ranges mostly from 60 to 90 kbtu. Average energy use is 76.4 kbtu per square foot.

**Figure 8. Colleges Without Housing, Energy Use per Square Foot, FY96 (22 colleges)**



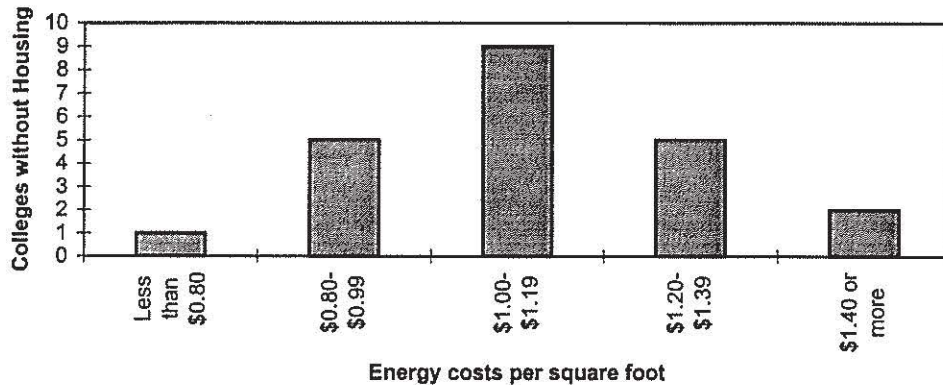
**Table 10. Colleges without Housing, Lowest Energy Costs/Square Foot, FY96**

College	kbtu/sf
USC-Union	40.82
USC-Salkehatchie	41.14
Williamsburg Technical College	42.82
Orangeburg-Calhoun Technical College	54.81
Central Carolina Technical College	54.88

### Cost per Square Foot

Costs per square foot ranges from \$0.80 to \$1.40 for most colleges without housing. Average cost per square foot is \$1.14. This compares to a national median energy cost per square foot for two-year colleges of \$1.27.<sup>8</sup>

**Figure 9. Colleges Without Housing, Energy Cost per Square Foot, FY96 (22 colleges)**



**Table 11. Colleges without Housing, Lowest Energy Costs/Square Foot, FY96**

College	\$/sf
USC-Union	\$0.68
Williamsburg Technical College	\$0.84
USC-Salkehatchie	\$0.85
Piedmont Technical College	\$0.87
Spartanburg Technical College	\$0.90

## CONCLUSION

This report is intended to summarize the energy consumption and cost data submitted to the South Carolina Energy Office, to convey to the public, to agency leaders, and to public facility managers how public facilities are consuming energy, and to help them perform better. It is impossible to improve performance in energy efficiency without some kind of measure of achievement. Moreover, it is difficult to say how a given agency is performing without being able to make comparisons with other agencies and with previous energy use. Presentation of these measures is a primary purpose of this report.

<sup>8</sup> *American School and University*, April 1997, p. 40c.

## **Appendix A : Legal Requirements**

This report is required by the South Carolina Energy Conservation and Efficiency Act, Section 48-52-620 (E). The principal purposes of this report are twofold:

- (1) To compile factual information on the current use and cost of energy for state agencies and public school districts; and
- (2) To ensure that state government agencies establish comprehensive energy efficiency plans and become models for energy efficiency in South Carolina, and assist the Department of Education in achieving energy efficiency in public schools [Section 48-52-420 (9)].

The preparation of this report assists in accomplishing several other purposes important to energy conservation, namely:

- (3) To ensure that internal governmental energy use patterns are consistent with the State's long range interests [Section 48-52-210 (B) (9)];
- (4) To ensure that short-term energy decisions do not conflict with long range energy needs [Section 48-52-210 (B) (8)];
- (5) To define baseline energy use measurements; and
- (6) To assist in establishing standards for energy efficiency and building performance.

## Appendix B : Responding and Non-Responding Entities

### School Districts:

#### Responding

Abbeville SD60	Florence SD1	Oconee SD
Aiken SD	Florence SD2	Orangeburg SD1
Allendale SD	Florence SD3	Orangeburg SD2
Anderson SD1	Florence SD4	Orangeburg SD3
Anderson SD2	Florence SD5	Orangeburg SD4
Anderson SD3	Georgetown SD	Orangeburg SD5
Anderson SD4	Greenville SD	Orangeburg SD6
Anderson SD5	Greenwood SD50	Orangeburg SD7
Bamberg SD1	Greenwood SD52	Orangeburg SD8
Bamberg SD2	Hampton SD1	Pickens SD
Barnwell SD19	Hampton SD2	Richland SD1
Barnwell SD29	Horry SD	Richland SD2
Barnwell SD45	Jasper SD	Saluda SD
Beaufort SD	Kershaw SD	Spartanburg SD1
Berkeley SD	Lancaster SD	Spartanburg SD2
Calhoun SD	Laurens SD55	Spartanburg SD3
Charleston SD	Laurens SD56	Spartanburg SD4
Cherokee SD	Lee SD	Spartanburg SD5
Chester SD	Lexington SD1	Spartanburg SD6
Chesterfield SD	Lexington SD2	Spartanburg SD7
Clarendon SD1	Lexington SD3	Sumter SD17
Clarendon SD2	Lexington SD4	Sumter SD2
Clarendon SD3	Lexington SD5	Union SD
Colleton SD	Marion SD1	Williamsburg SD
Darlington SD	Marion SD2	York SD1
Dillon SD1	Marion SD3	York SD2
Dillon SD2	Marion SD4	York/Rock Hill SD3
Dillon SD3	Marlboro SD	York SD4
Dorchester SD2	McCormick SD	
Edgefield SD	Newberry SD	

#### Not responding

Dorchester SD4  
Fairfield SD  
Greenwood SD51

## State Agencies:

### Responding

Aeronautics Div., Dept. of Commerce	Natural Resources, Dept. of
Agriculture, Dept. of	Office of the State Archaeologist
Corrections, Dept. of	Old Exchange Building Commission
Disabilities & Special Needs, Dept. of	Parks, Recreation and Tourism, Dept. of
Education, Dept. of	Patriots Point Development Authority
Educational Television	Public Railways Div., Dept. of Commerce
Employment Security Commission	Public Safety, Dept. of
Forestry Commission	Public Service Authority (Santee Cooper)
General Services, Facilities Management	Sea Grant Consortium
General Services, Statew. Building Servs.	State Board for Tech/Comprehensive Educ.
Health and Envir. Control, Dept. of	State Law Enforcement Division
Juvenile Justice, Dept. of	State Ports Authority
Labor, Licensing and Regulation, Dept. of	Transportation, Dept. of
Mental Health, Dept. of	Vocational Rehabilitation
Military Dept.	

Agencies not listed either lease space through the Office of General Services (and are therefore reported under General Services, Facilities Management or General Services, Statewide Building Services), or their utility bills are included in their lease payments to other entities (usually private landlords or local government), and they are thus unable to identify energy use.

Information from two state agencies omitted certain divisions. No information was received from the Military Department on Air National Guard Facilities, nor from the Department of Commerce on the Division of Savannah Valley Development.

## Colleges with Housing:

### Responding

Clemson University	Medical University of SC
Coastal Carolina University	SC School for the Deaf & Blind
College of Charleston	South Carolina State University
Denmark Technical College	The Citadel
Francis Marion University	University of South Carolina
John de la Howe School	Wil Lou Gray Opportunity School
Lander University	Winthrop University

**Colleges without Housing:**

Responding

Aiken Technical College	Tri-County Technical College
Central Carolina Technical College	Trident Technical College
Chesterfield-Marlboro Technical College	USC-Aiken
Florence-Darlington Technical College	USC-Beaufort
Greenville Technical College	USC-Lancaster
Horry-Georgetown Technical College	USC-Salkehatchie
Midlands Technical College	USC-Spartanburg
Orangeburg-Calhoun Technical College	USC-Sumter
Piedmont Technical College	USC-Union
Spartanburg Technical College	Williamsburg Technical College
Technical College of the Lowcountry	York Technical College

## Appendix C : Information Received from Respondents

### *Energy Use/Type*

Energy is needed for various purposes, including heating, cooling, ventilating, lighting (both interior and outdoor security lighting), water heating, and support equipment.

Information was requested on expenditures for and consumption of electricity, natural gas, propane, fuel oil, and coal. Monthly data was requested because it allows analysis of trends and it encourages state agencies and public school districts to review their consumption patterns on a monthly basis.

### *Building Size/Type*

The South Carolina Energy Office is flexible in allowing respondents to submit the information in a format that is convenient to them. The Office provided energy accounting software to 100 state agencies, colleges and public school districts in 1995. Submissions to the Energy Office are summarized in Table 12.

For most respondents, information is gathered on a building-by-building basis. For respondents set up to submit energy data on FASER software, building by building detail is assured. For those not submitting on FASER, information on number, size and use of buildings at each facility is solicited, and provided in some cases.

**Table 12. Data Received by Reporting Method and by Degree of Detail**

Building by building detail			Totals only	TOTAL
FASER	by Contractor	Forms, spreadsheets		
<i>School Districts</i>				
26	7	45	10	88
<i>State Agencies</i>				
8	0	21	8	37*
<i>Colleges with Housing</i>				
4	0	2	8	14
<i>Colleges without Housing</i>				
7	0	5	10	22
45	7	73	36	161

\* State agencies number thirty-seven instead of twenty-nine because two agencies are broken down into their constituent parts due to different reporting methods among the divisions. The Department of Transportation is treated in this table as eight separate agencies: a headquarters and seven regional offices. The Department of Natural Resources is treated as two agencies: the Wildlife Division and DNR-Charleston. Again, this is due to different reporting methods.