

1999 South Carolina Energy Use Profile

FOREWORD

South Carolina is a growing state, where energy plays a primary role in its economic success. Thus, as our economy has made rapid progress over the last decade, so too have our energy needs. South Carolina spends nearly \$8 billion per year on energy and ranks 18th in the nation in total energy consumption per capita, much more than the United States average in the 1990's.

South Carolinians currently enjoy energy on demand with some of the lowest prices in the nation. Still, the amount of money spent on energy is an important decision faced by South Carolinians every day, and will become even more important as we begin to address public policy issues such as utility deregulation, sustainable development, and environmental protection.

If we are to continue to have a safe, viable, and environmentally sound energy future in South Carolina, policy makers and citizens alike must have access to the best possible information to make informed decisions. The *1999 South Carolina Energy Use Profile* provides the latest available information on energy consumption, prices and expenditures, and energy use trends for the state of South Carolina. The information is presented in brief summaries, tables, and graphs in order to provide comparisons among different fuel types and economic sectors, and to show how South Carolina fares in relation to the rest of the United States.

Because of the integral relationship among the economy, the environment, and energy, it is essential to provide objective energy use statistics to assist in shaping not only South Carolina's energy policy, but also its environmental and economic policies.

Table of Contents

List of Tables.....	iii
List of Figures.....	v
Executive Summary.....	vii
Section 1: Total Energy Data.....	1
Section 2: Electricity.....	17
Section 3: Petroleum.....	51
Section 4: Natural Gas.....	71
Section 5: Coal.....	87
Appendix A: Glossary.....	A-1
Appendix B: Conversion Factors.....	B-1

List of Tables

Section 1: Total Energy Data

1.1.	South Carolina Annual Energy Consumption by Fuel Source, 1970-1997	1
1.2.	South Carolina Annual Energy Consumption by Economic Sector, 1970-1997	3
1.3.	South Carolina Residential Energy Use Estimates by Fuel Source, 1970-1997	5
1.4.	South Carolina Commercial Energy Use Estimates by Fuel Source, 1970-1997	7
1.5.	South Carolina Industrial Energy Use Estimates by Fuel Source, 1970-1997	9
1.6.	South Carolina Economic Sector Energy Expenditures, 1970-1995	11
1.7.	South Carolina Expenditure Estimates by Fuel Source, 1970-1995	13

Section 2: Electricity

2.1.	Net Generation from South Carolina Electric Utilities by Energy Source, 1978-1998	17
2.2.	South Carolina Monthly Electric Utility Net Generation by Fuel Source, 1978-1998	19
2.3.	Number of Ultimate Electric Consumers in South Carolina by Sector, 1990-1998	25
2.4.	South Carolina Annual Sales to Ultimate Consumers by Sector, 1978-1998	26
2.5.	South Carolina Monthly Sales of Electricity to Ultimate Customers, 1990-1998	28
2.6.	Selected South Carolina and U.S. Residential Statistics for Investor-Owned Electric Utilities, 1978-1998	33
2.7.	Class of Ownership, Number of Ultimate Consumers, and Average Rate per kWh by Sector of South Carolina Electric Utilities, 1998	35
2.8.	Number of Sales to, Revenue from Sales, and Average Revenue per kWh to Ultimate Electric Consumers in South Carolina by Sector, 1998	36
2.9.	South Carolina Electricity Sales by Utility, Class of Ownership and Sector, 1998	37
2.10.	Number of, Sales to, Revenue from Sales, and Average Revenue per kWh to Ultimate Consumers in South Carolina by Class of Ownership, 1998	38
2.11.	Estimated Emissions from Fossil-Fueled Steam-Electric Generating Units at South Carolina Electric Utilities, 1993-1998	39
2.12.	South Carolina Electric Utilities' Annual Peak System Demand in kW, 1993-2002	40
2.13.	South Carolina Electric Utilities' Total Annual System Sales, 1993-2002	41
2.14.	South Carolina Electric Utilities' Total Miles of Distribution Lines, 1993-2002	42
2.15.	Listing of Electricity Qualified Facilities, 1999	43
2.16.	Inventory of Power Plants in South Carolina, 1999	44

Section 3: Petroleum

3.1.	South Carolina Annual Gasoline Consumption and Average Retail Price, 1978-1998	51
3.2.	South Carolina Monthly Gasoline Consumption, 1988-1998	53
3.3.	South Carolina and United States Motor Fuel Consumption per Registered Vehicle, 1977-1998	54
3.4.	South Carolina Monthly Aviation Gasoline Consumption, 1988-1998	56
3.5.	South Carolina Annual Highway Diesel Fuel Consumption, 1978-1998	58
3.6.	South Carolina Monthly Diesel Fuel Consumption, 1988-1998	60
3.7.	South Carolina Petroleum Use by Type of Product, 1977-1997	61
3.8.	South Carolina Petroleum Use by Economic Sector, 1977-1997	63
3.9.	South Carolina Consumption of Distillate Fuel Oil by End-Use, 1978-1998	65
3.10.	South Carolina Consumption of Kerosene by End-Use, 1978-1998	67

3.11. South Carolina Prices of No. 2 Distillate, Kerosene, and Residual Fuel Oils, 1983-1998	69
3.12. South Carolina No. 2 Distillate Prices by Sales Type, 1990-1998	70

Section 4: Natural Gas

4.1. South Carolina Customers Served by Privately-Owned Natural Gas Utilities, 1978-1998	71
4.2. South Carolina Annual Deliveries of Natural Gas to End-Use Customers, 1980-1998	73
4.3. South Carolina Monthly Deliveries of Natural Gas to End-Use Customers, 1990-1998	75
4.4. Natural Gas Service from Privately-Owned to Residential Customers in South Carolina, 1980-1998	80
4.5. South Carolina Average Consumption and Annual Cost of Natural Gas per Consumer by Economic Sector, 1980-1998	82
4.6. Average Price Comparison of Natural Gas Delivered to South Carolina and U.S. Residential, Commercial, Industrial and Electric Utility Consumers, 1978-1998	83
4.7. Natural Gas Delivered to South Carolina Consumers with Quantity and Heating Value, 1980-1998	86

Section 5: Coal

5.1. South Carolina Annual Coal Consumption by Sector, 1977-1997	87
5.2. Receipts and Average Delivered Cost of Coal by South Carolina Electric Utility and Plant, 1996-1998	89
5.3. South Carolina Quarterly Average Coal Prices to Electric Utilities, 1980-1998	90
5.4. South Carolina Price and Expenditure Estimates for Coal by Sector, 1970-1995	92

Appendix

A-1. Glossary	
B-1. Conversion Factors	

List of Figures

Section 1: Total Energy Data

1.1.	1997 Comparison of U.S. and South Carolina Energy Consumption by Fuel Source	2
1.2.	South Carolina Energy Consumption by Fuel Source, 1970-1997	2
1.3.	1997 U.S. and South Carolina Energy Consumption Estimates by Economic Sector	4
1.4.	South Carolina Energy Consumption Estimates by Economic Sector, 1970-1997	4
1.5.	1997 Comparison of U.S. and South Carolina Residential Energy Consumption	6
1.6.	South Carolina Residential Energy Consumption, 1970-1997	6
1.7.	1997 Comparison of U.S. and South Carolina Commercial Sector Energy Consumption	8
1.8.	South Carolina Commercial Sector Energy Consumption, 1970-1997	8
1.9.	1997 Comparison of U.S. and South Carolina Industrial Sector Energy Consumption	10
1.10.	South Carolina Industrial Sector Energy Consumption, 1970-1997	10
1.11.	1995 Comparison of U.S. and South Carolina Energy Expenditure Estimates by Sector	12
1.12.	South Carolina End-Use Energy Expenditures by Sector, 1970-1995	12
1.13.	1995 Comparison of U.S. and South Carolina Energy Expenditure Estimates by Fuel Source	14
1.14.	South Carolina Energy Expenditure Estimates by Fuel Source, 1970-1995	14
1.15.	South Carolina Energy Consumption per Dollar GSP, 1990-1997	15
1.16.	South Carolina Energy Consumption per Capita, 1990-1997	16

Section 2: Electricity

2.1.	U.S. and South Carolina Electricity Generation by Fuel Source Comparison, 1998	18
2.2.	South Carolina Electricity Generation by Fuel Source, 1978-1998	18
2.3.	South Carolina Electric Customers by Sector, 1998	25
2.4.	South Carolina Electric Retail Sales to Ultimate Consumers, 1998	27
2.5.	South Carolina Annual Electric Retail Sales to Ultimate Consumers, 1978-1998	27
2.6.	South Carolina and U.S. Annual Average Residential Electricity Bill, 1978-1998	34
2.7.	South Carolina and U.S. Annual Residential Electric Rate, 1978-1998	34
2.8.	South Carolina Electric Utility Average Rate per kWh by Sector, 1998	36
2.9.	South Carolina Average Electric Rate per kWh by Class of Ownership, 1998	38
2.10.	South Carolina Annual Peak System Demand in kW, 1993-2002	40
2.11.	South Carolina Electric Utilities' Total Annual System Sales, 1993-2002	41

Section 3: Petroleum

3.1.	South Carolina Average Annual Retail Gasoline Price v. Consumption, 1978-1998	52
3.2.	U.S. and South Carolina Motor Fuel Consumption per Capita, 1978-1998	52
3.3.	U.S. and South Carolina Gasoline Consumption per Registered Vehicle, 1978-1998	55
3.4.	South Carolina Annual Aviation Gasoline Consumption, 1978-1998	57
3.5.	South Carolina Diesel Fuel Consumption and as a Percent of Total Motor Fuel Sales, 1978-1998	59
3.6.	South Carolina Petroleum Consumption by Type of Product, 1997	62
3.7.	South Carolina Petroleum Consumption by Type of Product, 1977-1997	62
3.8.	South Carolina Petroleum Consumption by Economic Sector, 1997	64
3.9.	South Carolina Petroleum Consumption by Economic Sector, 1977-1997	64
3.10.	South Carolina Distillate Fuel Oil Consumption by Sector, 1998	66

3.11. South Carolina Consumption of Distillate Fuel Oil by Sector, 1978-1998	66
3.12. South Carolina Kerosene Consumption by Sector, 1998	68
3.13. South Carolina Kerosene Consumption by Sector, 1978-1998	68
3.14. South Carolina No. 2 Distillate Prices by Sales Type, 1990-1998	70

Section 4: Natural Gas

4.1. South Carolina Customers served by Privately-Owned Natural Gas Utilities by Sector, 1978-1998	72
4.2. South Carolina and U.S. Annual Deliveries of Natural Gas to End-Use Customers, 1998	74
4.3. South Carolina Annual Deliveries of Natural Gas to End-Use Customers, 1980-1998	74
4.4. Number of South Carolina Residential Natural Gas Customers and Average Use per Customer, 1980-1998	81
4.5. South Carolina and U.S. Average Price Comparison of Natural Gas Delivered to Residential Sector Consumers, 1978-1998	84
4.6. South Carolina and U.S. Average Price Comparison of Natural Gas Delivered to Commercial Sector Consumers, 1978-1998	84
4.7. South Carolina and U.S. Average Price Comparison of Natural Gas Delivered to Industrial Sector Consumers, 1978-1998	85
4.8. South Carolina and U.S. Average Price Comparison of Natural Gas Delivered to Electric Utilities, 1978-1998	85

Section 5: Coal

5.1. South Carolina Annual Coal Consumption by Sector, 1977-1997	88
5.2. Quarterly Average Coal Prices to Electric Utilities in South Carolina, 1980-1998	91

Executive Summary

The *1999 South Carolina Energy Use Profile* is a detailed and comprehensive source of the latest available information on energy consumption, prices, expenditures, and sources of supply. Since energy plays an increasingly critical role in the economy and everyday lives of all South Carolinians, energy trends and patterns presented in this profile may serve as a useful interpretative tool for state policy makers, educational institutions, and the general public.

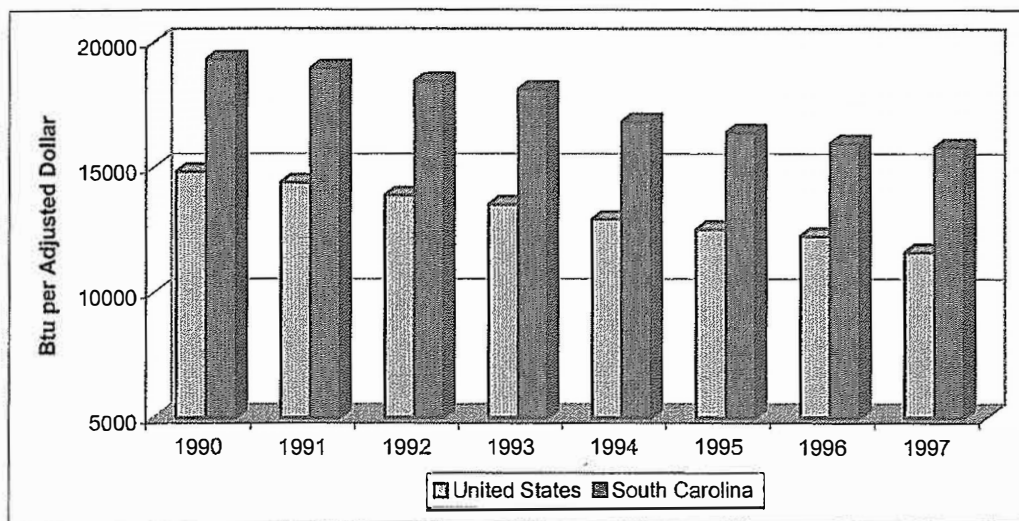
The mission of the South Carolina Energy Office (SCEO) is to increase efficiency in the use of all energy resources in all consuming sectors of the state, and, to the extent practical, to maximize environmental quality and to minimize the cost of energy use. Within this context, the *South Carolina Energy Use Profile* is designed to serve not only as a basis to analyze South Carolina-specific energy trends and activities, but also as a valuable tool for resource planning.

All efforts have been made to ensure that the data provided in this profile are compiled from the best available information, and are based entirely on regularly published data from sources in the public domain. The majority of the data in this profile is derived from the two most detailed and complete sources of United States and state-level energy data, the *State Energy Data Report* and the *State Energy Price and Expenditure Report*. Both reports are published by the Energy Information Administration of the U.S. Department of Energy, and are used extensively by nearly all state energy offices. As can be expected, it is a time-consuming task for the Energy Information Administration to collect and publish such detailed energy data from all fifty states. Consequently, the energy information included in these two publications is two to three years behind in being publicly available.

This *Energy Use Profile* is comprised of data presented in tables and charts. In order to provide a snapshot of the overall context of energy consumption performance in South Carolina as compared to the United States as a whole, two measurements of energy efficiency are provided in this summary. The first involves energy efficiency as measured in terms of energy consumption per dollar of gross state product. In this particular area South Carolina is slowly but steadily making progress. Since 1990, the economy has grown slightly faster than energy consumption, resulting in an 18.2 percent decrease (from 19,318 to 15,808) in Btu consumed per dollar of economic output (gross state product, adjusted for inflation (Figure 1). Nevertheless, South Carolina's energy efficiency trails considerably behind the national average of 11,608 Btu per dollar of gross domestic product, which is 26.6 percent lower than South Carolina's energy efficiency index.

Figure 1

Energy Consumption per Dollar GSP/GDP, 1990-1997

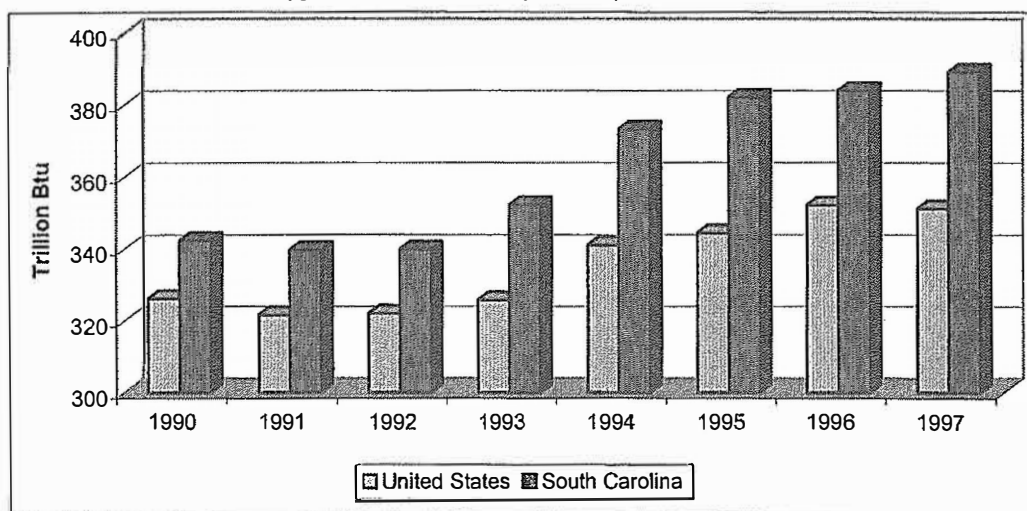


Source: Energy Information Administration, *State Energy Data Report* and U.S. Dept. of Commerce, Bureau of Economic Analysis.

A second measure of energy efficiency is per capita energy use. South Carolina ranks 18th in total energy consumption per capita, using more energy per person than 32 other states. The state's energy consumption per capita has increased much more rapidly than the United States average during the 1990's. South Carolina saw a 13.6 percent increase in energy consumption per capita between 1990 and 1997, while the United States per capita rate rose only 7.6 percent (Figure 2). South Carolina's total energy use increased 16.7 percent between 1990 and 1997, while its population increased by only 8.3 percent over the same period.

Figure 2

Energy Consumption per Capita, 1990-1997



Source: Energy Information Administration, *State Energy Data Report*.

The 1999 South Carolina Energy Use Profile is organized into five sections:

Section 1: Total Energy Data.

- South Carolina's total energy consumption has increased more rapidly than that of the United States as a whole over the last 27 years, increasing 101.9% from 1970 to 1997, while for the same period, United States energy consumption increased by only 38.5%. Most of the increase in South Carolina occurred in the nuclear sector, where energy use increased by 157.1%. In 1997, nuclear energy accounted for 30% of the state's energy consumption as compared with only 7% on the national level. The petroleum (29%) and natural gas (10%) sectors accounted for less of the state's energy consumption in 1997 than the United States' average. Coal consumption in South Carolina and the nation was nearly even, at 23% and 22% respectively.
- In 1997, South Carolina ranked 23rd in the nation in coal consumption, 35th in natural gas consumption, 24th in petroleum consumption, and 18th in electricity consumption.
- From 1970 to 1997, South Carolina greatly surpassed the nation as a whole in end-use energy consumption with the South Carolina residential sector seeing an increase of 96.8% as compared with 34.2% for the U.S.; commercial sector energy use increasing by 158.4% while the U.S. only saw a 78.8% increase; industrial sector consumption increasing by 125.1% as compared with a 20.9% increase in the U.S.; and the transportation sector seeing an increase of 73.8% as compared with 55.0% for the nation.
- In 1997, the South Carolina industrial sector accounted for 44.9% of energy consumption, followed by the transportation sector with 23.4%, the residential sector with 18.6%, and the commercial sector with 13.1%. This closely conforms to the national trend in end-use sector consumption.
- Electricity accounts for the majority of residential energy consumption in South Carolina (61%), but accounts for only 34% on the national level. Natural gas usage in South Carolina has declined since its peak years of the early 1970s, accounting for 22% of energy consumption. Natural gas consumption accounts for 48% of residential energy consumption in the United States. Petroleum and biofuels each comprise 17% of residential energy consumption in South Carolina, matching the 17% national rate. South Carolina ranked 24th in the nation in total energy consumption in the residential sector.
- Electricity accounts for 64% of end-use energy consumption in the South Carolina commercial sector, as compared with 46% in the United States. Natural gas makes up 25% of the commercial energy consumption in South Carolina, while the national rate is higher at 43%. Petroleum accounts for about 10% of commercial energy consumption in both South Carolina and the United States. South Carolina ranks 28th in the nation in energy consumption in the commercial sector.
- South Carolina ranks 18th in the nation in industrial energy consumption as indicated by the latest available data. Unlike in the residential and commercial sectors, which rely primarily on electricity, energy consumption in South Carolina's industrial sector is quite diversified. Electricity, natural gas and petroleum each accounted for over 20 percent of industrial sector energy consumption during 1997.
- South Carolinians spent \$7.6 billion on energy in 1995. South Carolina began to see an overall increase in energy expenditures in 1980. By 1995, energy expenditures had risen by 693.2% in nominal terms since 1970, while energy consumption increased by 108.6%. The transportation sector accounts for the largest share of energy expenditures with 34% in 1995, followed by the residential and industrial sectors both with 26%, and the commercial sector with 14%. This closely reflects the trend on the national level, where

the transportation sector also accounts for the largest share of energy expenditures with 36%, followed by the residential sector with 25%, the industrial sector with 21% and the commercial sector with 18%.

- In 1995, South Carolina ranked 19th in the nation for electricity expenditures, which accounted for 45% of all of the state's energy expenditures. Petroleum accounted for 38.1% of South Carolina's energy expenditures, with a ranking of 26th in the nation. On the national level, petroleum accounted for 43.2% of all energy expenditures, with electricity accounting for 37.4%.

Section 2: Electricity. Data provided in this section will show:

- Electricity generation in South Carolina increased by 88% from 1978 to 1998. Nuclear energy accounted for 57.8% of electricity generation in South Carolina in 1998, compared to only 21.0% in the United States. Coal is the major fuel source for electricity generation in the United States, accounting for 56.4% in 1998, compared with 38.3% in South Carolina.
- The number of electric consumers in South Carolina increased by 19.6% from 1990 to 1998. Residential consumers increased by 18.4% during this period, with commercial consumers increasing by 28.1%, and industrial consumers increasing by 7.5%.
- South Carolina electric retail sales to ultimate consumers by sector increased by 102% from 1978 to 1998, and by 37.4% from 1988 to 1998 in terms of kilowatthours. During the two-decade period 1978 to 1998, electric sales in the residential sector increased by 109%, sales in the commercial sector increased by 125.8%, and sales in the industrial sector increased by 96.9%. In 1998, the industrial sector comprised 43% of all electric sales in South Carolina, followed by the residential sector with 33%, and the commercial sector with 23%.
- Residential statistics for investor-owned electric utilities show that the average annual electric bill for South Carolina residential electric customers increased by 121.7% or \$596.79 from 1978 to 1998, as compared with an increase of 137.6% or \$500.39 on the national level.
- 47 electric utilities in South Carolina serve 1,969,667 customers, with a residential sector average rate (cents per kWh) of 7.50, a commercial sector average rate of 6.24 and an industrial sector rate average rate of 3.69 in 1998.
- 47 electric utilities in South Carolina had sales of 23,558,044 thousand kWh in the residential sector, 16,370,078 thousand kWh in the commercial sector, and 31,605,580 thousand kWh in the industrial sector in 1998.
- Estimated emissions from fossil-fueled steam-electric generating units at South Carolina electric utilities increased by 23.2% from 1993 to 1998.
- As of January 1, 1999, there were 50 power plants with a rating capacity of 18,723.8 megawatts operating in South Carolina. These power plants contain a total of 207 generators.

Section 3: Petroleum.

- Gasoline consumption in South Carolina increased by 58% during the two-decade period 1978 to 1998. In 1998, 2.9 million vehicles drove 42.8 billion miles on South Carolina highways while consuming 2.9 billion gallons of gasoline. South Carolina's annual motor fuel consumption is similar to the consumption trend of the United States, but continues to substantially exceed the national average on a per capita basis.
- During the two-decade period 1978-1998, diesel fuel consumption in South Carolina increased by 111%.

- South Carolina petroleum consumption increased by only 11.5% during the period 1977 to 1997. The two petroleum products that were consumed the most during this same period were motor gasoline (29.4% increase) and distillate fuel oil (24.5% increase).
- Petroleum use in the transportation sector increased by 35.7% from 1977 to 1997. In 1997, the transportation sector accounted for 73% of all petroleum use in South Carolina, followed by the industrial sector, which accounted for 21% of the total petroleum use.
- Distillate fuel oil consumption increased in South Carolina by 46.5% during the period 1978 to 1998. The largest increase occurred in the commercial sector with a 156.2% increase, followed by the transportation sector with an increase of 130.8%. Significant decreases were experienced in both the residential and industrial sectors during this same period.
- Kerosene consumption in South Carolina has been gradually declining over the past 20 years, experiencing a 31.7% drop from 1978 to 1998.
- South Carolina prices for No. 2 distillate fuel decreased by 43.3% during the period 1983 to 1998. During the same period, kerosene prices decreased by 13.2%.

Section 4: Natural Gas.

- The number of residential customers served by investor-owned natural gas companies increased by 115,498 (55.8%) during the period 1978 to 1998. The commercial and small industrial sectors had an increase of 17,190 (89.2%) customers, and the large industrial sector experienced a customer growth rise of 410 (53.9%). Altogether, there was an increase of 133,099 (58.7%) in the number of customers served by privately-owned natural gas utilities from 1978 to 1998.
- End-use deliveries of natural gas in South Carolina were 34.3% higher in 1998 than in 1980. Most of the increase occurred in the industrial sector, where natural gas deliveries increased by 39.4%. On a comparative level, the industrial sector accounted for 67% of all natural gas deliveries in South Carolina in 1998, while accounting for 44% in the United States.
- The number of residential customers receiving natural gas service in South Carolina increased by 52.6% from 1980 to 1998, natural gas sales to residential customers increased by 19.5%, and the average use per residential customer decreased by 21.7%.
- South Carolina natural gas prices rose by \$5.30 (176.7%) per thousand cubic feet from 1978 to 1998 in the residential sector as compared to \$4.26 for the United States average. In the commercial sector, South Carolina natural gas prices increased by \$4.02 (163.4%) per thousand cubic feet with the average United States prices increasing by \$3.25. The industrial sector in South Carolina experienced an increase of \$1.44 (77.8%) per thousand cubic feet with the same amount for the United States.

Section 5: Coal.

- Annual coal consumption in the residential and commercial sectors decreased dramatically in South Carolina during the period 1977 to 1997, with only 1,000 tons being used in 1997. During the same period, the industrial sector doubled its consumption of coal, and electric utilities increased their coal consumption by 87.4%. Overall, coal consumption in South Carolina increased by 78.3% from 1977 to 1997. In 1997, electric utilities accounted for 86% of all coal consumed in South Carolina, while the industrial sector accounted for the remaining 14%.
- Coal receipts at South Carolina electric utilities increased by 3,330 thousand short tons from 1996 to 1998. At the same time, the average delivered cost of coal to these utilities decreased by \$0.94 per short ton. The Winyah plant operated by Santee Cooper

accounted for the most coal receipts of all the plants, numbering 2,656 thousand short tons in 1998.

- Quarterly average coal prices to electric utilities in South Carolina hovered in the \$37.00-\$44.00 per ton range during the period 1980 to 1998. The only aberration occurred during the years 1983 and 1984, when the prices rose to \$49.15 and \$49.28 per ton, respectively.
- Coal expenditure estimates in the industrial sector increased by 329.5%, and by 903.8% in the electric utilities sector from 1970 to 1995. Collectively, coal expenditure estimates in South Carolina increased by 644.5% from 1970 to 1995.

SECTION 1: TOTAL ENERGY DATA

Total energy consumption in South Carolina increased by 101.9% from 1970 to 1997, while energy consumption in the United States rose by only 38.5% during the same period. Most of the increase in South Carolina occurred in the nuclear sector, where energy use increased by 157.1% from 1977 to 1997. In 1997, nuclear energy accounted for 30% of the state's energy consumption as compared with only 7% on the national level. On a comparative level, in 1997 South Carolina ranked 23rd in the nation in coal consumption, 35th in natural gas consumption, 24th in petroleum consumption, and 18th in electricity consumption.

Table 1.1

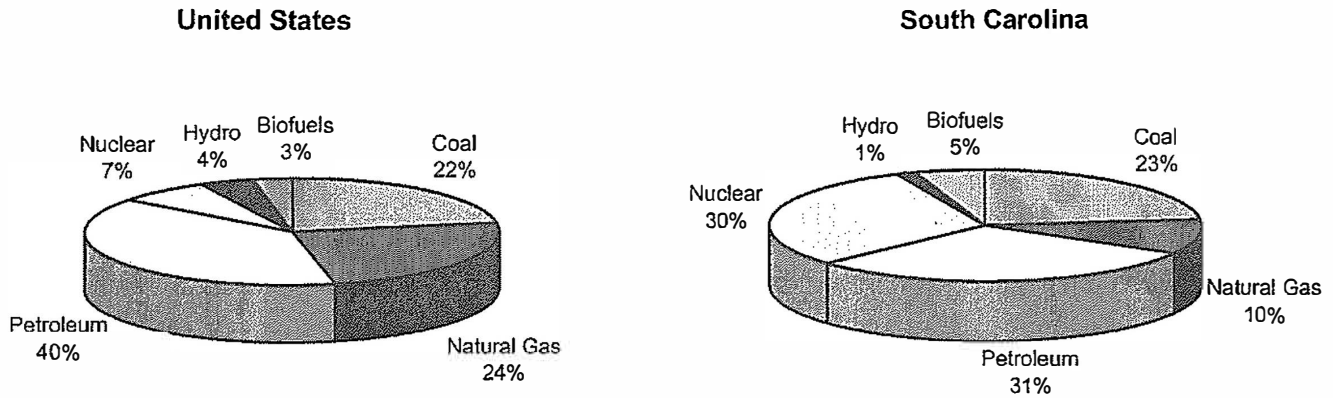
South Carolina Annual Consumption by Fuel Source															
1970-1997															
(Trillion Btu and Percent of Total)															
Year	Coal		Natural Gas		Petroleum		Nuclear		Hydro		Biofuels		Net Total	Total Resource ¹	
1970	140.1	19.8%	164.3	23.2%	302.2	42.8%	0.1	0.0%	24.1	3.4%	0.0	0.0%	630.8	706.8	
1971	152.0	20.5%	160.6	21.7%	315.8	42.6%	26.2	3.5%	36.5	4.9%	0.0	0.0%	691.1	740.8	
1972	174.9	21.9%	148.2	18.6%	335.2	42.1%	52.1	6.5%	34.7	4.4%	0.0	0.0%	745.1	797.0	
1973	167.9	19.8%	157.1	18.5%	365.3	43.1%	67.2	7.9%	40.6	4.8%	0.0	0.0%	798.1	848.5	
1974	155.3	18.9%	135.3	16.5%	357.4	43.6%	123.4	15.0%	36.1	4.4%	0.0	0.0%	807.5	820.5	
1975	140.2	17.4%	125.9	15.7%	340.5	42.4%	214.3	26.7%	45.9	5.7%	0.0	0.0%	866.8	803.5	
1976	171.0	18.5%	152.4	16.5%	393.8	42.5%	197.2	21.3%	35.4	3.8%	0.0	0.0%	949.8	925.5	
1977	189.6	19.7%	141.6	14.7%	427.6	44.4%	185.6	19.3%	31.8	3.3%	0.0	0.0%	976.2	963.1	
1978	192.3	20.1%	121.3	12.7%	427.0	44.6%	212.9	22.2%	33.2	3.5%	0.0	0.0%	986.7	957.2	
1979	206.8	21.8%	121.5	12.8%	405.3	42.6%	198.2	20.9%	41.0	4.3%	0.0	0.0%	972.8	950.5	
1980	245.8	25.2%	146.9	15.0%	365.8	37.5%	189.8	19.4%	31.4	3.2%	0.0	0.0%	979.7	976.4	
1981	266.5	27.0%	145.2	14.7%	349.3	35.4%	191.1	19.4%	13.1	1.3%	0.0	0.0%	965.2	985.7	
1982	271.5	28.7%	101.0	10.7%	322.0	34.0%	145.7	15.4%	25.4	2.7%	0.0	0.0%	865.6	946.6	
1983	233.9	23.9%	104.4	10.6%	334.6	34.1%	279.0	28.5%	32.6	3.3%	0.0	0.0%	984.5	980.3	
1984	244.0	23.6%	111.2	10.7%	353.4	34.1%	251.9	24.3%	33.2	3.2%	0.0	0.0%	993.7	1,035.0	
1985	262.7	24.4%	100.2	9.3%	354.4	32.9%	344.1	31.9%	19.2	1.8%	31.2	2.9%	1111.8	1,078.0	
1986	263.9	22.7%	101.5	8.7%	364.0	31.3%	384.7	33.1%	13.2	1.1%	75.7	6.5%	1203.0	1,163.3	
1987	295.3	24.6%	108.6	9.0%	373.4	31.1%	423.4	35.2%	23.0	1.9%	73.3	6.1%	1297.0	1,201.9	
1988	301.8	24.1%	115.3	9.2%	381.9	30.4%	437.7	34.9%	7.0	0.6%	76.3	6.1%	1320.0	1,254.5	
1989	301.5	24.1%	119.9	9.6%	397.5	31.8%	437.3	35.0%	21.4	1.7%	79.3	6.3%	1356.9	1,249.4	
1990	289.3	22.9%	134.1	10.6%	404.1	32.0%	458.0	36.3%	28.6	2.3%	67.6	5.4%	1381.7	1,263.2	
1991	290.9	22.5%	137.4	10.6%	420.4	32.5%	463.0	35.8%	26.5	2.0%	70.5	5.5%	1408.7	1,293.0	
1992	288.3	22.0%	141.8	10.8%	413.8	31.5%	486.2	37.1%	28.7	2.2%	76.0	5.8%	1434.8	1,311.7	
1993	329.5	24.1%	145.6	10.7%	428.6	31.4%	493.4	36.1%	28.0	2.1%	76.8	5.6%	1501.9	1,365.3	
1994	330.7	24.3%	149.0	10.9%	428.3	31.4%	474.7	34.9%	24.8	1.8%	77.2	5.7%	1484.7	1,362.1	
1995	314.5	22.4%	156.0	11.1%	435.5	31.0%	524.1	37.3%	28.9	2.1%	81.2	5.8%	1540.2	1,405.3	
1996	352.5	24.6%	154.1	10.7%	445.1	31.0%	462.9	32.3%	23.6	1.6%	82.4	5.7%	1520.6	1,435.1	
1997	361.6	23.0%	158.7	10.1%	469.0	29.9%	477.1	30.4%	21.7	1.4%	81.3	5.2%	1569.4	1,474.2	

¹Includes energy resources (and losses) accountable to electricity generation, transmission, and distribution.

Source: Energy Information Administration, *State Energy Data Report*.

Figure 1.1

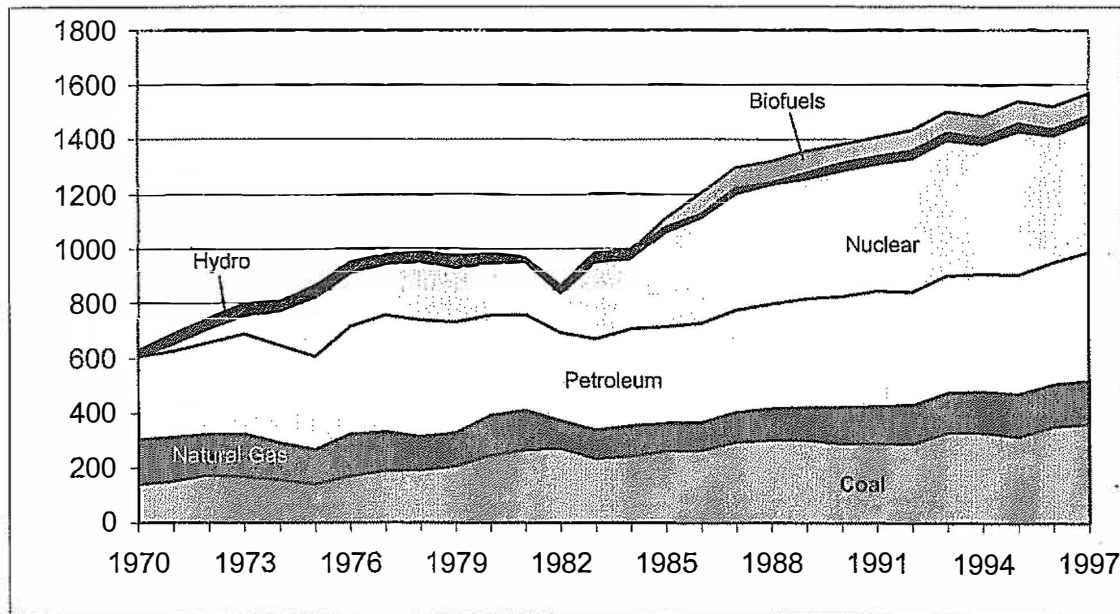
1997 Comparison of U.S. and South Carolina Energy Consumption by Fuel Source



Source: Energy Information Administration, *State Energy Data Report*.

Figure 1.2

South Carolina Energy Consumption by Fuel Source, 1970-1997



Source: Energy Information Administration, *State Energy Data Report*.

Energy Consumption by Economic Sector

From 1970 to 1997, energy consumption in the South Carolina residential sector increased by 96.8% as compared with 34.2% for the U.S.; commercial sector energy use increased by 158.4% while the U.S. saw a 78.8% increase; industrial sector consumption increased by 125.1% as compared with a 20.9% increase in the U.S.; and the transportation sector saw an increase of 73.8% as compared with 55.0% for the nation. In 1997, the South Carolina industrial sector accounted for 44.9% of energy consumption, followed by the transportation sector with 23.4%, the residential sector with 18.6%, and the commercial sector with 13.1%. This closely conforms to the national trend in end-use sector consumption.

Table 1.2

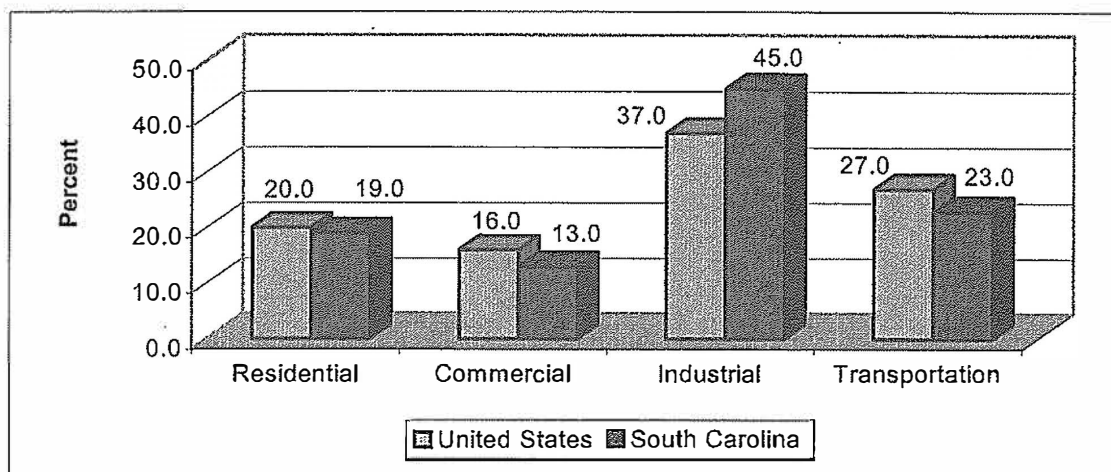
South Carolina Annual Consumption by Economic Sector, 1970-1997									
(Trillion Btu and Percent of Total)									
Year	Residential		Commercial		Industrial		Transportation		TOTAL ¹
1970	139.4	19.7%	74.7	10.6%	294.0	41.6%	198.6	28.1%	706.7
1971	147.2	19.9%	79.3	10.7%	306.5	41.4%	207.8	28.1%	740.8
1972	151.1	19.0%	84.6	10.6%	344.0	43.2%	217.3	27.3%	797.0
1973	162.8	19.2%	94.8	11.2%	356.6	42.0%	234.3	27.6%	848.5
1974	156.0	19.0%	93.2	11.4%	341.4	41.6%	229.9	28.0%	820.5
1975	156.4	19.5%	110.6	13.8%	307.1	38.2%	229.4	28.6%	803.5
1976	181.8	19.6%	135.0	14.6%	363.5	39.3%	245.1	26.5%	925.4
1977	191.1	19.8%	138.2	14.3%	380.7	39.5%	253.2	26.3%	963.2
1978	190.0	19.8%	134.7	14.1%	366.7	38.3%	265.9	27.8%	957.3
1979	173.7	18.3%	123.5	13.0%	389.4	41.0%	263.8	27.8%	950.4
1980	190.0	19.5%	134.1	13.7%	404.1	41.4%	248.1	25.4%	976.3
1981	188.3	19.1%	124.2	12.6%	427.0	43.3%	246.2	25.0%	985.7
1982	190.0	20.1%	129.0	13.6%	381.4	40.3%	246.2	26.0%	946.6
1983	192.6	19.7%	135.5	13.9%	396.7	40.6%	252.0	25.8%	976.8
1984	200.9	19.4%	131.2	12.7%	437.3	42.3%	265.6	25.7%	1035.0
1985	218.2	20.2%	136.6	12.7%	458.2	42.5%	265.0	24.6%	1078.0
1986	232.6	20.0%	145.2	12.5%	510.2	43.9%	275.3	23.7%	1163.3
1987	243.8	20.3%	151.3	12.6%	536.4	44.6%	270.5	22.5%	1202.0
1988	245.4	19.6%	157.3	12.5%	554.1	44.2%	297.7	23.7%	1254.5
1989	247.9	19.8%	159.7	12.8%	551.5	44.1%	290.3	23.2%	1249.4
1990	240.5	19.0%	160.1	12.7%	552.5	43.7%	310.1	24.5%	1263.2
1991	248.5	19.2%	162.7	12.6%	565.9	43.8%	315.9	24.4%	1293.0
1992	248.9	19.0%	164.6	12.5%	590.1	45.0%	308.2	23.5%	1311.8
1993	271.5	19.9%	175.2	12.8%	603.6	44.2%	315.0	23.1%	1365.3
1994	257.7	18.9%	175.6	12.9%	606.2	44.5%	322.7	23.7%	1362.2
1995	275.6	19.6%	184.3	13.1%	621.6	44.2%	323.7	23.0%	1405.2
1996	291.6	20.3%	191.3	13.3%	622.0	43.3%	330.2	23.0%	1435.1
1997	274.4	18.6%	193.0	13.1%	661.8	44.9%	345.1	23.4%	1474.3

¹Includes energy resources (and losses) accountable to electricity generation, transmission, and distribution.

Source: Energy Information Administration, *State Energy Data Report*.

Figure 1.3

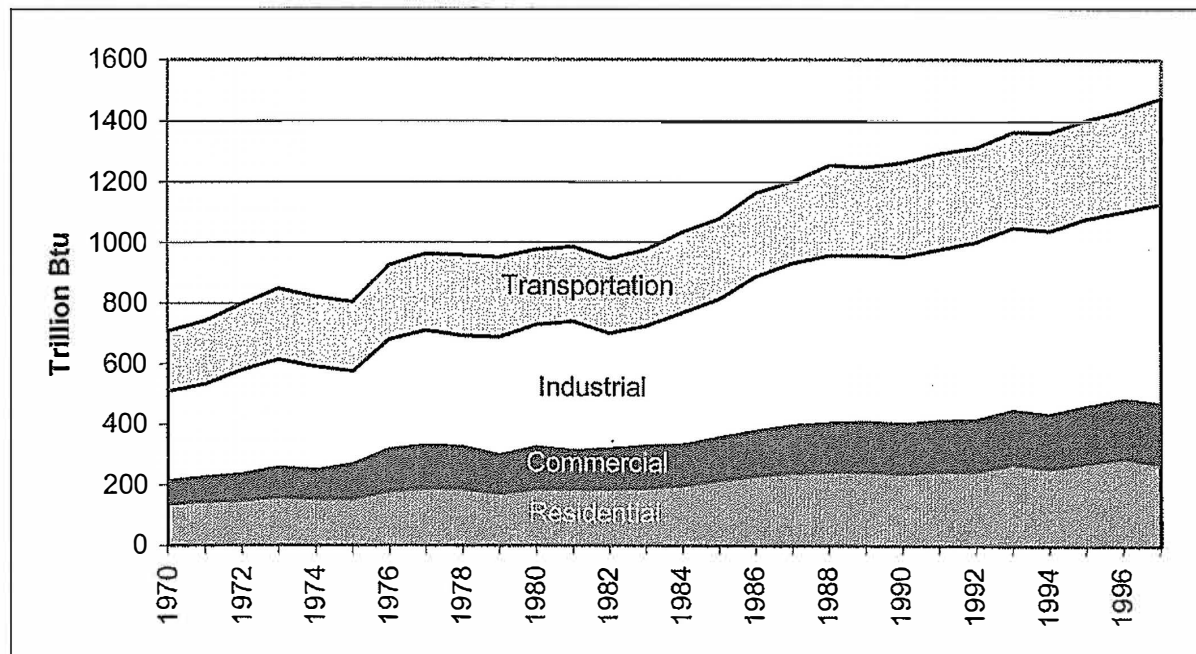
1997 U.S. and South Carolina Energy Consumption Estimates by Economic Sector



Source: Energy Information Administration, *State Energy Data Report*.

Figure 1.4

South Carolina Energy Consumption Estimates by Economic Sector, 1970-1997



Source: Energy Information Administration, *State Energy Data Report*.

Residential Energy Consumption

South Carolina residential end-use energy consumption increased by 96.8% from 1970-1997, while the United States saw an increase of 42.2% during the same period. Electricity accounts for the majority of residential energy consumption in South Carolina (61%), but accounts for only 34% on the national level. Residential natural gas use in South Carolina has declined slightly since its peak years of the mid-1970's, accounting for 22% of energy consumption. On the other hand, natural gas consumption accounts for 48% of residential energy consumption in the United States. Petroleum and biofuels comprise 17% of residential energy consumption in both South Carolina and the United States. South Carolina ranked 24th in the nation in total energy consumption in the residential sector. It should be noted that propane is included in natural gas usage.

Table 1.3

South Carolina Residential Energy Use Estimates by Fuel Source												
1970-1997												
(Trillions of Btu and Percent of Total)												
Year	Coal		Natural Gas		Petroleum		Biofuels		Electricity		Total End Use	Total ¹
1970	2.0	2.5%	19.5	24.8%	32.1	40.8%	0.0	0.0%	25.1	31.9%	78.7	139.4
1971	1.9	2.3%	20.2	24.5%	33.7	40.8%	0.0	0.0%	26.8	32.4%	82.6	147.2
1972	1.7	2.0%	21.2	25.4%	32.6	39.0%	0.0	0.0%	28.1	33.6%	83.6	151.1
1973	2.0	2.3%	23.3	26.8%	29.8	34.3%	0.0	0.0%	31.7	36.5%	86.8	162.8
1974	2.0	2.6%	20.9	26.7%	23.4	29.9%	0.0	0.0%	31.9	40.8%	78.2	156.0
1975	2.0	2.7%	18.6	24.7%	21.2	28.1%	0.0	0.0%	33.6	44.6%	75.4	156.4
1976	1.2	1.2%	34.0	35.2%	26.1	27.0%	0.0	0.0%	35.3	36.5%	96.6	181.8
1977	1.0	1.0%	32.6	33.3%	25.7	26.3%	0.0	0.0%	38.6	39.4%	97.9	191.1
1978	0.4	0.4%	29.1	31.5%	22.8	24.7%	0.0	0.0%	40.0	43.3%	92.3	190.0
1979	0.4	0.5%	17.9	22.5%	22.4	28.1%	0.0	0.0%	39.0	48.9%	79.7	173.7
1980	1.7	2.0%	19.5	22.8%	21.6	25.2%	0.0	0.0%	42.9	50.1%	85.7	190.0
1981	0.9	1.1%	19.4	23.7%	17.1	20.9%	0.0	0.0%	44.6	54.4%	82.0	188.3
1982	1.0	1.3%	18.1	22.8%	14.3	18.0%	0.0	0.0%	46.0	57.9%	79.4	190.0
1983	1.5	1.8%	19.2	23.1%	15.3	18.4%	0.0	0.0%	47.1	56.7%	83.1	196.2
1984	1.0	1.2%	19.7	23.1%	14.8	17.4%	0.0	0.0%	49.7	58.3%	85.2	200.9
1985	0.6	0.6%	16.9	16.8%	20.3	20.2%	12.9	12.8%	50.0	49.7%	100.7	218.2
1986	1.9	1.8%	18.0	17.0%	18.6	17.5%	12.6	11.9%	55.0	51.8%	106.1	232.6
1987	1.1	1.0%	20.8	18.6%	21.9	19.6%	10.5	9.4%	57.7	51.5%	112.0	243.8
1988	1.1	1.0%	21.3	18.9%	21.0	18.6%	10.9	9.7%	58.6	51.9%	112.9	245.4
1989	0.2	0.2%	21.0	18.4%	21.9	19.2%	11.3	9.9%	59.6	52.3%	114.0	247.9
1990	0.1	0.1%	18.9	18.1%	15.1	14.5%	7.8	7.5%	62.3	59.8%	104.2	240.5
1991	0.2	0.2%	20.1	18.4%	17.1	15.6%	8.2	7.5%	63.8	58.3%	109.4	248.5
1992	0.3	0.3%	23.0	20.8%	14.2	12.8%	8.6	7.8%	64.6	58.4%	110.7	248.9
1993	1.0	0.8%	25.1	20.5%	16.2	13.2%	9.4	7.7%	70.6	57.7%	122.3	271.5
1994	0.6	0.5%	24.2	20.9%	13.9	12.0%	9.2	7.9%	67.9	58.6%	115.8	257.7
1995	0.2	0.2%	25.8	20.9%	14.2	11.5%	10.2	8.3%	73.0	59.2%	123.4	275.6
1996	0.2	0.2%	30.3	23.0%	14.1	10.7%	10.2	7.8%	76.8	58.4%	131.6	291.6
1997	*	N/A	26.5	21.9%	13.4	11.1%	7.4	6.1%	73.7	60.9%	121.0	274.4

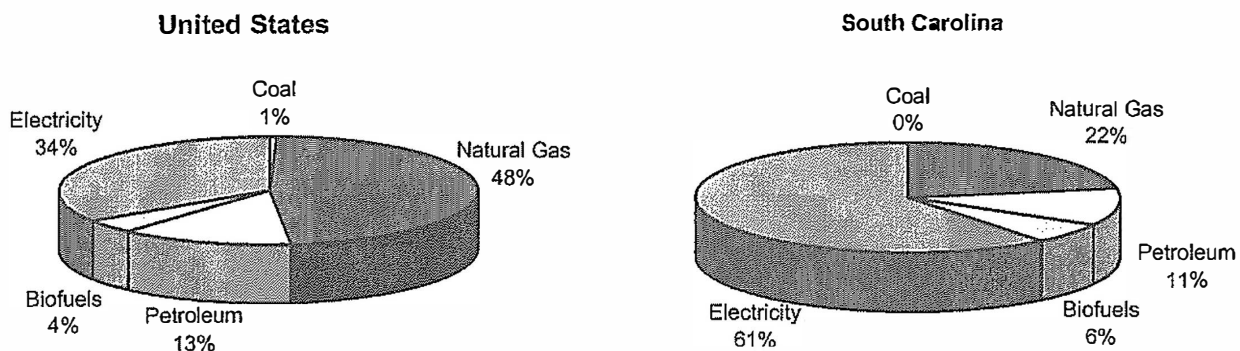
¹Includes energy resources (and losses) accountable to electricity generation, transmission, and distribution.

*Btu value less than 0.05 and physical unit value less than 0.5.

Source: Energy Information Administration, *State Energy Data Report*.

Figure 1.5

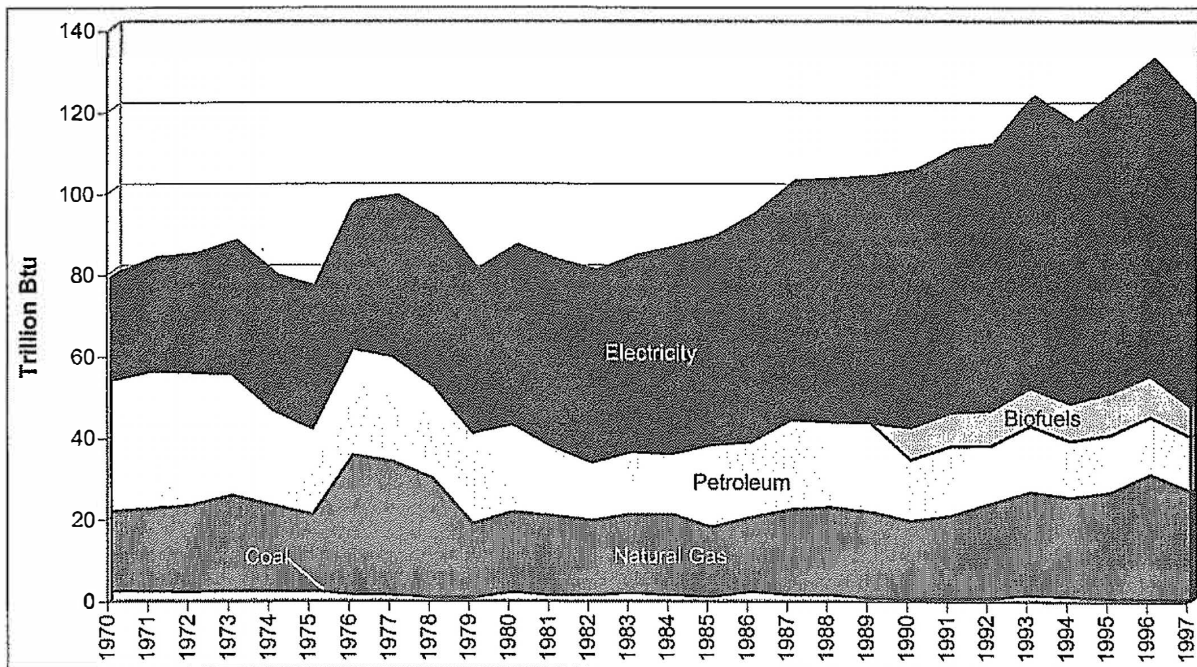
1997 Comparison of U.S. and South Carolina Residential Energy Consumption



Source: Energy Information Administration, *State Energy Data Report*.

Figure 1.6

South Carolina Residential Energy Consumption, 1970-1997



Source: Energy Information Administration, *State Energy Data Report*.

South Carolina Commercial Sector Energy Consumption

South Carolina energy consumption in the commercial sector increased 157.7% from 1970-1996. In 1997, electricity accounted for 65% of end-use energy consumption in the South Carolina commercial sector, as compared with 46% in the United States. Natural gas makes up 25% of the commercial energy consumption in South Carolina, while the United States is much higher with 43%. Petroleum accounts for about 10% of commercial energy consumption in both South Carolina and the United States. Biofuel accounts for 1% of commercial sector consumption in both South Carolina and the nation. South Carolina ranks 28th in the nation in energy consumption in the commercial sector.

Table 1.4

South Carolina Commercial Energy Use Estimates by Fuel Source, 1970-1997 (Trillion Btu and Percent of Total)

Year	Coal		Natural Gas		Petroleum		Biofuel (Wood)		Electricity		Total End Use	Total ¹
1970	3.8	9.5%	14.2	35.6%	7.2	18.0%	0.2	0.5%	14.5	36.3%	39.9	74.9
1971	3.5	8.4%	14.8	35.7%	7.6	18.3%	N/A	0.0%	15.6	37.6%	41.5	79.3
1972	3.1	7.2%	14.5	33.6%	8.3	19.3%	N/A	0.0%	17.2	39.9%	43.1	84.6
1973	3.7	7.7%	16.5	34.4%	8.1	16.9%	N/A	0.0%	19.6	40.9%	47.9	94.8
1974	3.7	8.1%	15.2	33.4%	7.0	15.4%	N/A	0.0%	19.6	43.1%	45.5	93.2
1975	3.7	7.1%	17.6	33.7%	6.4	12.3%	0.2	0.4%	24.3	46.6%	52.2	110.8
1976	2.3	3.2%	35.9	49.2%	9.0	12.3%	N/A	0.0%	25.8	35.3%	73.0	135.0
1977	1.8	2.5%	32.8	45.8%	9.4	13.1%	N/A	0.0%	27.6	38.5%	71.6	138.2
1978	0.7	1.1%	25.5	40.0%	8.5	13.3%	N/A	0.0%	29.0	45.5%	63.7	134.7
1979	0.8	1.4%	18.2	32.9%	8.1	14.6%	N/A	0.0%	28.2	51.0%	55.3	123.5
1980	3.1	5.0%	23.6	38.1%	5.4	8.7%	0.2	0.3%	29.7	47.9%	62.0	134.3
1981	1.6	2.9%	19.9	35.6%	5.7	10.2%	N/A	0.0%	28.7	51.3%	55.9	124.2
1982	1.9	3.5%	16.0	29.7%	4.8	8.9%	N/A	0.0%	31.2	57.9%	53.9	129.0
1983	2.8	4.7%	17.0	28.6%	8.0	13.4%	N/A	0.0%	31.7	53.3%	59.5	135.5
1984	1.8	3.1%	17.1	29.4%	7.8	13.4%	N/A	0.0%	31.4	54.0%	58.1	131.2
1985	1.1	1.9%	15.7	26.9%	8.1	13.9%	N/A	0.0%	33.4	57.3%	58.3	136.6
1986	3.6	5.7%	16.4	26.2%	6.9	11.0%	N/A	0.0%	35.8	57.1%	62.7	145.2
1987	2.0	3.1%	17.7	27.1%	8.1	12.4%	N/A	0.0%	37.6	57.5%	65.4	151.3
1988	2.1	3.1%	17.9	26.2%	9.1	13.3%	N/A	0.0%	39.3	57.5%	68.4	157.3
1989	0.3	0.4%	17.0	25.3%	8.5	12.7%	N/A	0.0%	41.3	61.5%	67.1	159.7
1990	0.1	0.2%	15.8	24.2%	6.1	9.3%	N/A	0.0%	43.3	66.3%	65.3	160.1
1991	0.4	0.6%	16.2	24.5%	5.1	7.7%	N/A	0.0%	44.4	67.2%	66.1	162.7
1992	0.5	0.7%	17.1	24.9%	6.2	9.0%	N/A	0.0%	44.9	65.4%	68.7	164.6
1993	1.7	2.3%	17.5	23.5%	6.8	9.1%	0.8	1.1%	47.7	64.0%	74.5	175.2
1994	0.9	1.2%	18.4	24.7%	5.9	7.9%	0.8	1.1%	48.4	65.1%	74.4	175.6
1995	0.3	0.4%	19.4	24.6%	7.6	9.6%	0.8	1.0%	50.7	64.3%	78.8	184.3
1996	0.3	0.4%	20.9	25.5%	7.4	9.0%	0.8	1.0%	52.5	64.1%	81.9	191.3
1997	*	N/A	20.2	24.6%	7.8	9.5%	0.7	0.9%	53.4	65.0%	82.1	193.0

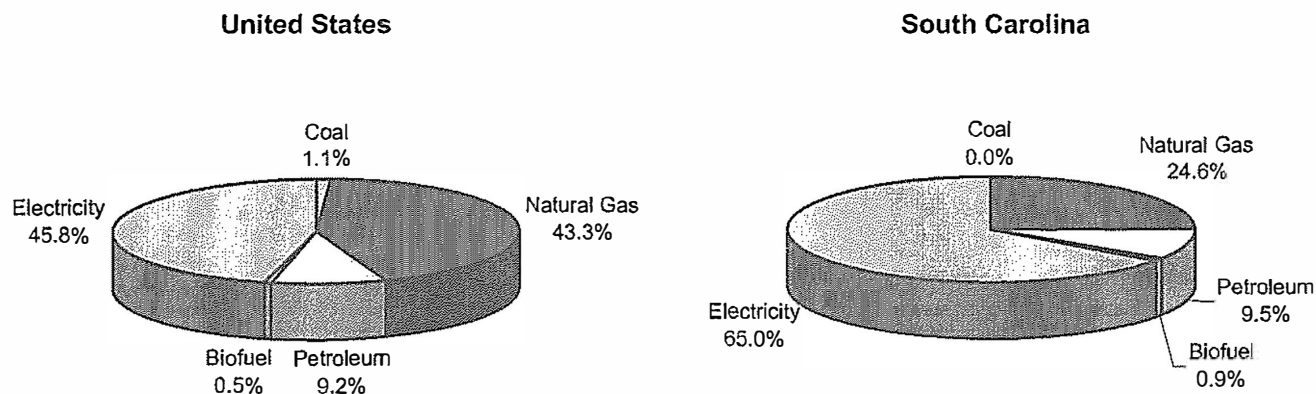
¹Includes energy resources (and losses) accountable to electricity generation, transmission, and distribution.

*Btu value less than 0.05 and physical unit value less than 0.5.

Source: Energy Information Administration, *State Energy Data Report*.

Figure 1.7

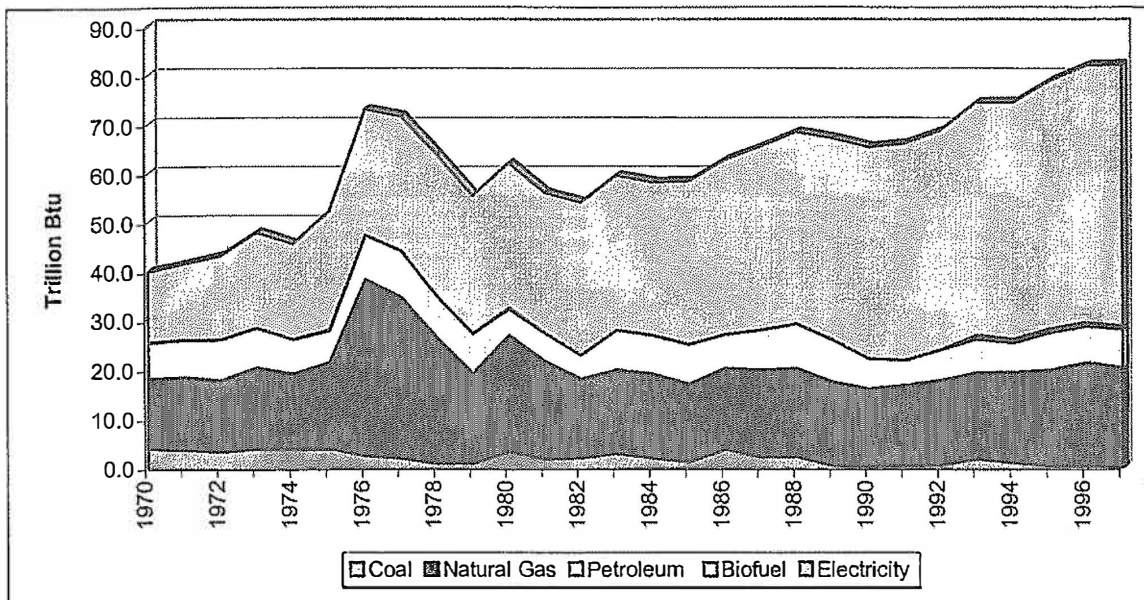
1997 Comparison of U.S. and South Carolina Commercial Sector Energy Consumption



Source: Energy Information Administration, *State Energy Data Report*.

Figure 1.8

South Carolina Commercial Sector Energy Consumption, 1970-1997



Source: Energy Information Administration, *State Energy Data Report*.

South Carolina Industrial Sector Energy Consumption

South Carolina experienced an increase of 125.1% in industrial energy consumption between 1970-1997, as compared with 20.9% in the United States. As a result, South Carolina ranks 18th in the nation in industrial energy consumption as indicated by the latest available data. Unlike the residential and commercial sectors, which rely primarily on electricity, energy consumption in South Carolina's industrial sector is quite diversified. Electricity, natural gas and petroleum each accounted for over 20 percent of industrial sector energy consumption during 1997. Interestingly enough, since 1990, renewable energy sources have comprised more of the industrial energy consumption in South Carolina than coal, which appears to be waning in the state.

Table 1.5

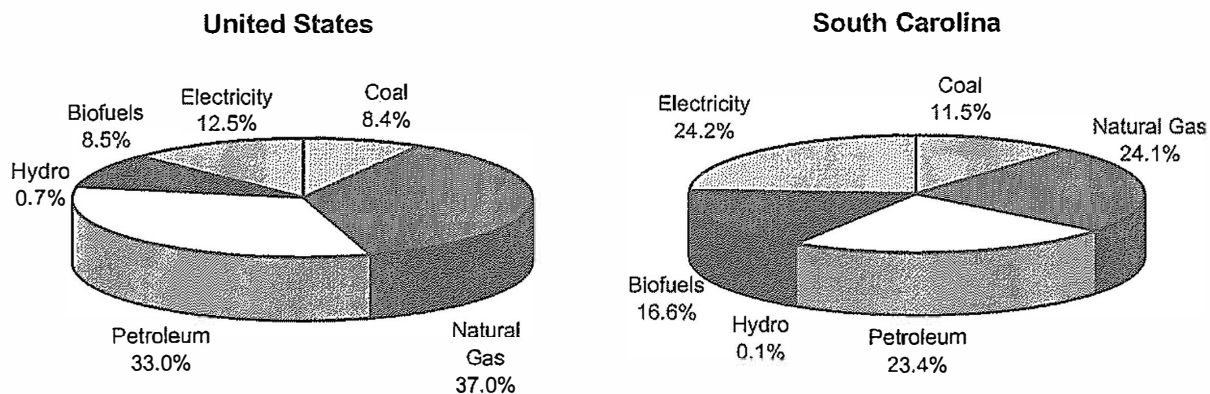
South Carolina Industrial Energy Use Estimates by Type of Fuel															
1970-1997															
(Trillions of Btu and Percent of Total)															
Year	Coal		Natural Gas		Petroleum		Hydro		Biofuels		Electricity		Total End Use	Total Resource ¹	
1970	44.2	21.0%	80.9	38.4%	50.5	24.0%	0.4	0.2%	0.0	0.0%	34.5	16.4%	210.5	294.0	
1971	36.2	16.8%	81.5	37.7%	60.5	28.0%	0.5	0.2%	0.0	0.0%	37.4	17.3%	216.1	306.5	
1972	31.0	13.5%	84.1	36.7%	66.1	28.8%	0.5	0.2%	0.0	0.0%	47.6	20.8%	229.3	344.0	
1973	28.1	11.9%	87.9	37.3%	68.2	29.0%	0.5	0.2%	0.0	0.0%	50.7	21.5%	235.4	356.6	
1974	31.8	14.4%	74.9	33.9%	64.1	29.0%	0.4	0.2%	0.0	0.0%	49.5	22.4%	220.7	341.4	
1975	28.2	14.0%	72.0	35.6%	57.8	28.6%	0.5	0.2%	0.0	0.0%	43.6	21.6%	202.1	307.1	
1976	32.3	13.2%	75.2	30.6%	88.4	36.0%	0.5	0.2%	0.0	0.0%	49.0	20.0%	245.4	363.5	
1977	32.7	12.7%	70.4	27.4%	101.6	39.6%	0.5	0.2%	0.0	0.0%	51.4	20.0%	256.6	380.7	
1978	34.3	14.4%	57.3	24.1%	93.3	39.2%	0.5	0.2%	0.0	0.0%	52.6	22.1%	238.0	366.7	
1979	36.2	14.0%	76.8	29.8%	89.7	34.8%	0.5	0.2%	0.0	0.0%	54.5	21.1%	257.7	389.4	
1980	44.0	16.2%	95.1	35.0%	77.4	28.5%	0.5	0.2%	0.0	0.0%	54.5	20.1%	271.5	404.1	
1981	50.4	18.0%	97.5	34.8%	70.6	25.2%	0.5	0.2%	0.0	0.0%	61.5	21.9%	280.5	427.0	
1982	56.1	23.7%	63.4	26.8%	56.8	24.0%	0.5	0.2%	0.0	0.0%	60.1	25.4%	236.9	381.4	
1983	54.4	22.3%	64.5	26.4%	61.1	25.0%	0.5	0.2%	0.0	0.0%	63.7	26.1%	244.2	396.7	
1984	55.1	20.6%	71.3	26.7%	67.1	25.1%	0.5	0.2%	0.0	0.0%	73.1	27.4%	267.1	437.3	
1985	62.8	22.2%	64.8	22.9%	62.3	22.0%	0.5	0.2%	18.3	6.5%	74.5	26.3%	283.2	439.9	
1986	61.5	18.6%	63.3	19.1%	65.0	19.6%	0.5	0.2%	63.1	19.1%	77.8	23.5%	331.2	447.1	
1987	64.2	18.4%	67.2	19.3%	72.3	20.7%	0.5	0.1%	62.8	18.0%	82.0	23.5%	349.0	473.5	
1988	65.2	17.7%	71.0	19.3%	83.8	22.8%	0.5	0.1%	65.4	17.8%	82.3	22.4%	368.2	488.7	
1989	62.0	17.0%	76.5	20.9%	75.5	20.7%	0.4	0.1%	68.0	18.6%	82.9	22.7%	365.3	483.6	
1990	58.0	15.8%	89.3	24.3%	76.3	20.7%	0.4	0.1%	59.8	16.2%	84.3	22.9%	368.1	552.9	
1991	55.8	14.8%	88.1	23.3%	84.4	22.4%	0.4	0.1%	62.3	16.5%	86.5	22.9%	377.5	563.3	
1992	54.8	13.8%	96.9	24.3%	88.9	22.3%	0.7	0.2%	67.4	16.9%	89.8	22.5%	398.5	586.7	
1993	60.3	14.7%	98.3	24.0%	92.4	22.5%	0.6	0.1%	66.7	16.3%	91.7	22.4%	410.0	600.1	
1994	58.5	14.3%	100.5	24.6%	86.8	21.3%	0.7	0.2%	67.2	16.5%	94.7	23.2%	408.4	600.8	
1995	55.1	13.2%	101.0	24.2%	91.5	22.0%	0.7	0.2%	70.2	16.8%	98.3	23.6%	416.8	612.4	
1996	50.1	12.1%	98.4	23.7%	94.8	22.9%	0.6	0.1%	71.3	17.2%	99.6	24.0%	414.8	614.1	
1997	50.5	11.5%	106.1	24.1%	103.0	23.4%	0.6	0.1%	73.2	16.6%	106.7	24.2%	440.1	661.8	

¹Includes energy resources (and losses) accountable to electricity generation, transmission, and distribution.

Source: Energy Information Administration, *State Energy Data Report*.

Figure 1.9

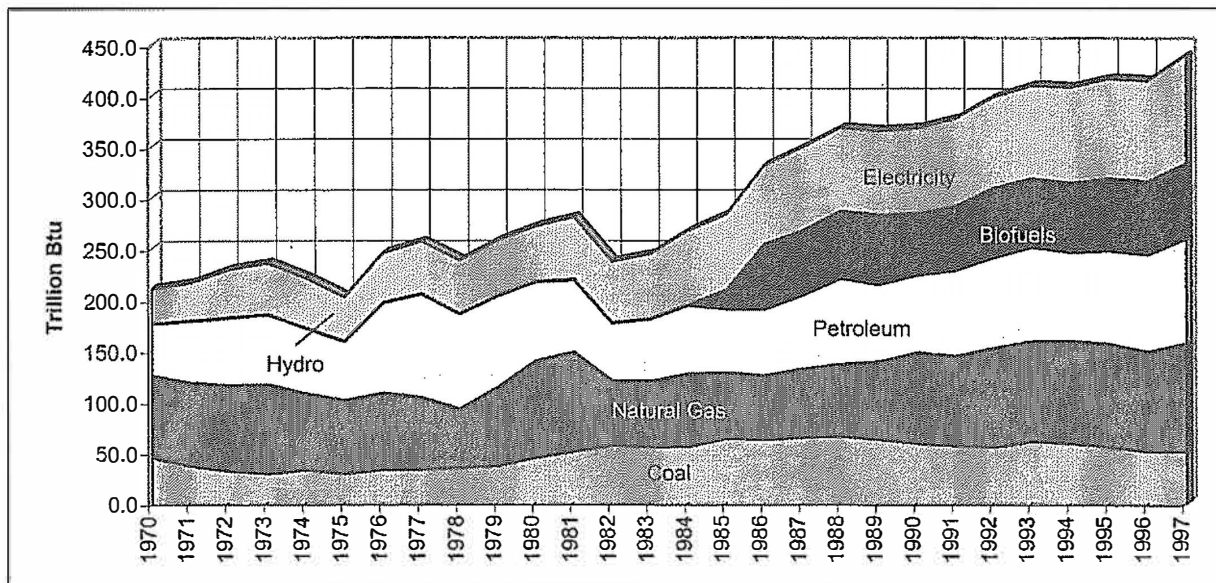
1997 Comparison of U.S. and South Carolina Industrial Energy Consumption



Source: Energy Information Administration, *State Energy Data Report*.

Figure 1.10

South Carolina Industrial Sector Energy Consumption, 1970-1997



Source: Energy Information Administration, *State Energy Data Report*.

South Carolina Energy Expenditures

Expenditures by Economic Sector

South Carolinians spent \$7.6 billion on energy in 1995. South Carolina began to see an overall increase in energy expenditures in 1980. By 1995, energy expenditures had increased by 693.2% in nominal terms since 1970, while energy consumption increased by 108.6%. The transportation sector accounts for the largest share of energy expenditures with 34% in 1995, followed by the residential and industrial sectors with 26% each, and the commercial sector with 14%. This closely reflects the trend on the national level, where the transportation sector also accounts for the largest share of energy expenditures with 36%, followed by the residential sector with 25%, the industrial sector with 21% and the commercial sector with 18%.

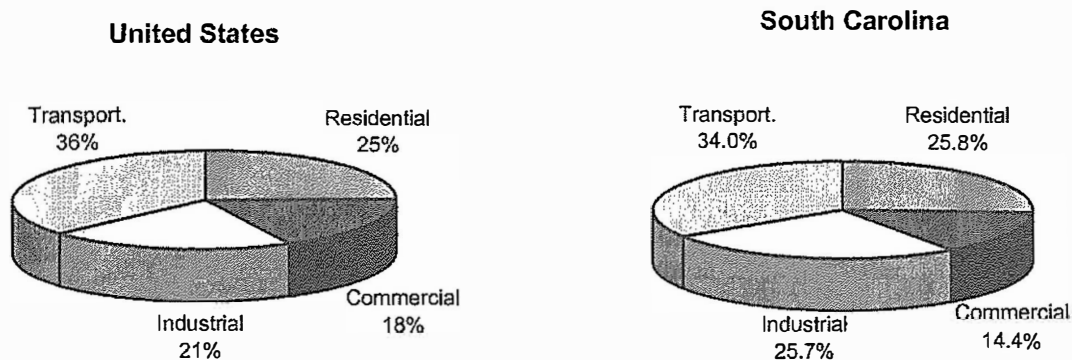
Table 1.6

South Carolina Economic Sector Energy Expenditures, 1970-1995 (Million of Nominal Dollars)					
Year	Residential	Commercial	Industrial	Transportation	Total
1970	222.0	93.5	183.5	457.0	956.2
1971	249.2	107.1	208.2	505.9	1,070.4
1972	273.9	119.4	246.3	554.1	1,193.7
1973	317.6	140.0	293.3	627.2	1,378.1
1974	379.8	180.2	446.8	876.8	1,883.5
1975	435.8	251.5	498.9	916.4	2,102.7
1976	544.3	312.9	640.0	1,035.5	2,532.8
1977	635.9	372.3	767.1	1,140.9	2,916.2
1978	652.8	391.3	791.4	1,229.3	3,064.8
1979	678.1	405.5	983.0	1,723.7	3,790.3
1980	833.8	473.4	1,176.9	2,307.1	4,791.2
1981	954.0	532.8	1,503.5	2,576.1	5,566.4
1982	1,042.7	616.4	1,381.0	2,431.1	5,471.3
1983	1,153.9	677.6	1,483.2	2,193.2	5,508.0
1984	1,218.0	695.8	1,667.5	2,235.9	5,817.2
1985	1,308.2	748.6	1,671.1	2,202.5	5,930.5
1986	1,420.6	790.5	1,542.5	1,689.2	5,442.9
1987	1,490.3	833.0	1,665.3	1,833.5	5,822.1
1988	1,533.2	856.4	1,676.4	1,786.8	5,852.8
1989	1,560.9	887.7	1,712.0	2,160.2	6,320.8
1990	1,584.0	910.7	1,792.8	2,597.7	6,885.2
1991	1,652.2	828.9	1,810.5	2,540.5	6,932.1
1992	1,640.0	941.6	1,838.1	2,399.7	6,819.4
1993	1,827.2	1,006.6	1,896.5	2,386.7	7,117.0
1994	1,820.8	1,043.0	1,898.1	2,496.2	7,258.0
1995	1,955.7	1,094.9	1,952.8	2,581.1	7,584.5

Source: Energy Information Administration, *State Energy Price and Expenditure Report*.

Figure 1.11

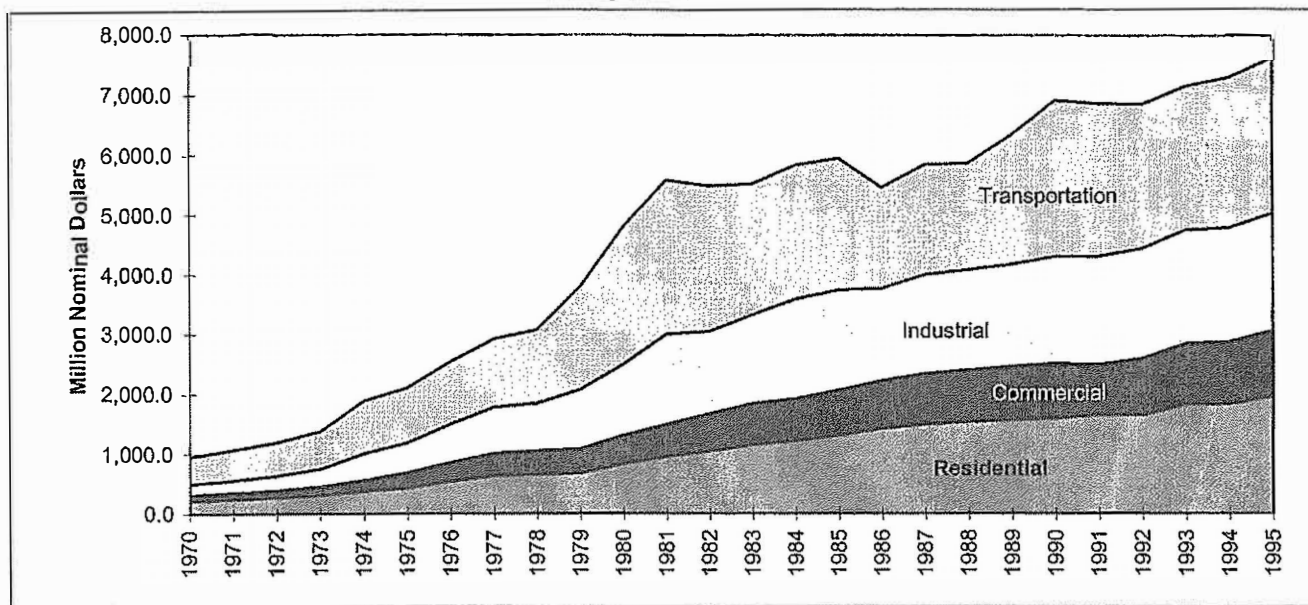
1995 Comparison of U.S. and South Carolina Energy Expenditure Estimates by Sector



Source: Energy Information Administration, *State Energy Price and Expenditure Report*.

Figure 1.12

South Carolina End-Use Energy Expenditures by Sector, 1970-1995



Source: Energy Information Administration, *State Energy Data Report* and *State Energy Price and Expenditure Report*.

Expenditures by Fuel Source

As with expenditures by economic sector, energy expenditures by fuel source increased by 693.2% from 1970-1995. In 1995, South Carolina ranked 19th in the nation for electricity expenditures, which accounted for 45% of all energy expenditures. Petroleum accounted for 38.1%, with a ranking of 26th in the nation.

Table 1.7

South Carolina Expenditure Estimates by Fuel Source, 1970-1995 (Million of Nominal Dollars)							
Year	Coal	Natural Gas	Petroleum	Nuclear	Biofuels	Electricity	Total Energy ¹
1970	65.3	91.4	569.7	*	N/A	294.7	956.2
1971	78.5	99.9	630.9	4.9	N/A	341.5	1,070.4
1972	86.8	104.3	687.5	9.3	N/A	404.6	1,193.7
1973	91.0	122.9	790.1	12.3	N/A	477.0	1,378.1
1974	209.0	126.3	1,132.8	20.4	N/A	628.7	1,883.5
1975	174.7	143.3	1,166.8	40.6	N/A	782.8	2,102.7
1976	189.9	227.1	1,401.2	40.1	N/A	900.8	2,532.8
1977	242.1	272.7	1,612.6	49.3	N/A	1,063.3	2,916.2
1978	275.1	257.6	1,684.7	67.8	N/A	1,155.9	3,064.8
1979	307.9	310.5	2,248.5	71.7	N/A	1,247.7	3,790.3
1980	392.2	441.2	2,929.4	83.4	N/A	1,412.5	4,791.2
1981	486.0	552.8	3,268.6	85.5	N/A	1,725.9	5,566.4
1982	524.5	443.1	2,930.3	70.3	N/A	1,996.1	5,471.3
1983	455.2	456.7	2,783.3	140.6	N/A	2,156.7	5,508.0
1984	476.7	509.6	2,798.7	152.5	N/A	2,337.2	5,817.2
1985	493.6	485.7	2,804.7	214.5	N/A	2,523.7	5,930.5
1986	480.7	388.8	2,150.3	233.9	N/A	2,741.1	5,442.9
1987	513.0	408.2	2,313.5	269.0	N/A	2,909.0	5,822.1
1988	526.9	419.7	2,311.2	257.5	N/A	2,955.0	5,852.8
1989	514.1	451.9	2,694.5	251.7	N/A	3,038.0	6,320.8
1990	499.0	651.9	3,126.6	242.8	34.6	3,113.3	6,885.2
1991	478.2	646.6	3,111.2	240.5	38.9	3,211.3	6,932.1
1992	451.3	548.2	2,909.5	241.2	40.9	3,230.5	6,819.4
1993	582.2	527.5	2,904.6	247.1	41.7	3,472.0	7,117.0
1994	528.1	615.6	2,995.1	250.0	41.9	3,509.2	7,258.0
1995	486.9	584.2	3,131.9	267.8	49.6	3,703.0	7,584.5

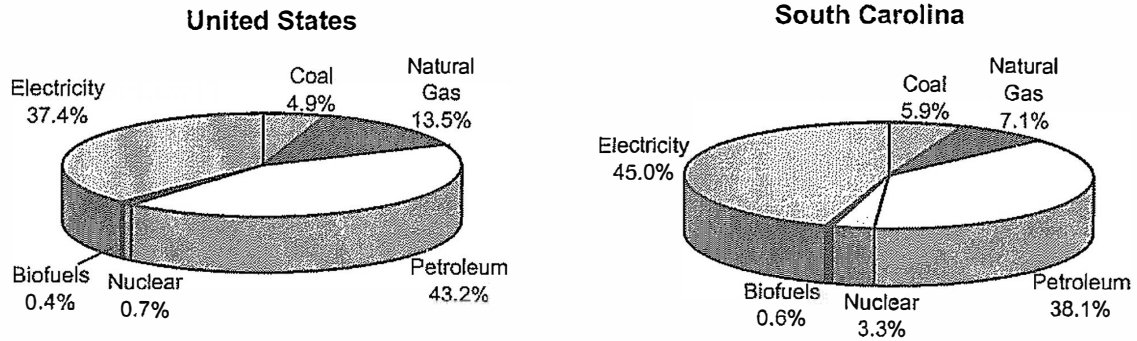
*Denotes value is less than 0.05 million nominal dollars.

¹Total energy includes electric utility fuel losses.

Source: Energy Information Administration, *State Energy Price and Expenditure Report*.

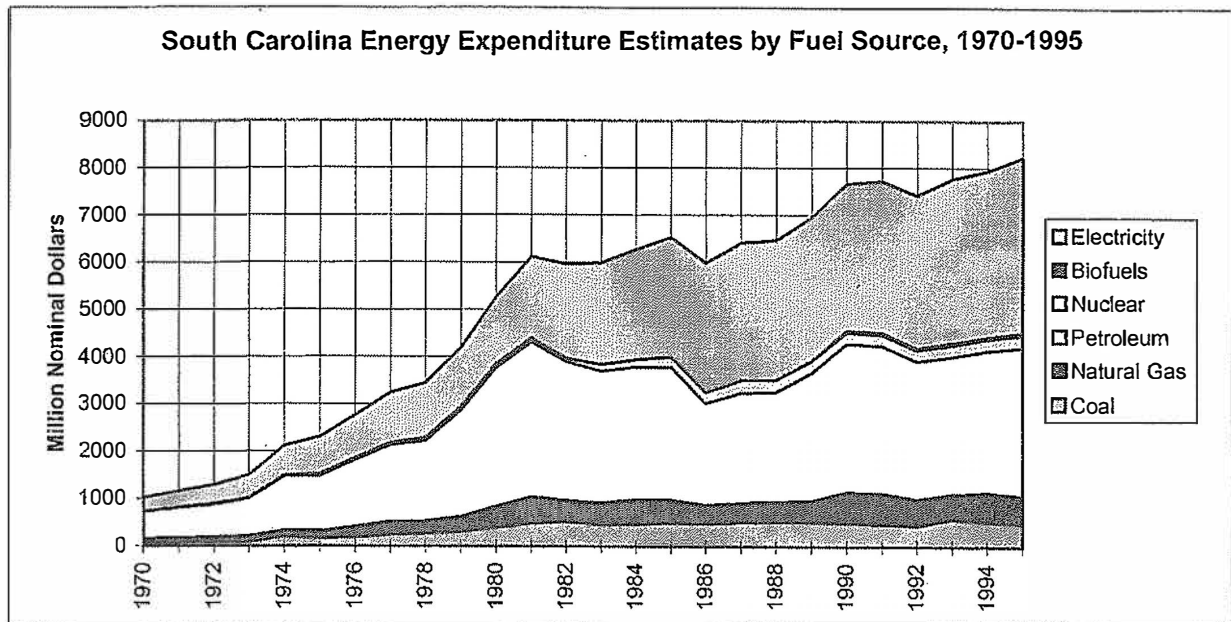
Figure 1.13

1995 Comparison of U.S. and South Carolina Energy Expenditure Estimates by Fuel Source



Source: Energy Information Administration, *State Energy Price and Expenditure Report*.

Figure 1.14

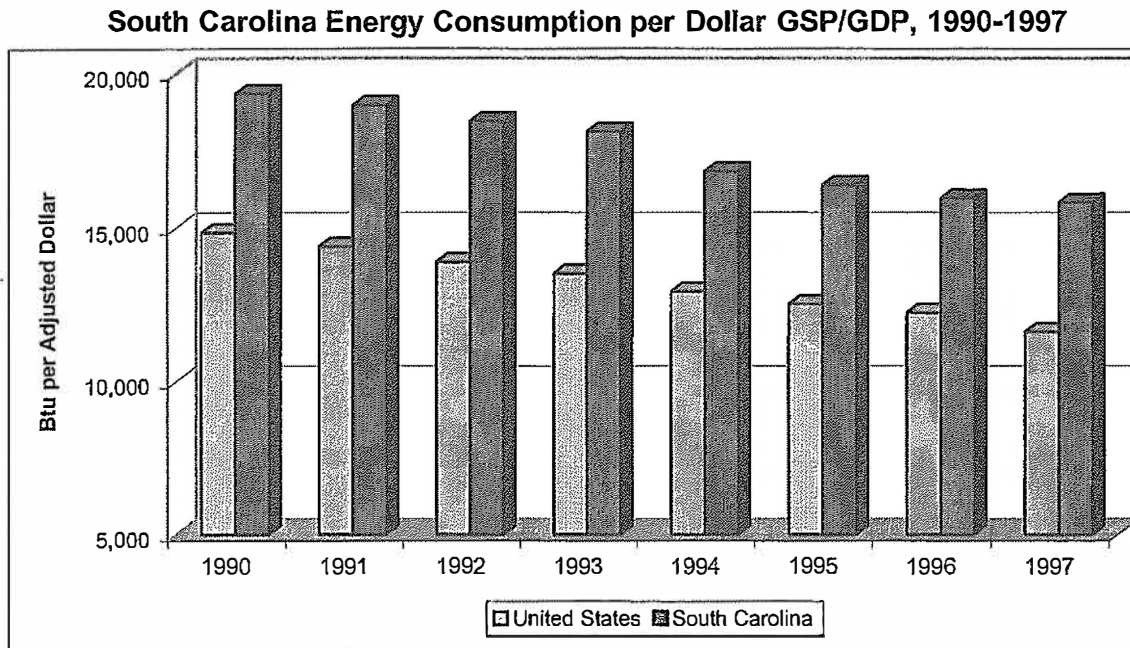


*The total expenditures in this chart do not include the losses due to electric utility fuel, thus the overall expenditure total is higher.
Source: Energy Information Administration, *State Energy Price and Expenditure Report*.

Energy Consumption per Dollar Gross State Product/Gross Domestic Product

When considering energy efficiency as measured in energy consumption per dollar of gross state product, South Carolina is making progress. Since 1990, the economy has grown slightly faster than energy consumption, resulting in a 18.2% decrease (from 19,316 to 15,808) in Btu consumed per dollar of economic output (gross state product, adjusted for inflation). Nevertheless, South Carolina's energy efficiency trails considerably behind the national average of 11,608 Btu per dollar of gross domestic product (GDP), which is 26.6% lower than South Carolina's energy efficiency index.

Figure 1.15

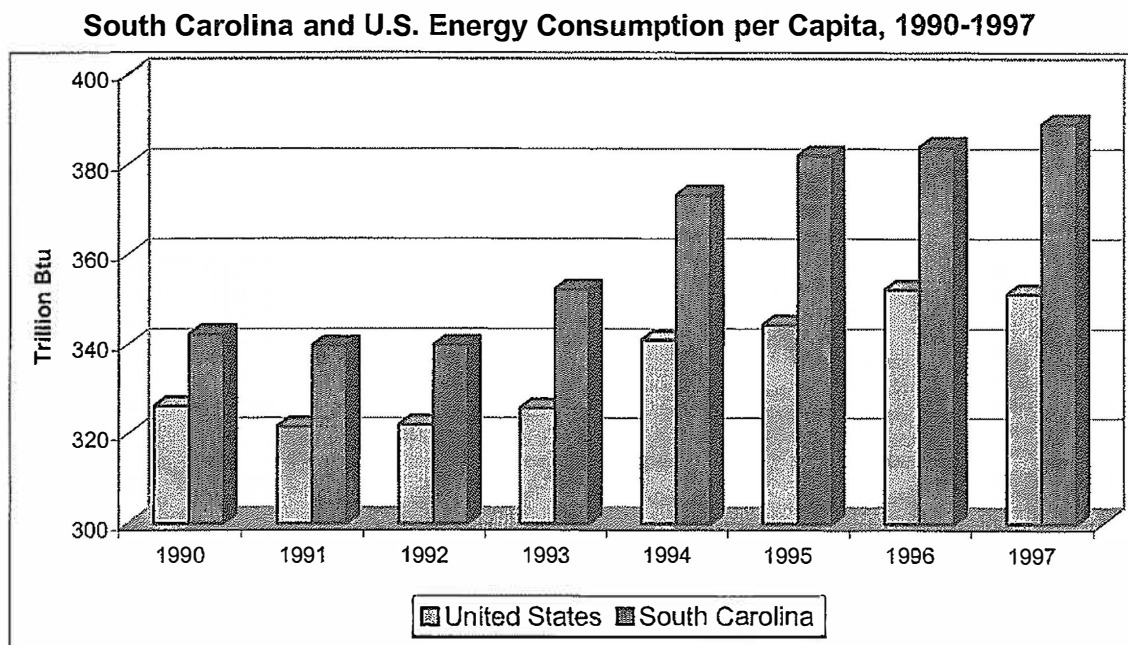


Sources: Energy Information Administration, *State Energy Data Report* and U.S. Department of Commerce, Bureau of Economic Analysis.

South Carolina Energy Consumption per Capita

Another measure of energy efficiency is per capita energy use. South Carolina ranks 18th in total energy consumption per capita, using more energy per person than 32 other states. The state's energy consumption per capita has increased much more rapidly than the United States average during the 1990's. South Carolina saw a 13.6% increase in energy consumption per capita between 1990 and 1997, while the United States per capita rate rose only 7.6%. South Carolina's total energy use increased 16.7% between 1990 and 1997, while the population grew 8.3% over the same period.

Figure 1.16



Source: Energy Information Administration, *State Energy Data Report*.

SECTION 2: ELECTRICITY

Electricity Generation in South Carolina

As South Carolina's economy has grown, so has its need for electricity. Electricity generation in South Carolina increased by 88.0% from 1978 to 1998, with power plants producing over 84 billion kilowatt hours of electricity in 1998. On a comparative level, nuclear energy accounted for 57.8% of electricity generation in South Carolina in 1998, while accounting for only 21.0% in the United States. As such, South Carolina ranks third in the nation in nuclear energy for electricity generation. Coal is the major fuel source for electricity generation in the United States, accounting for 56.4% in 1998 as compared with 38.3% in South Carolina.

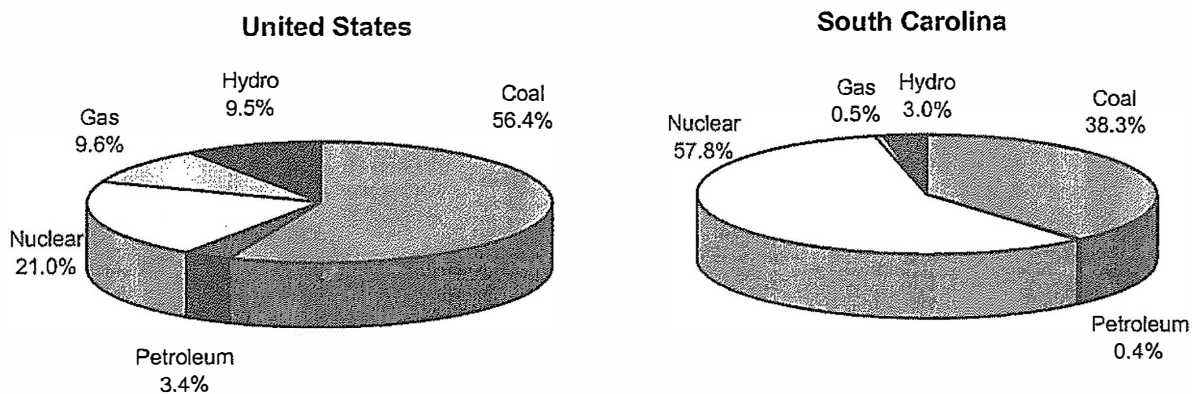
Table 2.1

Net Generation from South Carolina Electric Utilities by Energy Source 1978 - 1998 (Million Kilowatthours)							
Year	Coal	Petroleum	Nuclear	Gas	Hydro	TOTAL	Percent Change
1978	15,700	4,060	21,290	540	3,280	44,870	8.3%
1979	16,940	2,420	19,820	560	4,050	43,790	-2.4%
1980	19,690	1,640	18,980	560	3,090	43,960	0.4%
1981	21,360	1,300	19,110	510	1,260	43,540	-1.0%
1982	21,250	290	14,570	50	2,490	38,650	-11.2%
1983	17,520	80	27,900	100	3,210	48,810	26.3%
1984	18,610	80	25,190	40	3,270	47,190	-3.3%
1985	19,820	1,100	34,410	50	1,870	57,250	21.3%
1986	19,502	66	35,625	130	1,216	56,539	-1.2%
1987	22,858	68	39,289	26	2,157	64,398	13.9%
1988	23,484	94	40,743	223	747	65,291	1.4%
1989	23,799	132	40,779	255	2,016	66,981	2.6%
1990	22,874	72	42,880	701	2,728	69,255	3.4%
1991	23,165	83	43,108	980	2,496	69,832	0.8%
1992	23,013	67	45,537	148	2,710	71,475	2.4%
1993	26,531	93	46,187	119	2,650	75,580	5.7%
1994	26,994	108	44,466	279	2,347	74,194	-1.8%
1995	25,802	131	49,174	601	2,734	78,442	5.7%
1996	30,305	126	43,572	91	2,233	76,327	-2.7%
1997	31,042	186	44,916	182	2,077	78,403	2.7%
1998	32,316	330	48,758	415	2,540	84,359	7.6%

Sources: Energy Information Administration, *State Energy Data Report* and *Electric Power Monthly*.

Figure 2.1

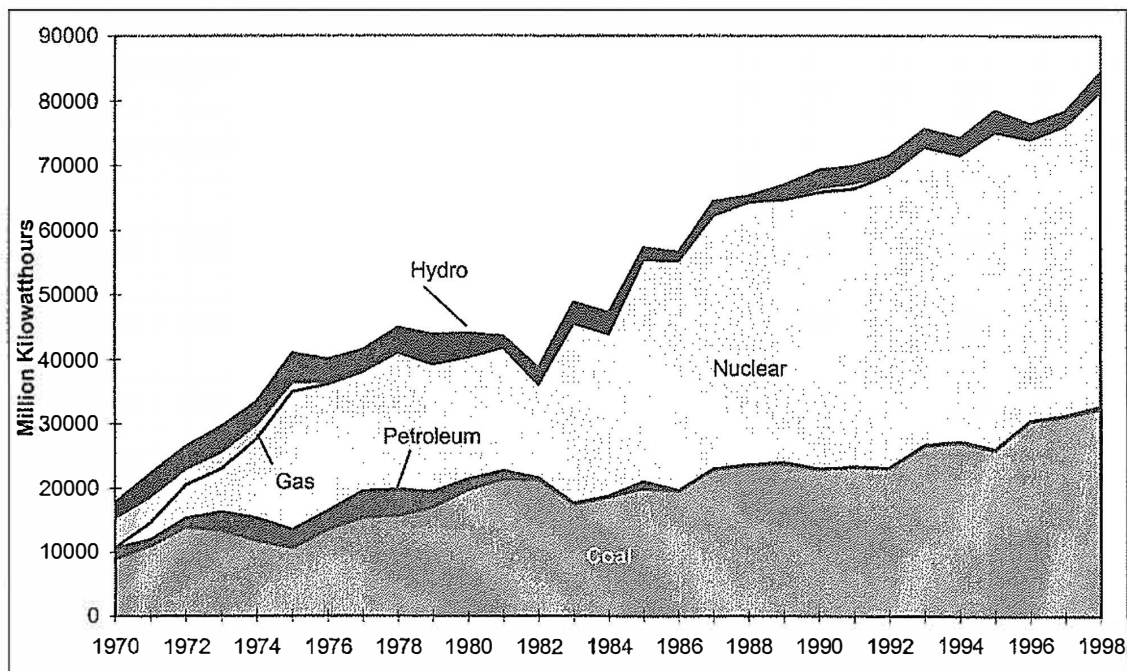
U.S. and South Carolina Electricity Generation by Fuel Source Comparison, 1998



Sources: Energy Information Administration, *State Energy Data Report* and *Electric Power Monthly*.

Figure 2.2

South Carolina Electricity Generation by Fuel Source, 1978-1998



Sources: Energy Information Administration, *State Energy Data Report* and *Electric Power Monthly*.

Table 2.2

South Carolina Monthly Electric Utility Net Generation by Fuel Source, 1987-1998
(Million Kilowatthours)

1987

Month	Coal	Oil	Gas	Nuclear	Hydro	TOTAL
Jan	1,773	3	1	3,728	269	5,774
Feb	1,481	4	*	3,311	300	5,096
Mar	1,847	12	*	2,565	385	4,809
Apr	1,813	6	*	2,342	265	4,426
May	2,258	5	1	3,106	145	5,515
Jun	2,257	5	6	3,812	82	6,162
Jul	2,415	6	7	4,133	73	6,634
Aug	2,644	4	4	3,506	66	6,224
Sep	1,983	7	6	3,165	179	5,340
Oct	1,418	5	*	3,105	97	4,625
Nov	1,422	6	1	3,137	103	4,669
Dec	1,547	5	*	3,379	193	5,124
TOTAL	22,858	68	26	39,289	2,157	64,398
% TOTAL	35.5%	0.1%	0.0%	61.0%	3.3%	100.0%

1988

Month	Coal	Oil	Gas	Nuclear	Hydro	TOTAL
Jan	1,964	6	*	3,389	201	5,560
Feb	1,710	4	*	2,450	167	4,331
Mar	1,570	3	*	3,094	104	4,771
Apr	1,269	6	*	3,446	72	4,793
May	1,385	8	68	3,871	21	5,353
Jun	2,141	17	80	3,905	1	6,144
Jul	2,362	9	48	4,148	2	6,569
Aug	2,538	11	19	3,483	9	6,060
Sep	2,036	9	1	3,263	20	5,329
Oct	2,032	3	1	3,835	59	5,930
Nov	1,992	4	*	3,168	43	5,207
Dec	2,485	14	6	2,691	48	5,244
TOTAL	23,484	94	223	40,743	747	65,291
% TOTAL	36.0%	0.1%	0.3%	62.4%	1.1%	100.0%

1989

Month	Coal	Oil	Gas	Nuclear	Hydro	TOTAL
Jan	1,997	3	*	2,471	77	4,548
Feb	1,977	6	1	2,785	86	4,855
Mar	2,186	16	5	3,300	270	5,777
Apr	1,717	3	7	3,140	163	5,030
May	1,775	6	6	3,560	175	5,522
Jun	2,454	18	58	3,092	91	5,713
Jul	2,378	12	50	4,476	188	7,104
Aug	2,423	5	40	4,240	98	6,806
Sep	1,821	5	40	3,345	98	5,309
Oct	1,407	6	20	3,585	285	5,303
Nov	1,416	5	19	3,096	164	4,700
Dec	2,248	47	9	3,689	321	6,314
TOTAL	23,799	132	255	40,779	2,016	66,981
% TOTAL	35.5%	0.2%	0.4%	60.9%	3.0%	100.0%

1990

Month	Coal	Oil	Gas	Nuclear	Hydro	TOTAL
Jan	1,640	5	*	4,489	296	6,430
Feb	1,282	4	*	3,518	450	5,254
Mar	1,468	4	*	3,500	510	5,482
Apr	1,903	2	*	3,017	279	5,201
May	2,142	9	2	3,249	196	5,598
Jun	2,301	4	39	3,294	92	5,730
Jul	2,412	6	192	3,740	64	6,414
Aug	2,477	7	204	3,813	87	6,588
Sep	1,982	5	196	2,933	142	5,258
Oct	1,749	15	64	3,440	283	5,551
Nov	1,686	4	4	3,856	204	5,754
Dec	1,832	7	*	4,031	125	5,995
TOTAL	22,874	72	701	42,880	2,728	69,255
% TOTAL	33.0%	0.1%	1.0%	61.9%	3.9%	100.0%

1991

Month	Coal	Oil	Gas	Nuclear	Hydro	TOTAL
Jan	2,101	4	*	3,482	244	5,831
Feb	1,545	7	1	3,463	201	5,217
Mar	1,554	5	16	3,409	337	5,321
Apr	1,698	3	18	3,260	326	5,305
May	1,929	8	66	3,651	388	6,042
Jun	2,006	18	54	4,005	172	6,255
Jul	2,029	10	420	4,528	155	7,142
Aug	1,896	9	384	4,009	288	6,586
Sep	2,188	2	21	3,210	105	5,526
Oct	2,228	3	*	3,596	75	5,902
Nov	2,098	7	*	3,090	87	5,282
Dec	1,893	7	*	3,405	118	5,423
TOTAL	23,165	83	980	43,108	2,496	69,832
% TOTAL	33.2%	0.1%	1.4%	61.7%	3.6%	100.0%

1992

Month	Coal	Oil	Gas	Nuclear	Hydro	TOTAL
Jan	1,907	6	1	4,025	192	6,131
Feb	1,691	2	*	3,836	171	5,700
Mar	1,525	1	81	4,503	312	6,422
Apr	1,467	4	*	4,094	173	5,738
May	2,035	5	*	3,666	155	5,861
Jun	2,098	4	17	3,941	288	6,348
Jul	2,769	14	35	3,838	78	6,734
Aug	2,467	7	5	3,085	108	5,672
Sep	2,113	5	2	2,742	126	4,988
Oct	1,597	5	1	3,532	273	5,408
Nov	1,524	6	6	4,189	326	6,051
Dec	1,820	8	*	4,086	508	6,422
TOTAL	23,013	67	148	45,537	2,710	71,475
% TOTAL	32.2%	0.1%	0.2%	63.7%	3.8%	100.0%

1993

Month	Coal	Oil	Gas	Nuclear	Hydro	TOTAL
Jan	1,875	4	*	3,992	538	6,409
Feb	1,797	7	1	3,494	451	5,750
Mar	2,216	12	6	3,373	477	6,084
Apr	2,070	6	2	3,866	425	6,369
May	2,066	4	2	3,932	246	6,250
Jun	2,539	5	19	3,672	101	6,336
Jul	2,882	37	52	4,548	47	7,566
Aug	2,743	6	28	4,634	75	7,486
Sep	2,367	2	8	4,114	31	6,522
Oct	1,806	3	*	4,123	44	5,976
Nov	1,961	3	*	3,131	46	5,141
Dec	2,209	4	1	3,308	169	5,691
TOTAL	26,531	93	119	46,187	2,650	75,580
% TOTAL	35.1%	0.1%	0.2%	61.1%	3.5%	100.0%

1994

Month	Coal	Oil	Gas	Nuclear	Hydro	TOTAL
Jan	2,484	47	*	3,459	188	6,178
Feb	2,012	2	2	3,092	203	5,311
Mar	2,081	3	2	3,648	266	6,000
Apr	1,742	7	3	4,176	211	6,139
May	1,907	6	5	3,255	66	5,239
Jun	2,545	19	21	3,163	80	5,828
Jul	2,662	2	3	4,023	151	6,841
Aug	2,575	2	1	4,234	331	7,143
Sep	2,388	4	5	3,941	158	6,496
Oct	2,176	3	104	3,529	220	6,032
Nov	2,189	4	62	3,590	188	6,033
Dec	2,232	8	71	4,357	286	6,954
TOTAL	26,993	107	279	44,467	2,348	74,194
% TOTAL	36.4%	0.1%	0.4%	59.9%	3.2%	100.0%

1995

Month	Coal	Oil	Gas	Nuclear	Hydro	TOTAL
Jan	2,160	6	1	4,774	412	7,353
Feb	1,912	5	*	3,649	394	5,960
Mar	1,651	4	66	3,989	368	6,078
Apr	1,713	5	*	4,369	88	6,175
May	2,375	10	14	3,242	53	5,694
Jun	2,334	14	43	3,733	173	6,297
Jul	2,857	24	70	4,187	88	7,226
Aug	2,804	36	161	4,721	134	7,856
Sep	1,962	4	140	4,589	174	6,869
Oct	1,755	4	104	4,093	261	6,217
Nov	1,942	9	1	3,243	367	5,562
Dec	2,337	10	1	4,585	222	7,155
TOTAL	25,802	131	601	49,174	2,734	78,442
% TOTAL	32.9%	0.2%	0.8%	62.7%	3.5%	100.0%

1996

Month	Coal	Oil	Gas	Nuclear	Hydro	TOTAL
Jan	2,429	7	*	4,701	273	7,410
Feb	2,171	18	*	4,077	427	6,693
Mar	2,221	16	1	4,539	410	7,187
Apr	2,184	8	1	3,720	187	6,100
May	2,864	13	14	3,952	121	6,964
Jun	2,805	11	18	4,158	110	7,102
Jul	3,158	10	16	3,828	12	7,024
Aug	3,009	3	4	3,571	130	6,717
Sep	2,331	6	34	3,163	120	5,654
Oct	2,054	6	1	2,411	148	4,620
Nov	2,472	9	1	2,846	83	5,411
Dec	2,607	19	1	2,606	212	5,445
TOTAL	30,305	126	91	43,572	2,233	76,327
% TOTAL	39.7%	0.2%	0.1%	57.1%	2.9%	100.0%

1997

Month	Coal	Oil	Gas	Nuclear	Hydro	TOTAL
Jan	2,717	14	1	2,964	234	5,930
Feb	2,036	4	*	3,456	294	5,790
Mar	1,852	6	1	4,036	404	6,299
Apr	2,001	8	5	3,290	238	5,542
May	2,150	12	4	3,614	257	6,037
Jun	2,581	25	48	4,083	129	6,866
Jul	3,333	39	63	4,391	85	7,911
Aug	3,116	20	25	4,589	51	7,801
Sep	2,744	14	13	4,074	26	6,871
Oct	3,024	23	14	3,343	55	6,459
Nov	2,703	14	6	3,706	107	6,536
Dec	2,785	7	2	3,370	197	6,361
TOTAL	31,042	186	182	44,916	2,077	78,403
% TOTAL	39.6%	0.2%	0.2%	57.3%	2.6%	100.0%

1998

Month	Coal	Oil	Gas	Nuclear	Hydro	TOTAL
Jan	2,618	5	1	3,843	505	6,972
Feb	2,091	1	*	4,088	516	6,696
Mar	2,424	24	6	4,028	475	6,957
Apr	2,054	6	2	3,821	468	6,351
May	2,674	53	50	4,237	287	7,301
Jun	3,315	76	102	4,531	75	8,099
Jul	3,479	66	86	4,766	-6	8,391
Aug	3,496	46	88	3,679	28	7,337
Sep	3,105	25	67	3,635	39	6,871
Oct	2,401	5	5	3,628	19	6,058
Nov	2,145	12	6	4,037	39	6,239
Dec	2,514	11	2	4,465	95	7,087
TOTAL	32,316	330	415	48,758	2,540	84,359
% TOTAL	38.3%	0.4%	0.5%	57.8%	3.0%	100.0%

*Denotes the value is less than 0.5.

Source: Energy Information Administration, *Electric Power Monthly*.

Number of Electric Consumers in South Carolina

The number of electric consumers in South Carolina increased by 19.6% from 1990 to 1998. Residential consumers increased by 18.4% during this period, with commercial consumers increasing by 28.1%, and industrial consumers increasing by 7.5%. In 1998, the residential sector accounted for 85.5% of all electric consumers, followed by the commercial sector with 13.3% of all consumers.

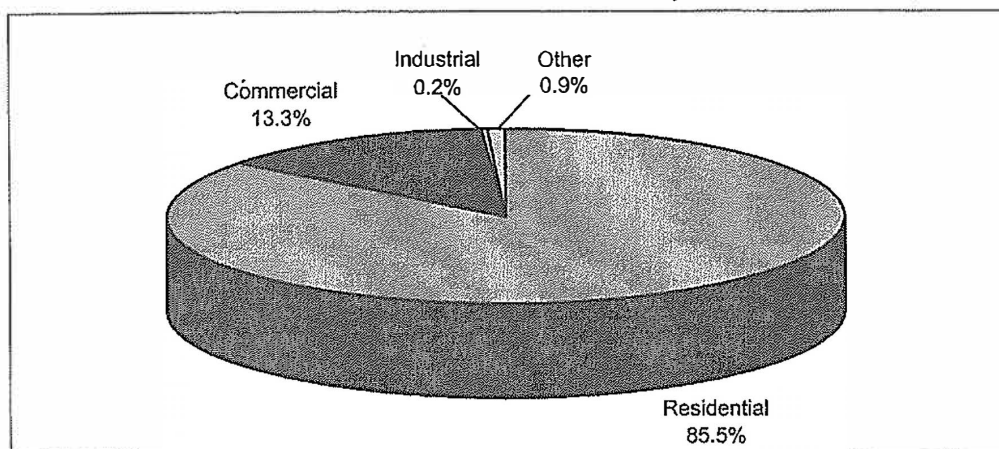
Table 2.3

Number of Ultimate Electric Consumers in South Carolina by Sector 1990-1998						
Year	Residential	Commercial	Industrial	Other	Total	Percent Change
1990	1,421,991	204,997	4,418	14,901	1,646,307	2.3%
1991	1,449,397	209,639	4,254	16,601	1,679,891	2.0%
1992	1,476,086	213,229	4,221	18,683	1,712,219	1.9%
1993	1,505,304	217,696	4,379	11,974	1,739,353	1.6%
1994	1,536,458	222,395	4,342	12,437	1,775,632	2.1%
1995	1,567,196	228,523	4,498	12,490	1,812,707	2.1%
1996	1,608,129	239,495	4,681	14,841	1,867,146	3.0%
1997	1,641,416	248,801	6,091	13,790	1,910,098	2.3%
1998	1,683,858	262,630	4,751	18,428	1,969,667	3.1%

Source: Energy Information Administration, *Electric Sales and Revenue*.

Figure 2.3

South Carolina Electric Customers by Sector, 1998



Source: Energy Information Administration, *Electric Sales and Revenue*.

South Carolina Electric Retail Sales to Consumers

South Carolina electric retail sales to ultimate consumers by sector increased by 102% from 1978 to 1998, and by 37.4% from 1988 to 1998 in terms of million kilowatthours. During the two-decade period 1978 to 1998, electric sales in the residential sector increased by 109%, sales in the commercial sector increased by 125.8%, and sales in the industrial sector increased by 96.9%. In 1998, the industrial sector comprised 43% of all electric sales in South Carolina, followed by the residential sector with 33%, and the commercial sector with 23%.

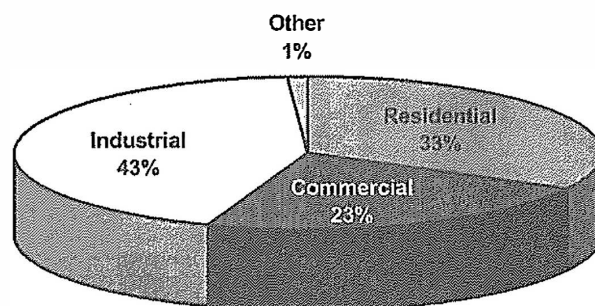
Table 2.4

South Carolina Annual Sales to Ultimate Consumers by Sector 1978 - 1998 (Million Kilowatthours)						
Year	Residential	Commercial	Industrial	Other	TOTAL	Percent Change
1978	11,419	7,372	15,986	907	35,684	3.72%
1979	11,477	7,392	16,012	915	35,796	0.31%
1980	12,580	7,823	15,982	881	37,266	4.11%
1981	12,518	8,049	16,460	886	37,913	1.74%
1982	13,493	8,061	17,625	1,096	40,275	6.23%
1983	13,819	8,183	18,823	1,109	41,934	4.12%
1984	13,621	8,242	18,812	1,083	41,758	-0.42%
1985	13,654	8,715	19,000	1,138	42,507	1.79%
1986	16,155	9,786	22,734	694	49,369	16.14%
1987	18,643	10,340	24,225	699	53,907	9.19%
1988	16,963	10,656	24,098	735	52,452	-2.70%
1989	17,306	11,074	24,321	786	53,487	1.97%
1990	17,582	11,871	25,169	846	55,468	3.70%
1991	17,987	12,115	25,565	823	56,490	1.84%
1992	18,035	12,235	26,334	830	57,434	1.67%
1993	20,506	13,160	26,527	830	61,023	6.25%
1994	19,712	13,322	27,444	812	61,290	0.44%
1995	21,111	14,084	28,275	819	64,289	4.89%
1996	22,452	14,710	28,791	836	66,789	3.89%
1997	21,273	14,963	30,712	848	67,796	1.51%
1998	23,871	16,643	31,470	911	72,075	6.31%

Source: Energy Information Administration, *Electric Sales and Revenue* and *Electric Power Monthly*.

Figure 2.4

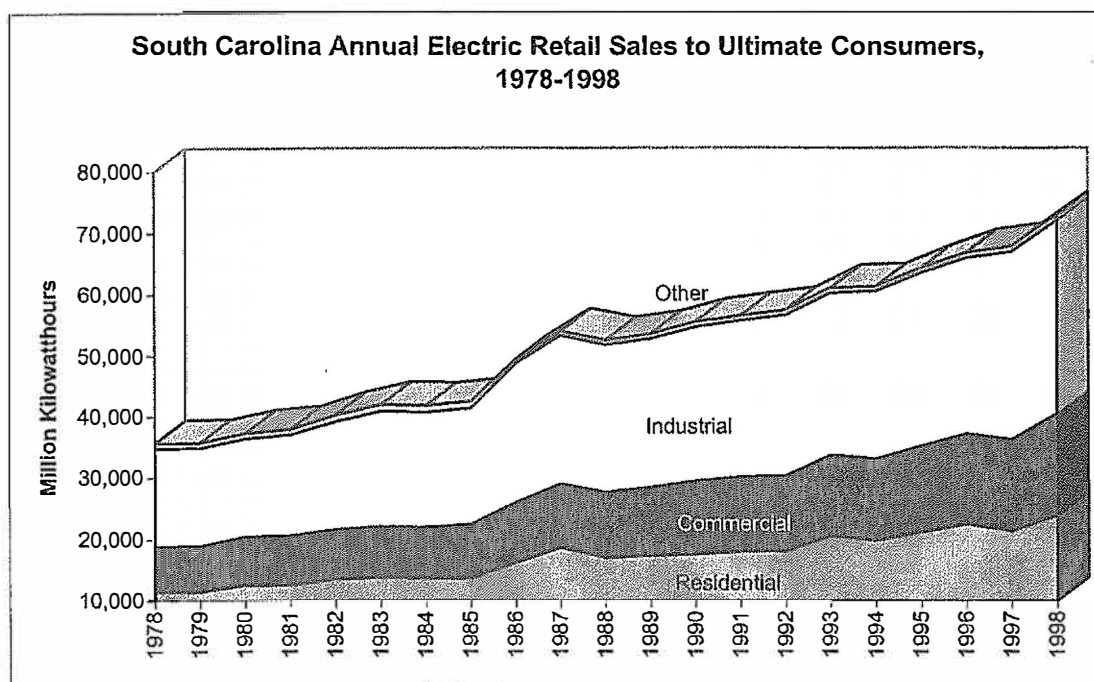
South Carolina Electric Retail Sales to Ultimate Consumers, 1998



Source: Energy Information Administration, *Electric Sales and Revenue* and *Electric Power Monthly*.

Figure 2.5

South Carolina Annual Electric Retail Sales to Ultimate Consumers, 1978-1998



Source: Energy Information Administration, *Electric Sales and Revenue* and *Electric Power Monthly*.

Table 2.5

South Carolina Monthly Sales of Electricity to Ultimate Customers, 1990-1998
(Million Kilowatthours)

1990

Month	Residential	Commercial	Industrial	Other	TOTAL
Jan	1,998	993	1,964	69	5,024
Feb	1,314	842	1,978	64	4,198
Mar	1,272	835	2,029	62	4,198
Apr	1,148	850	2,056	64	4,118
May	1,151	929	2,186	71	4,337
Jun	1,373	1,046	2,178	73	4,670
Jul	1,877	1,171	2,143	83	5,274
Aug	1,859	1,174	2,286	77	5,396
Sep	1,830	1,231	2,213	82	5,356
Oct	1,288	1,041	2,223	73	4,625
Nov	1,154	883	1,998	63	4,098
Dec	1,318	876	1,915	65	4,174
TOTAL	17,582	11,871	25,169	846	55,468
%TOTAL	31.7%	21.4%	45.4%	1.5%	100.0%

1991

Month	Residential	Commercial	Industrial	Other	TOTAL
Jan	1,660	920	1,920	64	4,564
Feb	1,563	910	1,907	65	4,445
Mar	1,416	883	1,915	61	4,275
Apr	1,148	892	2,095	66	4,201
May	1,150	933	2,247	68	4,398
Jun	1,535	1,119	2,183	73	4,910
Jul	1,906	1,203	2,201	79	5,389
Aug	1,957	1,223	2,307	77	5,564
Sep	1,679	1,169	2,270	76	5,194
Oct	1,256	1,014	2,279	66	4,615
Nov	1,236	919	2,149	66	4,370
Dec	1,481	930	2,092	62	4,565
TOTAL	17,987	12,115	25,565	823	56,490
%TOTAL	31.8%	21.4%	45.3%	1.5%	100.0%

1992

Month	Residential	Commercial	Industrial	Other	TOTAL
Jan	1,714	956	1,956	67	4,693
Feb	1,629	942	2,000	65	4,636
Mar	1,334	924	2,192	63	4,513
Apr	1,310	879	2,028	64	4,281
May	1,148	927	2,213	62	4,350
Jun	1,298	1,029	2,370	69	4,766
Jul	1,865	1,211	2,319	83	5,478
Aug	1,992	1,253	2,380	77	5,702
Sep	1,581	1,165	2,348	78	5,172
Oct	1,252	1,021	2,235	67	4,575
Nov	1,183	925	2,168	65	4,341
Dec	1,729	1,003	2,125	70	4,927
TOTAL	18,035	12,235	26,334	830	57,434
%TOTAL	31.4%	21.3%	45.9%	1.4%	100.0%

1993

Month	Residential	Commercial	Industrial	Other	TOTAL
Jan	1,817	1,001	1,986	63	4,867
Feb	1,688	956	2,017	63	4,724
Mar	1,760	990	2,081	67	4,898
Apr	1,380	929	2,147	63	4,519
May	1,194	1,021	2,233	65	4,513
Jun	1,649	1,185	2,416	77	5,327
Jul	2,329	1,320	2,240	80	5,969
Aug	2,295	1,365	2,418	77	6,155
Sep	2,001	1,300	2,363	79	5,743
Oct	1,371	1,112	2,256	68	4,807
Nov	1,316	955	2,230	62	4,563
Dec	1,706	1,026	2,140	66	4,938
TOTAL	20,506	13,160	26,527	830	61,023
%TOTAL	33.6%	21.6%	43.5%	1.4%	100.0%

1994

Month	Residential	Commercial	Industrial	Other	TOTAL
Jan	2,279	1,083	1,932	68	5,362
Feb	1,921	1,048	2,173	66	5,208
Mar	1,464	977	2,184	62	4,687
Apr	1,227	977	2,213	63	4,480
May	1,211	1,053	2,362	66	4,692
Jun	1,618	1,200	2,401	71	5,290
Jul	2,158	1,326	2,218	78	5,780
Aug	2,056	1,336	2,634	77	6,103
Sep	1,759	1,277	2,400	72	5,508
Oct	1,260	1,068	2,406	64	4,798
Nov	1,194	960	2,326	61	4,541
Dec	1,565	1,017	2,195	64	4,841
TOTAL	19,712	13,322	27,444	812	61,290
%TOTAL	32.2%	21.7%	44.8%	1.3%	100.0%

1995

Month	Residential	Commercial	Industrial	Other	TOTAL
Jan	2,000	1,079	2,184	65	5,328
Feb	1,974	1,072	2,159	66	5,271
Mar	1,611	1,023	2,278	60	4,972
Apr	1,256	1,029	2,323	65	4,673
May	1,324	1,120	2,486	68	4,998
Jun	1,753	1,275	2,438	71	5,537
Jul	2,160	1,375	2,403	77	6,015
Aug	2,394	1,444	2,557	78	6,473
Sep	1,962	1,366	2,422	74	5,824
Oct	1,370	1,173	2,475	69	5,087
Nov	1,427	1,055	2,335	63	4,880
Dec	1,880	1,073	2,215	63	5,231
TOTAL	21,111	14,084	28,275	819	64,289
%TOTAL	32.8%	21.9%	44.0%	1.3%	100.0%

1996

Month	Residential	Commercial	Industrial	Other	TOTAL
Jan	2,494	1,202	2,160	71	5,927
Feb	2,206	1,244	2,246	66	5,762
Mar	1,688	1,087	2,305	64	5,144
Apr	1,524	1,059	2,315	63	4,961
May	1,415	1,171	2,447	67	5,100
Jun	1,874	1,334	2,434	74	5,716
Jul	2,341	1,414	2,495	82	6,332
Aug	2,283	1,492	2,588	68	6,431
Sep	1,926	1,365	2,525	80	5,896
Oct	1,362	1,198	2,548	71	5,179
Nov	1,407	1,045	2,391	65	4,908
Dec	1,932	1,099	2,337	65	5,433
TOTAL	22,452	14,710	28,791	836	66,789
%TOTAL	33.6%	22.0%	43.1%	1.3%	100.0%

1997

Month	Residential	Commercial	Industrial	Other	TOTAL
Jan	2,157	1,211	2,356	70	5,794
Feb	1,950	1,143	2,368	67	5,528
Mar	1,420	1,041	2,394	63	4,918
Apr	1,314	1,092	2,523	67	4,996
May	1,292	1,131	2,610	65	5,098
Jun	1,518	1,271	2,685	70	5,544
Jul	2,304	1,494	2,649	82	6,529
Aug	2,298	1,521	2,777	81	6,677
Sep	2,070	1,474	2,692	79	6,315
Oct	1,482	1,292	2,616	74	5,464
Nov	1,472	1,089	2,588	64	5,213
Dec	1,996	1,204	2,454	66	5,720
TOTAL	21,273	14,963	30,712	848	67,796
%TOTAL	31.4%	22.1%	45.3%	1.3%	100.0%

1998

Month	Residential	Commercial	Industrial	Other	TOTAL
Jan	2,244	1,260	2,399	72	5,975
Feb	2,003	1,187	2,428	70	5,688
Mar	1,729	1,156	2,615	68	5,568
Apr	1,494	1,182	2,537	67	5,280
May	1,363	1,221	2,656	70	5,310
Jun	2,436	1,688	2,918	80	7,122
Jul	2,866	1,891	2,532	91	7,380
Aug	2,686	1,614	2,940	90	7,330
Sep	2,362	1,629	2,729	90	6,810
Oct	1,682	1,413	2,643	77	5,815
Nov	1,386	1,197	2,543	67	5,193
Dec	1,620	1,205	2,530	69	5,424
TOTAL	23,871	16,643	31,470	911	72,895
%TOTAL	32.7%	22.8%	43.2%	1.2%	100.0%

Source: Energy Information Administration, *Electric Power Monthly*.

South Carolina Residential Statistics

The number of South Carolina residential electric customers increased by 47.4% (or 309,776 new customers) from 1978 to 1998. Sales to residential customers increased by 65.8% and revenues increased by \$698.8 million during the same period. The average annual electric bill for South Carolina residential electric customers increased by 121.7% or \$596.79 from 1978 to 1998, as compared with an increase of 137.6% or \$500.39 on the national level. The average electric rate for South Carolina residential customers increased by 91.6% or \$3.61 during the same period, with the U.S. average increasing by 102.1% or \$4.40. From 1978 to 1998 the kWh per customer increased by 15.8% in South Carolina compared with 17.6% on the national level. In 1998, the average monthly residential electric consumption in South Carolina was 1,166 (kWh), and the average monthly bill was \$87.43.

Table 2.6

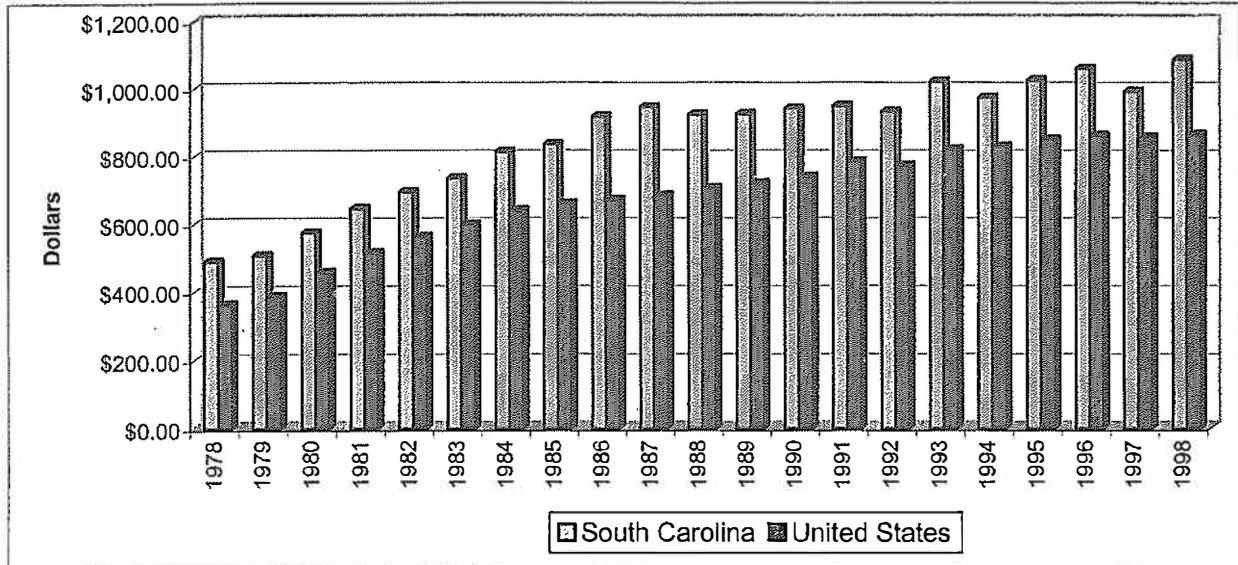
Selected South Carolina and U.S. Residential Statistics for Investor-Owned Electric Utilities, 1978-1998

Year	Number of Customers	Sales (Million kWh)	Revenue (Million dollars)	kWh per Customer		Average Rate (Cents per kWh)		Average Annual Electric Bill	
	S.C.	S.C.	S.C.	S.C.	U.S.	S.C.	U.S.	S.C.	U.S.
1978	654,044	8,139	320.8	12,443	8,430	3.94	4.31	\$490.49	\$363.56
1979	669,092	7,963	339.5	11,901	8,360	4.26	4.63	\$507.40	\$387.34
1980	684,338	8,739	392.9	12,770	8,539	4.50	5.36	\$574.13	\$457.29
1981	698,900	8,698	450.6	12,445	8,311	5.18	6.19	\$644.73	\$514.38
1982	708,908	8,520	492.1	12,019	8,261	5.77	6.81	\$694.17	\$562.54
1983	721,695	8,845	530.5	12,256	8,379	6.00	7.15	\$735.08	\$599.44
1984	739,330	9,065	601.3	12,262	8,500	6.63	7.53	\$813.30	\$640.47
1985	758,676	9,082	633.8	11,971	8,487	6.98	7.79	\$835.47	\$661.10
1986	778,637	9,957	714.7	12,788	8,627	7.18	7.78	\$917.89	\$671.60
1987	794,815	10,366	751.6	13,042	8,816	7.25	7.75	\$945.65	\$683.65
1988	811,084	10,435	749.1	12,866	9,082	7.18	7.78	\$923.59	\$706.82
1989	827,587	10,577	764.3	12,796	9,063	7.23	7.95	\$924.68	\$720.24
1990	841,142	11,008	791.6	13,086	9,056	7.19	8.17	\$941.09	\$740.04
1991	855,733	11,246	812.9	13,142	9,280	7.23	8.46	\$949.95	\$784.80
1992	868,870	11,309	810.2	13,016	8,949	7.16	8.63	\$932.53	\$772.58
1993	881,858	12,304	901.0	13,953	9,394	7.32	8.73	\$1,021.67	\$820.39
1994	896,164	11,638	872.1	12,985	9,378	7.49	8.83	\$973.17	\$828.17
1995	910,392	12,558	933.4	13,794	9,583	7.43	8.87	\$1,025.30	\$849.94
1996	927,803	13,033	982.7	14,047	9,713	7.54	8.86	\$1,059.12	\$860.85
1997	945,107	12,448	934.7	13,171	9,591	7.53	8.94	\$991.81	\$857.27
1998	963,820	13,494	1,019.6	14,406	9,915	7.55	8.71	\$1,087.28	\$863.95

Sources: South Carolina Public Service Commission, *Annual Report* and Edison Electric Institute, *Statistical Yearbook of the Electric Utility Industry*.

Figure 2.6

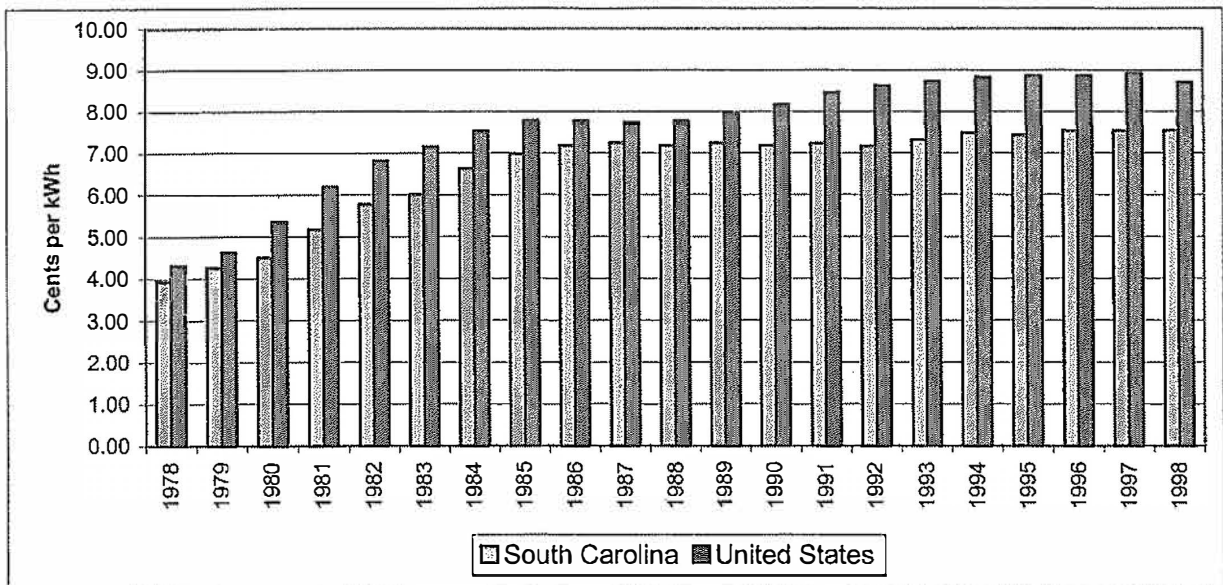
South Carolina and U.S. Annual Average Residential Electric Bill, 1978-1998



Sources: South Carolina Public Service Commission; Edison Electric Institute, *Statistical Yearbook of the Electric Utility Industry*.

Figure 2.7

South Carolina and U.S. Annual Average Residential Electric Rate, 1978-1998



Sources: South Carolina Public Service Commission; Edison Electric Institute, *Statistical Yearbook of the Electric Utility Industry*.

Table 2.7

Class of Ownership, Number of Ultimate Consumers, and Average Rate per kWh by Sector of South Carolina Electric Utilities, 1998					
Electric Utility	Class of Ownership	Number of Consumers	Average Rate (Cents/kWh)		
			Residential	Commercial	Industrial
Abbeville Water and Electric	Publicly Owned	4,113	8.60	7.66	N/A
Aiken Electric Co-op	Cooperative	35,659	7.91	6.48	3.67
Bamberg, City of	Publicly Owned	1,805	6.24	6.95	5.70
Bennettsville Municipal	Publicly Owned	4,852	7.87	7.06	N/A
Berkeley Electric Co-op	Cooperative	59,528	7.12	7.15	4.84
Black River Electric Co-op	Cooperative	25,003	7.05	7.63	4.83
Blue Ridge Electric Co-op	Cooperative	51,447	9.00	7.58	5.33
Broad River Electric Co-op	Cooperative	16,040	9.32	8.46	7.08
Camden Municipal Utility	Publicly Owned	12,228	7.50	7.42	N/A
Carolina Power & Light	Investor-Owned	160,762	7.82	6.72	4.64
Clinton Combined Utility System	Publicly Owned	5,494	9.16	8.21	6.14
Coastal Electric Co-op	Cooperative	9,755	8.42	7.00	N/A
Due West, City of	Publicly Owned	341	10.00	N/A	N/A
Duke Power Company	Investor-Owned	464,820	6.92	5.87	3.59
Easley Combined Utility System	Publicly Owned	13,723	8.04	6.76	N/A
Edisto Electric Co-op	Cooperative	16,933	8.01	7.93	4.94
Fairfield Electric Co-op	Cooperative	18,170	6.62	6.90	3.63
Gaffney, City of	Publicly Owned	11,480	9.72	8.20	6.90
Georgetown, City of	Publicly Owned	5,473	6.52	5.93	N/A
Greenwood Comm. of Public Works	Publicly Owned	12,474	5.58	6.45	4.70
Greer Commission of Public Works	Publicly Owned	9,881	7.59	6.00	N/A
Haywood Electric Member Corp.*	Cooperative	14	N/A	N/A	N/A
Horry Electric Co-op	Cooperative	37,424	7.21	6.94	5.98
Laurens, City of	Publicly Owned	5,285	8.16	7.47	N/A
Laurens Electric Co-op	Cooperative	39,753	8.05	8.84	6.72
Little River Electric Co-op	Cooperative	11,756	8.56	8.62	N/A
Lockhart Power Company	Investor-Owned	5,988	6.93	7.45	3.78
Lynches River Electric Co-op	Cooperative	18,145	7.47	7.46	4.34
Marlboro Electric Co-op	Cooperative	6,139	8.56	8.87	3.11
McCormick, Town of	Publicly Owned	1,091	9.05	9.02	N/A
Mid-Carolina Electric Co-op	Cooperative	39,091	7.21	6.70	4.31
Newberry, City of	Publicly Owned	4,761	8.60	7.69	6.02
Newberry Electric Co-op	Cooperative	10,738	6.58	6.48	4.42
Orangeburg, City of	Publicly Owned	22,597	5.54	4.74	4.26
Palmetto Electric Co-op	Cooperative	44,533	6.53	5.89	7.00
Pee Dee Electric Co-op	Cooperative	26,448	7.91	7.49	3.61
Prosperity, Town of	Publicly Owned	615	6.69	6.42	N/A
Rock Hill, City of	Publicly Owned	24,203	8.41	7.88	5.70
Santee Electric Co-op	Cooperative	39,201	6.91	6.91	3.58
Seneca, City of	Publicly Owned	5,587	6.91	7.70	4.47
South Carolina Electric & Gas Co.	Investor-Owned	510,471	8.02	6.20	3.88
Santee Cooper	Publicly Owned	119,503	6.50	5.57	3.06
Tri-County Electric Co-op	Cooperative	15,776	7.77	6.77	N/A
Union, City of	Publicly Owned	7,509	9.10	8.52	7.48
Westminister, City of	Publicly Owned	1,669	8.91	6.65	N/A
Winnsboro, Town of	Publicly Owned	4,435	7.58	6.21	N/A
York Electric Co-op	Cooperative	26,954	8.35	7.12	5.85
Total	47	1,969,667	7.50	6.24	3.69

*A North Carolina-based electric cooperative.

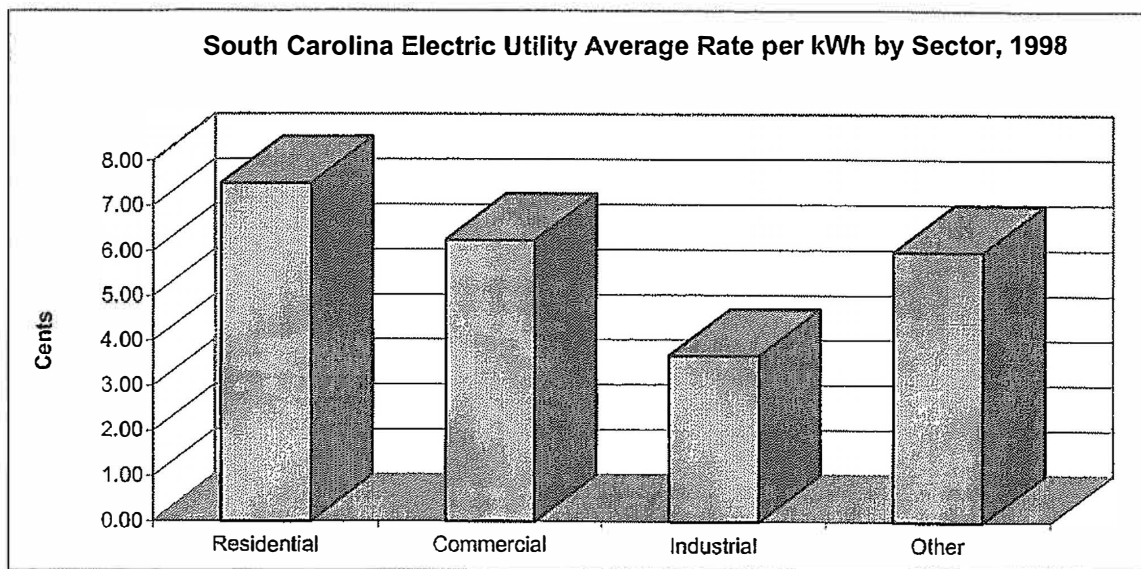
Source: Energy Information Administration, *Electric Sales and Revenue*.

Table 2.8

Number of, Sales to, Revenue from Sales, and Average Revenue per Kilowatthour to Ultimate Electric Consumers in South Carolina by Sector, 1998				
Sector	Number of Consumers	Sales (Million kWh)	Revenue from Sales (Thousand Dollars)	Average Revenue per kWh (Cents)
Residential	1,683,858	\$23,558	\$1,766,700	7.50
Commercial	262,630	\$16,370	\$1,021,426	6.24
Industrial	4,751	\$31,606	\$1,165,190	3.69
Other	18,428	\$920	\$55,160	5.99
TOTAL	1,969,667	\$72,454	\$4,008,476	5.53

Source: Energy Information Administration, *Electric Sales and Revenue*.

Figure 2.8



Source: Energy Information Administration, *Electric Sales and Revenue*.

Table 2.9

South Carolina Electricity Sales by Utility, Class of Ownership and Sector, 1998 (Thousand kWh)						
Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	TOTAL
Abbeville Water and Electric	Publicly Owned	32,300	22,788	0	5,210	60,298
Aiken Electric Co-op	Cooperative	478,930	94,416	150,186	1,308	724,840
Bamberg, City of	Publicly Owned	19,238	17,674	7,181	0	44,093
Bennettsville Municipal	Publicly Owned	54,420	40,032	0	0	94,452
Berkeley Electric Co-op	Cooperative	894,777	109,922	102,132	46,546	1,153,377
Black River Electric Co-op	Cooperative	360,131	68,282	93,563	18,304	540,280
Blue Ridge Electric Co-op	Cooperative	579,252	113,996	34,054	5,472	732,774
Broad River Electric Co-op	Cooperative	195,267	23,817	14,725	0	233,809
Camden, City of	Publicly Owned	95,755	67,851	0	0	163,606
Carolina Power & Light	Investor-Owned	1,893,745	1,536,245	3,395,722	92,796	6,918,508
Clinton Combined Utility System	Publicly Owned	36,020	42,408	30,798	964	110,090
Coastal Electric Co-op	Cooperative	119,790	20,026	0	180	139,816
Due West, City of	Publicly Owned	3,500	600	150	7,285	11,535
Duke Power Company	Investor-Owned	5,211,150	4,487,526	12,311,134	54,703	22,064,513
Easley Combined Utility System	Publicly Owned	132,530	112,595	0	2,154	247,279
Edisto Electric Co-op	Cooperative	199,697	31,828	20,388	698	252,611
Fairfield Electric Co-op	Cooperative	285,430	22,600	239,971	0	548,001
Gaffney, City of	Publicly Owned	60,076	78,230	54,446	3,851	196,603
Georgetown, City of	Publicly Owned	53,760	90,450	0	1,939	146,149
Greenwood Comm. of Public Works	Publicly Owned	105,884	28,113	124,250	4,261	262,508
Greer Commission of Public Works	Publicly Owned	107,886	89,956	0	1,575	199,417
Haywood Electric Member Corp.*	Cooperative	28	43	0	0	71
Horry Electric Co-op	Cooperative	498,755	103,371	21,920	0	624,046
Laurens, City of	Publicly Owned	44,507	46,915	0	8,754	100,176
Laurens Electric Co-op	Cooperative	479,935	90,269	56,941	1,697	628,842
Little River Electric Co-op	Cooperative	133,618	21,069	0	2,646	157,333
Lockhart Power Company	Investor-Owned	65,180	20,365	136,791	305	222,641
Lynches River Electric Co-op	Cooperative	217,135	33,925	50,598	208	301,866
Marlboro Electric Co-op	Cooperative	75,848	6,801	614,295	85	697,029
McCormick, Town of	Publicly Owned	10,320	8,491	214	0	19,025
Mid-Carolina Electric Co-op	Cooperative	540,097	159,415	19,910	204	719,626
Newberry, City of	Publicly Owned	42,470	56,349	54,420	0	153,239
Newberry Electric Co-op	Cooperative	139,977	27,840	40,559	0	208,376
Orangeburg, City of	Publicly Owned	289,800	167,600	391,200	1,900	850,500
Palmetto Electric Co-op	Cooperative	630,899	387,454	1,743	8,765	1,028,861
Pee Dee Electric Co-op	Cooperative	378,873	51,644	359,097	3,549	793,163
Prosperity, Town of	Publicly Owned	6,099	3,956	0	0	10,055
Rock Hill, City of	Publicly Owned	236,550	303,031	57,452	6,578	603,611
Santee Electric Co-op	Cooperative	565,920	78,163	394,217	0	1,038,300
Seneca, City of	Publicly Owned	54,148	56,674	41,010	1,165	152,997
South Carolina Electric & Gas Co.	Investor-Owned	6,323,764	5,899,590	5,824,162	535,630	18,583,146
Santee Cooper	Publicly Owned	1,230,906	1,509,202	6,928,269	62,300	9,730,677
Tri-County Electric Co-op	Cooperative	208,301	37,788	0	3,553	249,642
Union, City of	Publicly Owned	64,678	45,587	8,986	12,919	132,170
Westminister, City of	Publicly Owned	14,939	13,527	0	0	28,466
Winnsboro, Town of	Publicly Owned	31,046	55,410	0	4,276	90,732
York Electric Co-op	Cooperative	354,713	86,244	25,096	18,684	484,737
TOTAL	47	23,558,044	16,370,078	31,605,580	920,464	72,453,886

*A North Carolina-based electric cooperative.

Source: Energy Information Administration, *Electric Sales and Revenue*.

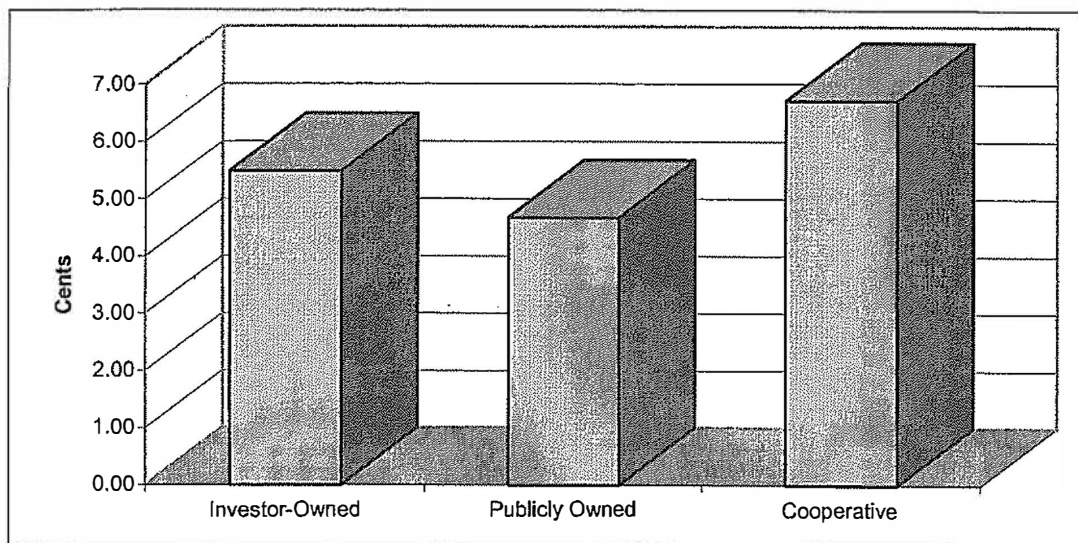
Table 2.10

Number of, Sales to, Revenue from Sales, and Average Revenue per Kilowatthour to Ultimate Consumers in South Carolina by Class of Ownership, 1998				
Class	Number of Consumers	Sales (Million kWh)	Revenue from Sales (Thousand Dollars)	Average Revenue per kWh (Cents)
Investor-Owned	1,142,041	47,789	2,624,145	5.49
Publicly Owned	279,119	13,408	627,307	4.68
Cooperative	548,507	11,257	757,024	6.72
TOTAL	1,969,667	72,454	4,008,476	5.53

Source: Energy Information Administration, *Electric Sales and Revenue*.

Figure 2.9

South Carolina Average Electric Rate per kWh by Class of Ownership, 1998



Source: Energy Information Administration, *Electric Sales and Revenue*.

South Carolina Electric Utility Emissions Data

Estimated emissions from all fossil-fueled steam-electric generating units at South Carolina electric utilities increased by 23.2% from 1993 to 1998.

Table 2.11

Estimated Emissions from Fossil-Fueled Steam-Electric Generating Units at All South Carolina Electric Utilities, 1993-1998 (Thousand Short Tons)					
Year	Sulfur Dioxide	Nitrogen Oxides	Carbon Dioxide	Total Emissions	Percent Change
1993	178	87	26,850	27,115	N/A
1994	190	88	27,501	27,779	2.4%
1995	204	82	26,518	26,804	-3.5%
1996	228	95	30,636	30,959	15.5%
1997	227	93	31,251	31,571	2.0%
1998	250	90	33,079	33,419	5.9%

Source: Energy Information Administration, *Electric Power Annual, Volume II*.

South Carolina Electric Utilities' Demand-Side Management Statistics

Annual Peak System Demand in kW

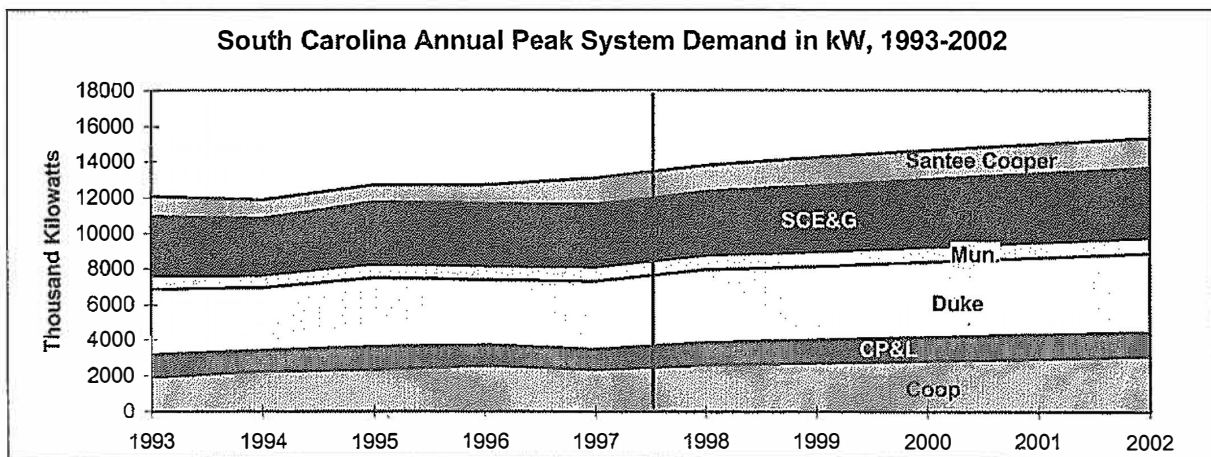
This data represents the total amount of retail energy demand in kW during the highest annual peak demand during each calendar year. The sum of the electric utilities listed in Table 2.12 is the actual amount of the annual system peak demand for 1997, which was 13,070 MW. Duke power comprises 28% of this total, followed by SCE&G with 25%, cooperatives with 17%, Santee Cooper with 11%, CP&L with 8%, and municipalities with 6%.

Table 2.12

South Carolina Electric Utilities' Annual Peak System Demand in kW, 1993-2002 (Thousand kW)										
Electric Utility Type	Actual					Projected				
	Total 1993	Total 1994	Total 1995	Total 1996	Total 1997	Total 1998	Total 1999	Total 2000	Total 2001	Total 2002
Coop	1,960	2,264	2,353	2,583	2,342	2,606	2,719	2,837	2,961	3,092
CP&L	1,253	1,151	1,275	1,139	1,133	1,264	1,292	1,325	1,355	1,355
Duke	3,672	3,522	3,863	3,640	3,813	4,070	4,094	4,197	4,290	4,397
Muni	739	701	774	776	784	814	828	843	860	874
SCE&G	3,346	3,178	3,473	3,505	3,511	3,564	3,728	3,803	3,875	3,940
Santee Cooper	1,110	1,042	947	1,038	1,487	1,477	1,577	1,628	1,651	1,674

Source: South Carolina Energy Office, *The Status of Utility Demand-Side Management Activities in South Carolina for 1997*.

Figure 2.10



Source: South Carolina Energy Office, *The Status of Utility Demand-Side Management Activities in South Carolina for 1997*.

Total Annual System kWh Sales

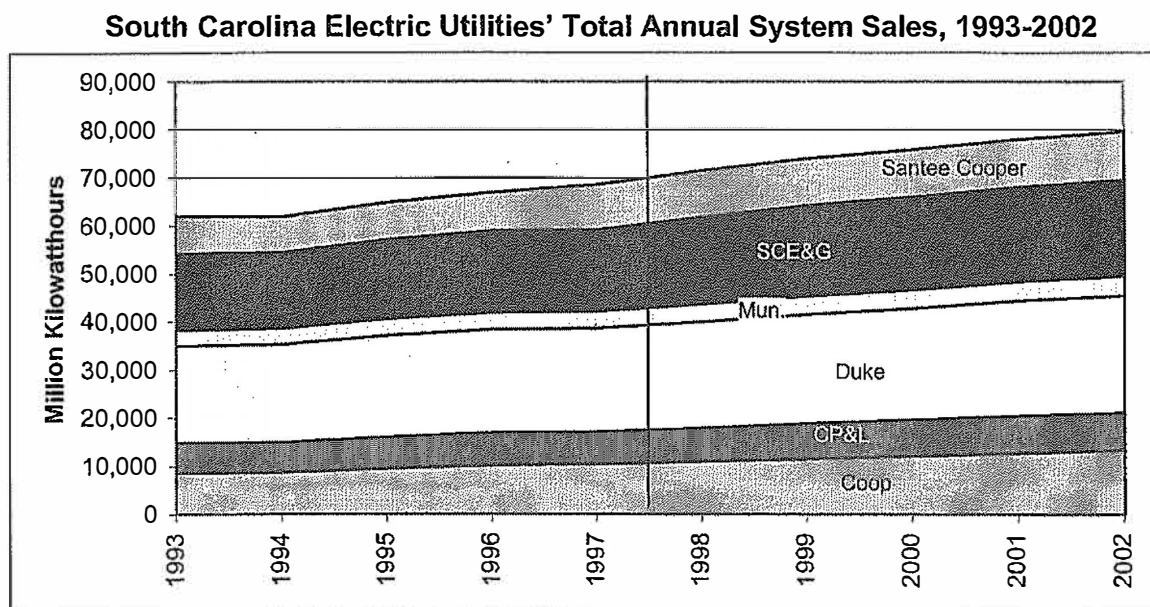
This value indicates the total amount of annual generation in kWh that was used by retail customers. In 1997, the total annual system sales of all electric utilities was 68,521 million kWh. Duke Power generated 31.3% of the total, followed by SCE&G (24.7%), cooperatives (15.3%), Santee Cooper (13.7%), CP&L (9.8%), and municipalities (5.2%).

Table 2.13

South Carolina Electric Utilities' Total Annual System Sales, 1993-2002 (In Million kWh)										
Electric Utility Type	Actual					Projected				
	Total 1993	Total 1994	Total 1995	Total 1996	Total 1997	Total 1998	Total 1999	Total 2000	Total 2001	Total 2002
Coop	8,612	8,715	9,514	10,230	10,470	10,991	11,544	12,135	12,764	13,430
CP&L	6,321	6,300	6,543	6,747	6,699	6,963	7,355	7,525	7,680	7,680
Duke	20,062	20,321	21,066	21,422	21,480	22,056	22,639	23,119	23,927	24,410
Muni	3,334	3,298	3,452	3,546	3,574	3,687	3,811	3,908	4,000	4,071
SCE&G	15,883	15,816	16,522	16,989	16,909	18,007	18,825	19,230	19,621	19,948
Santee Cooper	7,761	7,421	7,735	7,944	9,389	9,677	9,731	9,875	9,955	10,035

Source: South Carolina Energy Office, *The Status of Utility Demand-Side Management Activities in South Carolina for 1997*.

Figure 2.11



Source: South Carolina Energy Office, *The Status of Utility Demand-Side Management Activities in South Carolina for 1997*.

Inventory of South Carolina Power Plants

As of January 1, 1999, there were 9 power generating utility companies with 50 power plants with a total rating capacity of 18,723.8 megawatts. These power plants contain 207 generators with the following breakdown:

- 96 HY - Hydraulic Turbine (conventional)
- 52 GT - Combustion (gas) Turbine
- 29 ST - Steam Turbine - Boiler
- 16 PS - Hydraulic Turbine - Reversible (pumped storage)
- 7 NP - Steam Turbine (pressurized water nuclear reactor)
- 4 JE - Jet Engine
- 3 IC - Internal Combustion (diesel)

The primary energy source for the 211 generators is as follows:

- 112 - Water (Hydro)
- 46 - No. 2 Fuel Oil (FO2)
- 27 - Bituminous Coal
- 13 - Natural Gas
- 7 - Uranium (Nuclear)
- 2 - No. 6 Fuel Oil (FO6)

Table 2.16

Inventory of Power Plants in South Carolina, 1999						
Company	Plant	County	Unit No.	Rating Capacity (megawatts)	Unit Type	Primary Fuel
Abbeville, City of	Rocky River	Abbeville	IC1	1.1	IC	FO2
			1	1.8	HY	Water
			2	0.8	HY	Water
Carolina Power & Light	Darlington County	Darlington	1	66.8	GT	Nat. Gas
			2	65.8	GT	FO2
			3	66.8	GT	Nat. Gas
			4	65.8	GT	FO2
			5	66.8	GT	Nat. Gas
			6	65.8	GT	FO2
			7	66.8	GT	Nat. Gas
			8	65.8	GT	FO2
			9	66.8	GT	FO2
			10	65.8	GT	FO2
			11	66.8	GT	FO2

(continued)

Company	Plant	County	Unit No.	Rating Capacity (megawatts)	Unit Type	Primary Fuel
Duke Power Co.	H B Robinson	Darlington	12	158.0	GT	Nat. Gas
			13	158.0	GT	Nat. Gas
			GT1	16.3	GT	Nat. Gas
			1	206.6	ST	BIT
			2	768.7	NP	Uranium
	Bad Creek	Oconee	1	266.3	PS	Water
			2	266.3	PS	Water
			3	266.3	PS	Water
			4	266.3	PS	Water
	Buzzard Roost	Greenwood	HC1	5.0	HY	Water
			HC2	5.0	HY	Water
			HC3	5.0	HY	Water
			6	22.7	GT	FO2
			7	22.7	GT	FO2
			8	22.7	GT	FO2
			9	22.7	GT	FO2
			10	17.8	GT	FO2
			11	17.8	GT	FO2
			12	17.8	GT	FO2
			13	17.8	GT	FO2
			14	17.8	GT	FO2
	Catawba	York	*1	1,205.1	NP	Uranium
			*2	1,205.1	NP	Uranium
	Cedar Creek	Lancaster	1	15.0	HY	Water
			2	15.0	HY	Water
			3	15.0	HY	Water
	Dearborn	Chester	1	15.0	HY	Water
			2	15.0	HY	Water
			3	15.0	HY	Water
	Fishing Creek	Chester	1	9.4	HY	Water
			2	6.0	HY	Water
			3	6.0	HY	Water
			4	9.4	HY	Water
			5	6.0	HY	Water
	Gaston Shoals	Cherokee	3	1.4	HY	Water
			4	1.4	HY	Water
			5	1.4	HY	Water
			6	2.5	HY	Water
	Great Falls	Chester	1	3.0	HY	Water
			2	3.0	HY	Water
			3	3.0	HY	Water
			4	3.0	HY	Water
			5	3.0	HY	Water

(continued)

Company	Plant	County	Unit No.	Rating Capacity (megawatts)	Unit Type	Primary Fuel
	Jocassee	Pickens	6	3.0	HY	Water
			7	3.0	HY	Water
			8	3.0	HY	Water
			1	153.0	PS	Water
			2	153.0	PS	Water
			3	153.0	PS	Water
	Keowee	Pickens	4	153.0	PS	Water
			1	78.8	HY	Water
	Oconee	Oconee	2	78.8	HY	Water
			1	886.7	NP	Uranium
	Rocky Creek	Fairfield	2	886.7	NP	Uranium
			3	893.3	NP	Uranium
			1	3.0	HY	Water
	W. S. Lee	Anderson	2	3.0	HY	Water
			3	3.0	HY	Water
			4	3.0	HY	Water
			5	5.0	HY	Water
			6	5.0	HY	Water
			7	3.0	HY	Water
			8	3.0	HY	Water
			1	90.0	ST	BIT
			2	90.0	ST	BIT
			3	175.0	ST	BIT
	Wateree	Kershaw	4	35.1	GT	FO2
			5	35.1	GT	FO2
			6	35.1	GT	FO2
			1	11.2	HY	Water
			2	11.2	HY	Water
	Wylie	York	3	11.2	HY	Water
			4	11.2	HY	Water
			5	11.2	HY	Water
			1	15.0	HY	Water
			2	15.0	HY	Water
	99 Islands	Cherokee	3	15.0	HY	Water
			4	15.0	HY	Water
			1	3.0	HY	Water
			2	3.0	HY	Water
			3	3.0	HY	Water
			4	3.0	HY	Water
Lockhart Power Co.	Lockhart	Union	5	3.0	HY	Water
			6	3.0	HY	Water
			HY1	2.8	HY	Water
			HY3	2.8	HY	Water
			HY4	2.8	HY	Water
			HY5	1.1	HY	Water
			2	4.2	HY	Water

(continued)

Company	Plant	County	Unit No.	Rating Capacity (megawatts)	Unit Type	Primary Fuel
Orangeburg, City of	North Road Peak	Orangeburg	EAST	7.0	IC	FO2
			WEST	7.0	IC	FO2
	Rowesville Road Plant	Orangeburg	NA1	4.9	JE	Nat. Gas
			NA2	4.9	JE	Nat. Gas
SC Electric & Gas Co. (SCANA)	Burton	Beaufort	1	11.5	GT	FO2
			2	11.5	GT	FO2
			3	11.5	GT	FO2
	Canady's Steam	Colleton	1	136.0	ST	BIT
			2	136.0	ST	BIT
			3	217.6	ST	BIT
	Coit Gt.	Richland	1	19.6	GT	FO2
			2	19.6	GT	FO2
	Columbia	Richland	1	1.6	HY	Water
			2	1.6	HY	Water
			3	1.6	HY	Water
			4	1.3	HY	Water
			5	1.3	HY	Water
			6	1.6	HY	Water
			7	1.6	HY	Water
	Cope	Orangeburg	ST1	417.4	ST	BIT
	Faber Place	Charleston	1	11.5	GT	Nat. Gas
	Fairfield PS	Fairfield	1	63.9	PS	Water
			2	63.9	PS	Water
			3	63.9	PS	Water
			4	63.9	PS	Water
			5	63.9	PS	Water
			6	63.9	PS	Water
			7	63.9	PS	Water
			8	63.9	PS	Water
	Hagood	Charleston	4	122.0	GT	Nat. Gas
	Hardeeville	Jasper	1	16.3	GT	FO2
	McMeekin	Lexington	1	146.9	ST	BIT
			2	146.9	ST	BIT
	Neal Shoals	Union	1	1.3	HY	Water
			2	1.3	HY	Water
			3	1.3	HY	Water
			4	1.3	HY	Water
	Parr	Fairfield	1	2.5	HY	Water
			2	2.5	HY	Water
			3	2.5	HY	Water
			4	2.5	HY	Water
			5	2.5	HY	Water
			6	2.5	HY	Water

(continued)

Company	Plant	County	Unit No.	Rating Capacity (megawatts)	Unit Type	Primary Fuel
SC Generating Co., Inc (SCANA).	Parr Gt.	Fairfield	GT1	17.6	GT	FO2
			GT2	17.6	GT	FO2
			GT3	19.6	GT	FO2
			GT4	19.6	GT	FO2
	Saluda	Lexington	1	32.5	HY	Water
			2	32.5	HY	Water
			3	32.5	HY	Water
			4	32.5	HY	Water
			5	67.5	HY	Water
	Summer Urquhart	Fairfield	*1	953.9	NP	Uranium
		Aiken	GT1	19.6	GT	FO2
			GT2	16.3	GT	FO2
			GT3	16.3	GT	FO2
		Aiken	1	75.0	ST	BIT
			2	75.0	ST	BIT
			3	100.0	ST	BIT
	USDOU SRS Wateree	Aiken	1	70.0	ST	BIT
		Richland	1	385.9	ST	BIT
			2	386.9	ST	BIT
SC Public Serv Auth. (Santee Cooper)	Williams	Berkeley	ST1	632.7	ST	BIT
			1	26.9	GT	FO2
			2	26.9	GT	FO2
	Cross	Berkeley	1	590.9	ST	BIT
			2	556.2	ST	BIT
	D. M. Grainger	Horry	*1	81.6	ST	BIT
			*2	81.6	ST	BIT
	Hilton Head	Beaufort	*1	26.6	GT	FO2
			2	26.6	GT	FO2
			3	64.7	GT	FO2
	Jefferies	Berkeley	H1	30.6	HY	Water
			H2	30.6	HY	Water
			H3	30.6	HY	Water
			H4	30.6	HY	Water
			H6	10.2	HY	Water
			1	50.0	ST	FO6
			2	50.0	ST	FO6
			3	172.8	ST	FO6
			4	172.8	ST	FO6

(continued)

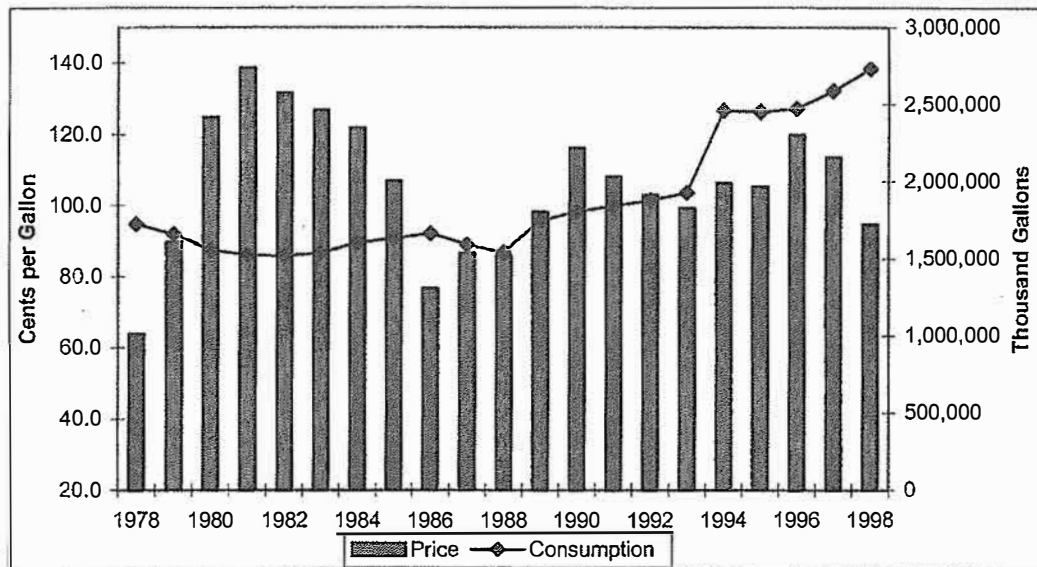
Company	Plant	County	Unit No.	Rating Capacity (megawatts)	Unit Type	Primary Fuel
U.S. Corps of Engineers- Savannah District	Myrtle Beach	Horry	1	11.5	GT	FO2
			2	11.5	GT	FO2
			3	26.6	GT	FO6
			4	26.6	GT	FO2
			5	35.3	GT	FO2
	Spillway St. Stephen	Berkeley	1	2.0	HY	Water
		Berkeley	*1	28.0	HY	Water
			*2	28.0	HY	Water
	Winyah	Georgetown	*3	28.0	HY	Water
			1	315.0	ST	BIT
			2	315.0	ST	BIT
			3	315.0	ST	BIT
			4	315.0	ST	BIT
	J. Strom Thurmond	McCormick	1	40.0	HY	Water
			2	40.0	HY	Water
			3	40.0	HY	Water
			4	40.0	HY	Water
			5	40.0	HY	Water
			6	40.0	HY	Water
			7	40.0	HY	Water

*A jointly-owned plant.

Source: Energy Information Administration, *Inventory of Power Plants in the United States as of January 1, 1999*.

Figure 3.1

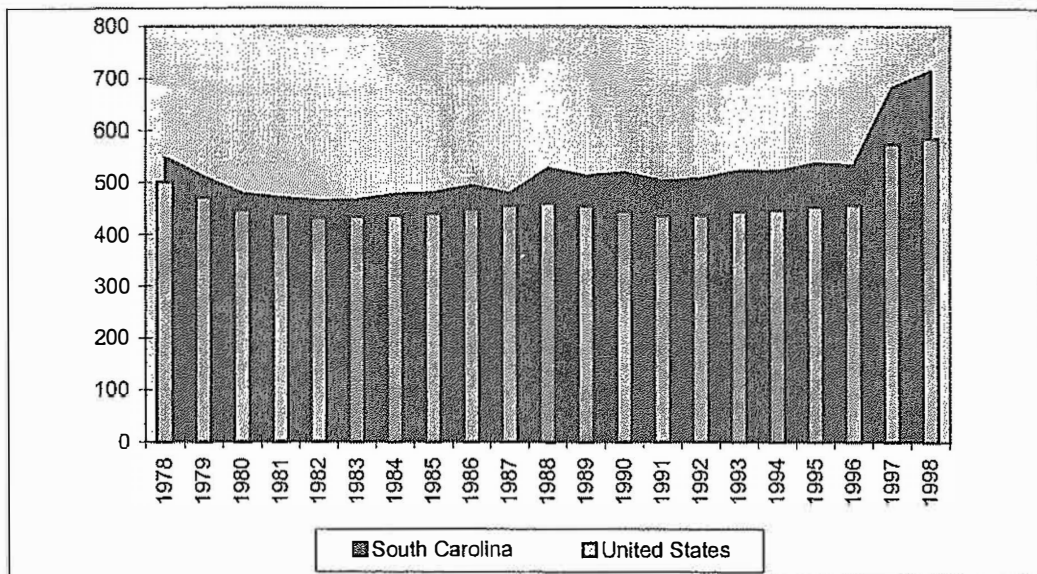
South Carolina Average Annual Retail Gasoline Prices v. Consumption, 1978-1998



Sources: Federal Highway Administration, Highway Statistics; SC Department of Revenue; AAA Carolinas Motor Club.

Figure 3.2

Motor Fuel Consumption per Capita, 1978-1998



Sources: 1978-1996: Energy Information Administration, *State Energy Data Report*; 1997-1998: Federal Highway Administration, *Highway Statistics*.

Table 3.2
South Carolina Monthly Gasoline Consumption, 1988-1998
(Thousand Gallons)

Month	1988	1989	1990	1991	1992	1993
Jan	125,178	122,080	77,166	139,874	147,676	145,042
Feb	99,957	135,088	190,430	138,951	143,521	144,119
Mar	110,462	152,409	147,388	152,715	158,377	160,540
Apr	115,827	144,397	164,637	154,868	160,549	167,550
May	129,166	151,361	163,362	163,309	160,252	162,637
June	128,255	152,761	157,915	156,183	156,010	164,326
July	133,405	154,577	161,720	159,837	169,141	173,512
Aug	124,859	156,350	167,094	164,919	163,905	168,546
Sept	143,190	137,201	140,956	160,296	154,870	160,331
Oct	142,231	146,523	144,374	154,234	160,879	157,166
Nov	134,227	135,725	147,263	144,588	149,074	157,555
Dec	150,277	157,083	142,823	150,741	162,683	166,869
TOTAL	1,537,034	1,745,555	1,805,128	1,840,515	1,886,937	1,928,193
%Change	-3.2%	13.6%	3.4%	2.0%	2.5%	2.2%

Month	1994	1995	1996	1997	1998
Jan	150,033	151,194	149,093	161,748	168,915
Feb	143,504	147,029	149,384	154,497	158,021
Mar	165,902	171,129	158,155	178,250	181,377
Apr	165,889	166,803	152,822	175,317	179,237
May	158,365	171,801	186,059	181,557	183,486
June	166,489	173,100	177,482	175,071	189,295
July	170,454	175,474	182,531	188,975	196,386
Aug	182,397	175,177	181,507	186,252	190,589
Sept	161,892	158,545	152,157	170,244	178,467
Oct	157,184	169,668	186,362	180,218	185,805
Nov	161,365	165,245	167,956	168,931	173,466
Dec	166,965	164,029	170,650	179,142	186,738
TOTAL	1,950,439	1,989,194	2,014,158	2,100,202	2,171,782
%Change	1.2%	2.0%	1.3%	4.3%	3.4%

Source: South Carolina Department of Revenue.

South Carolina Aviation Gasoline Consumption

Table 3.4

South Carolina Monthly Aviation Gasoline Consumption, 1988-1998 (Gallons)

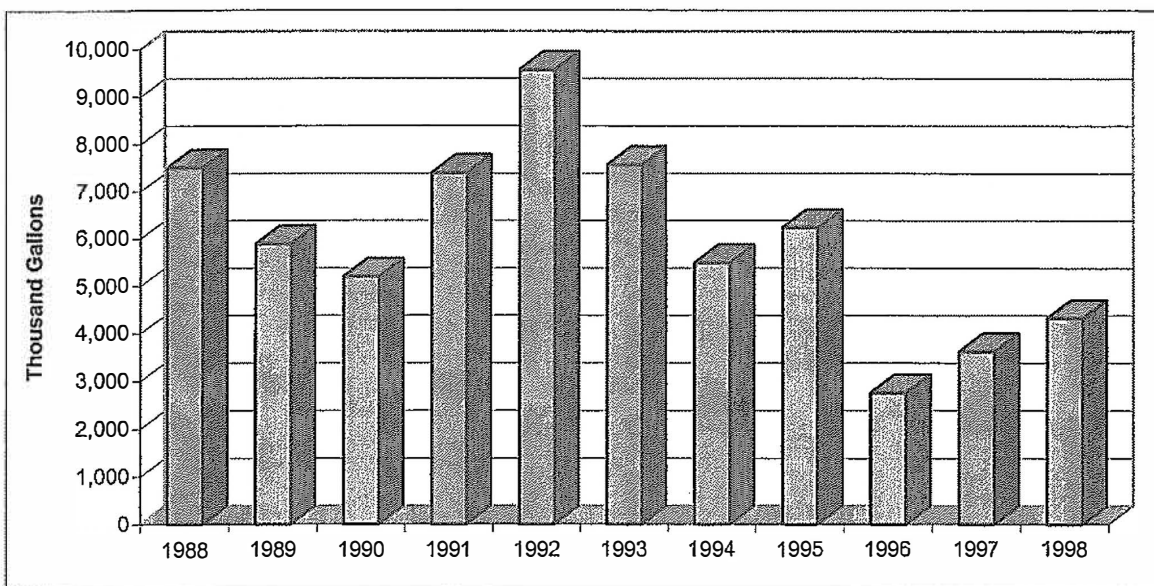
Month	1988	1989	1990	1991	1992	1993
Jan	523,647	293,775	383,446	339,324	670,660	574,653
Feb	398,567	361,997	361,427	722,592	728,551	451,314
Mar	642,734	508,017	413,282	481,604	1,174,774	611,161
Apr	778,842	603,631	403,203	552,306	876,789	861,048
May	659,294	487,484	532,392	517,508	782,096	671,661
June	991,874	529,274	460,476	482,321	883,131	897,799
July	774,523	500,081	519,659	794,204	765,643	551,340
Aug	760,585	603,028	479,059	790,171	854,902	883,561
Sept	646,845	388,735	213,853	688,898	810,133	724,844
Oct	426,099	517,480	350,753	688,898	667,262	336,107
Nov	503,827	532,736	604,668	608,612	659,455	560,442
Dec	400,068	559,376	481,329	729,035	690,254	441,420
TOTAL	7,506,905	5,885,614	5,203,547	7,395,473	9,563,650	7,565,350
% Change	7.7%	-21.6%	-11.6%	42.1%	29.3%	-20.9%

Month	1994	1995	1996	1997	1998
Jan	442,913	436,230	301,861	155,815	356,385
Feb	576,866	385,222	223,887	235,287	314,122
Mar	662,901	634,164	249,004	254,266	362,627
Apr	651,782	412,543	203,530	315,255	387,001
May	626,811	618,866	250,117	380,620	329,186
June	527,966	638,966	197,763	323,687	350,677
July	620,199	551,634	261,659	302,410	472,294
Aug	-613,261	555,637	232,998	379,149	378,605
Sept	531,436	550,638	196,208	347,625	350,600
Oct	424,580	556,127	243,540	370,920	384,413
Nov	587,126	492,366	226,290	279,629	294,280
Dec	448,873	403,651	174,052	277,378	347,403
TOTAL	5,488,192	6,236,044	2,760,909	3,622,041	4,327,593
% Change	-27.5%	13.6%	-55.7%	31.2%	19.5%

Source: South Carolina Department of Revenue.

Figure 3.4

South Carolina Annual Aviation Gasoline Consumption, 1988-1998
(Thousand Gallons)



Source: South Carolina Department of Revenue.

Table 3.6

South Carolina Monthly Diesel Fuel Consumption, 1988-1998

Month	1988	1989	1990	1991	1992	1993
Jan	23,260	29,091	15,762	26,025	32,006	33,299
Feb	21,077	26,994	48,531	29,524	28,382	30,624
Mar	23,366	34,139	30,954	37,231	35,438	9,625
Apr	36,585	38,370	46,331	35,918	41,611	41,577
May	16,233	31,995	34,682	31,585	31,085	34,055
June	21,954	37,027	43,558	29,300	46,093	46,630
July	25,627	34,536	31,861	29,644	32,082	32,004
Aug	24,123	32,360	33,773	29,876	32,469	35,820
Sept	39,807	38,865	38,898	39,518	32,760	44,260
Oct	30,338	39,721	33,754	33,764	42,645	34,248
Nov	29,136	39,656	30,853	28,661	30,735	32,464
Dec	29,756	42,367	38,254	28,969	42,542	43,602
TOTAL	321,262	425,121	427,211	380,015	427,848	418,208
%Change	-6.4%	32.3%	0.5%	-11.0%	12.6%	-2.3%

Month	1994	1995	1996	1997	1998
Jan	35,736	40,715	46,424	41,405	46,657
Feb	31,909	34,553	35,757	39,128	41,285
Mar	80,940	46,256	40,817	42,360	47,921
Apr	46,960	50,959	44,453	44,007	46,887
May	54,340	40,184	41,858	43,281	45,340
June	49,441	49,768	37,975	41,280	48,322
July	36,377	40,330	42,914	42,621	47,395
Aug	39,926	40,434	45,488	42,833	46,587
Sept	45,923	44,005	40,797	43,262	47,028
Oct	63,625	47,926	45,477	47,973	49,480
Nov	37,552	38,128	41,265	43,261	43,976
Dec	45,900	42,100	39,002	44,209	45,647
TOTAL	568,629	515,358	502,227	515,620	556,525
%Change	36.0%	-9.4%	-2.5%	2.7%	7.9%

Source: South Carolina Department of Revenue.

South Carolina Petroleum Consumption by Type of Product

South Carolina petroleum consumption increased by 11.5% during the period 1977 to 1997. The two petroleum products that were consumed the most during this period were motor gasoline (29.4% increase) and distillate fuel oil (24.5% increase). Quite noticeable during this period was the significant decrease in the consumption of residual fuel. Both motor gasoline and distillate fuel oil experienced a dip in consumption in 1982, but have since steadily increased every year. In 1997, motor gasoline was the petroleum product consumed in the largest amount with 57%; distillate fuel accounted for 19% and liquefied petroleum gasoline (LPG), residual fuel, jet fuel, kerosene and other accounted for the other petroleum product consumption.

Table 3.7

South Carolina Petroleum Use by Type of Product, 1977-1997 (Thousand Barrels)									
Year	Distillate Fuel ¹	Jet Fuel	Kerosene	LPG ²	Motor Gasoline	Residual Fuel ³	Other*	Total	Percent Change
1977	13,141	2,732	1,350	3,742	38,220	13,151	5,173	77,509	8.1%
1978	11,132	2,854	1,212	3,734	39,996	13,193	5,467	77,588	0.1%
1979	11,918	2,941	1,150	2,968	37,899	10,928	5,837	73,641	-5.1%
1980	10,660	3,062	1,352	3,178	35,517	7,205	6,110	67,084	-8.9%
1981	9,822	2,865	679	2,826	35,600	5,349	7,158	64,299	-4.2%
1982	9,485	2,745	605	2,606	35,446	3,133	5,674	59,694	-7.2%
1983	10,553	2,529	635	2,621	35,896	3,933	5,491	61,658	3.3%
1984	11,510	3,080	427	2,520	37,133	5,013	5,433	65,116	5.6%
1985	11,731	3,184	1,484	3,161	37,719	2,921	5,550	65,750	1.0%
1986	11,696	3,168	1,181	2,880	39,283	2,401	6,762	67,371	2.5%
1987	11,850	3,193	1,359	3,620	38,522	2,458	7,712	68,714	2.0%
1988	12,606	3,229	1,484	3,536	42,828	3,274	8,671	75,628	10.1%
1989	12,499	3,117	1,426	3,672	42,171	2,743	7,567	73,195	-3.2%
1990	14,538	2,939	659	2,914	43,264	2,450	8,084	74,848	2.3%
1991	15,289	3,442	851	3,606	42,561	2,433	9,647	77,829	4.0%
1992	13,737	2,586	524	3,597	43,441	2,394	10,708	76,987	-1.1%
1993	13,652	2,024	760	3,660	45,081	3,812	10,306	79,295	3.0%
1994	15,516	1,451	474	3,871	45,249	2,607	10,198	79,366	0.1%
1995	14,902	1,027	574	3,826	46,973	2,689	10,650	80,641	1.6%
1996	15,600	1,292	673	3,586	47,427	3,033	10,683	82,294	2.0%
1997	16,354	1,328	694	3,623	49,468	2,643	12,346	86,456	5.1%

*Other includes asphalt and road oil, aviation gasoline, lubricants, and other.

¹Distillate fuel includes fuel oils No. 1, No. 2, and No. 4, and diesel fuels No.1, No. 2 and No. 4; these products are used primarily for space heating, on-and-off highway diesel engine fuel, and electric power generation.

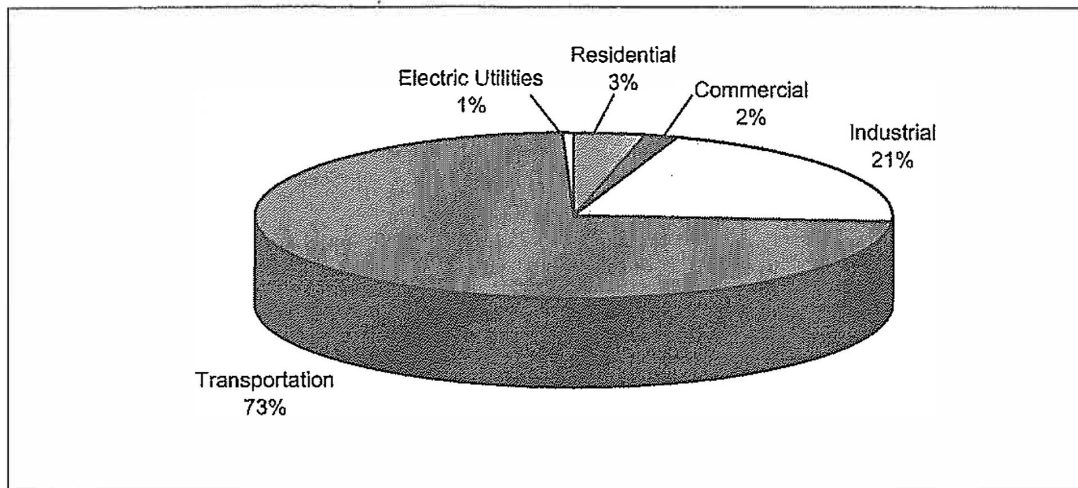
²Liquefied petroleum gas (propane).

³Residual fuel includes products known as No. 5 and No. 6 fuel oil and heavy diesel oil; mostly used for industrial purposes.

Source: Energy Information Administration, *State Energy Data Report*.

Figure 3.8

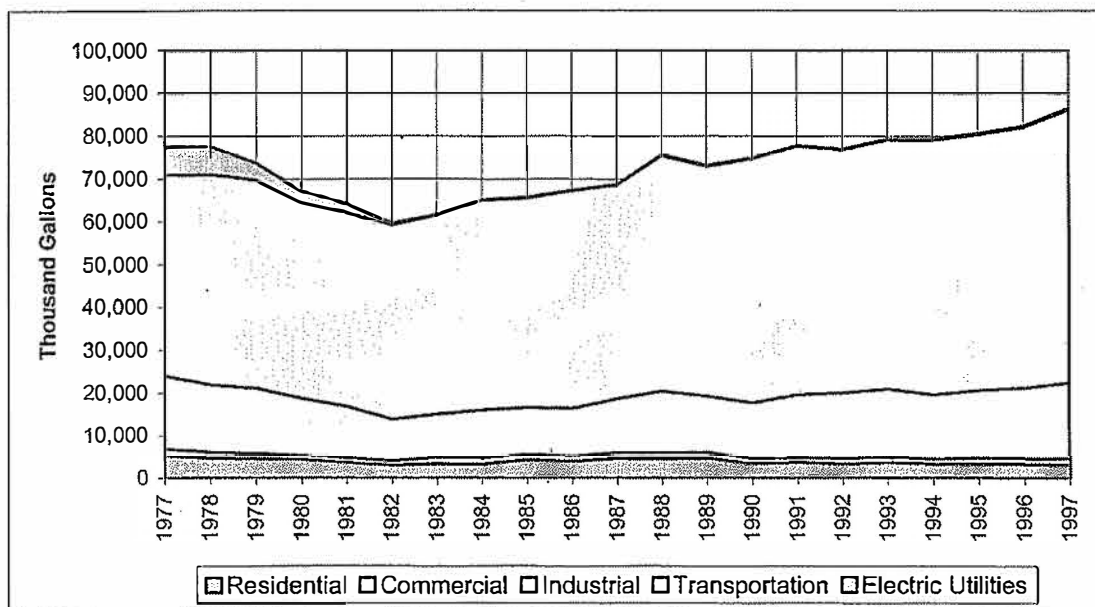
South Carolina Petroleum Consumption by Economic Sector, 1997



Source: Energy Information Administration, *State Energy Data Report*.

Figure 3.9

South Carolina Petroleum Consumption by Economic Sector, 1977-1997



Source: Energy Information Administration, *State Energy Data Report*.

Distillate Fuel Oil Consumption

Distillate fuel oil consumption in South Carolina increased 46.5% during the period 1978 to 1998. The largest increase occurred in the commercial sector with 156.2%, followed by the transportation sector with an increase of 130.8%. Significant decreases were experienced in both the residential and industrial sectors during this same period. As Figure 4.1 illustrates, the transportation sector accounted for 83% of all distillate fuel oil consumed in South Carolina in 1998.

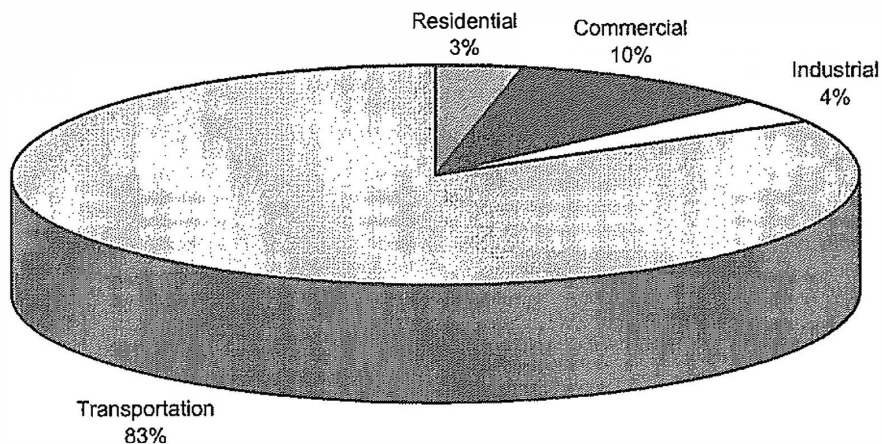
Table 3.9

South Carolina Consumption of Distillate Fuel Oil by End Use, 1978-1998 (Million Gallons)						
Year	Residential	Commercial	Industrial	Transportation	TOTAL	Percent Change
1978	84.5	25.1	94.7	227.2	431.5	-11.3%
1979	83.1	24.7	86.8	288.2	482.8	11.9%
1980	66.4	20.2	78.7	258.5	423.8	-12.2%
1981	60.0	18.2	75.5	237.8	391.5	-7.6%
1982	47.6	17.0	63.0	262.6	390.2	-0.3%
1983	49.3	34.9	61.8	291.6	437.6	12.1%
1984	50.6	35.8	63.4	327.6	477.4	9.1%
1985	48.4	35.3	71.3	329.9	484.9	1.6%
1986	49.3	29.5	64.3	343.2	486.3	0.3%
1987	58.8	36.4	58.6	339.1	492.9	1.4%
1988	47.0	44.3	70.2	359.8	521.3	5.8%
1989	53.8	38.8	80.1	341.5	514.2	-1.4%
1990	42.4	25.5	81.9	455.9	605.7	17.8%
1991	41.9	22.0	88.3	484.5	636.7	5.1%
1992	29.0	28.2	74.7	439.1	571.0	-10.3%
1993	34.9	35.6	65.7	431.2	567.4	-0.6%
1994	28.0	27.3	56.2	528.8	640.3	12.8%
1995	28.1	40.7	77.4	471.2	617.4	-3.6%
1996	30.3	41.1	90.5	482.1	644.0	4.3%
1997	23.3	45.6	21.0	514.3	604.2	-6.2%
1998	20.3	64.3	23.3	524.4	632.3	4.7%

Note: The term distillate fuel includes products known as No. 1, No. 2, and No. 4 fuel oils and No. 1, No. 2, and No. 4 diesel fuels.
Sources: Energy Information Administration, *State Energy Data Report* and *Fuel Oil and Kerosene Sales*.

Figure 3.10

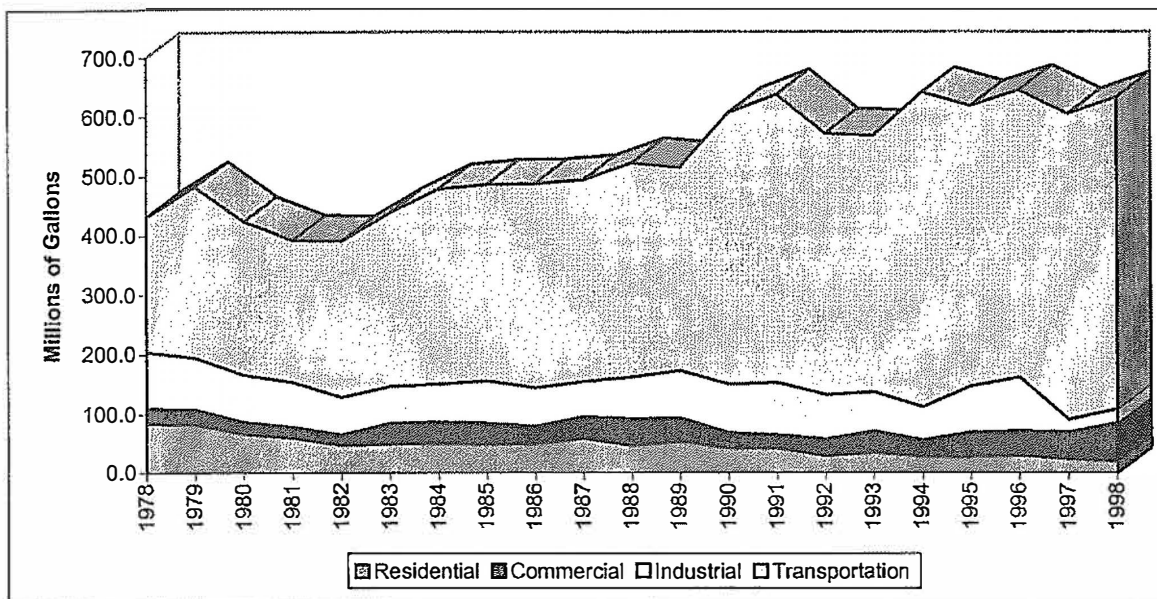
South Carolina Distillate Fuel Oil Consumption by Sector, 1998



Source: Energy Information Administration, *State Energy Data Report* and *Fuel Oil and Kerosene Sales*.

Figure 3.11

South Carolina Consumption of Distillate Fuel Oil by Sector, 1978-1998



Source: Energy Information Administration, *State Energy Data Report* and *Fuel Oil and Kerosene Sales*.

South Carolina Kerosene Consumption

Kerosene consumption in South Carolina has been gradually declining over the past 20 years, experiencing a 31.7% decrease from 1978 to 1998. In 1998, as Figure 4.3 indicates, the residential sector accounted for 82% of all kerosene consumption in South Carolina, followed by the industrial sector with 12% and the commercial sector with 6% of the total.

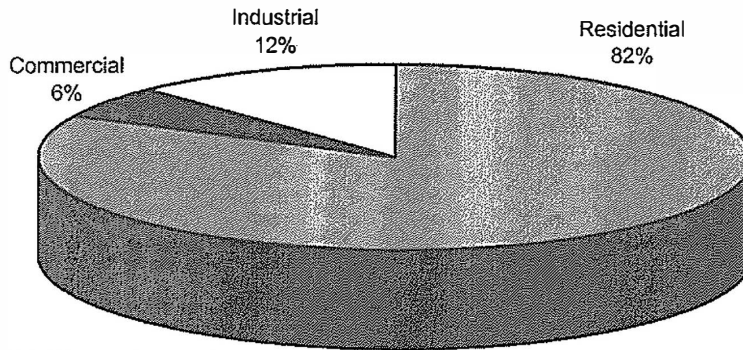
Table 3.10

South Carolina Consumption of Kerosene by End Use 1978-1998 (Million Gallons)					
Year	Residential	Commercial	Industrial	TOTAL	Percent Change
1977	35.4	0.9	20.4	56.7	12.5%
1978	31.2	0.8	18.8	50.8	-10.4%
1979	40.9	1.1	6.3	48.3	-4.9%
1980	50.4	1.0	5.3	56.7	17.4%
1981	23.2	1.2	4.1	28.5	-49.7%
1982	22.0	1.0	2.3	25.3	-11.2%
1983	21.2	1.0	4.4	26.6	5.1%
1984	15.4	0.5	2.0	17.9	-32.7%
1985	50.9	2.0	9.4	62.3	248.0%
1986	41.7	2.3	5.6	49.6	-20.4%
1987	48.5	2.2	6.4	57.1	15.1%
1988	25.8	1.0	7.4	34.2	-40.1%
1989	24.3	3.0	7.1	34.4	0.6%
1990	15.2	0.5	4.0	19.7	-42.7%
1991	20.3	0.5	4.6	25.4	28.9%
1992	18.5	0.6	2.9	22.0	-13.4%
1993	27.1	0.8	3.9	31.8	44.5%
1994	15.6	1.1	3.2	19.9	-37.4%
1995	19.7	1.1	3.2	24.0	20.6%
1996	23.5	1.0	3.7	28.2	17.5%
1997	25.6	0.7	2.6	28.9	2.5%
1998	28.5	2.0	4.2	34.7	20.1%

Source: Energy Information Administration, *State Energy Data Report* and *Fuel Oil and Kerosene Sales*.

Figure 3.12

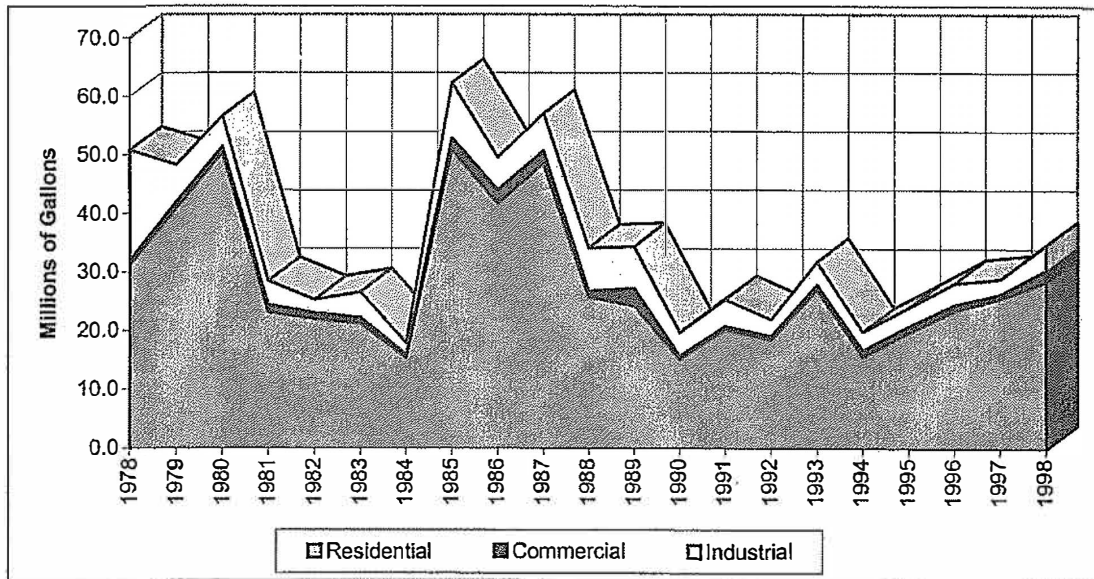
South Carolina Kerosene Consumption by Sector, 1998



Source: Energy Information Administration, *State Energy Data Report* and *Fuel Oil and Kerosene Sales*.

Figure 3.13

South Carolina Kerosene Consumption by Sector, 1978-1998



Source: Energy Information Administration, *State Energy Data Report* and *Fuel Oil and Kerosene Sales*.

Fuel Oil Prices in South Carolina

South Carolina prices for No. 2 distillate fuel dropped by 43.3% during the period 1983 to 1998. During the same period, kerosene prices decreased by 13.2%. Residual fuel price data was unavailable for 1998.

Table 3.11

South Carolina Prices of No. 2 Distillate, Kerosene, and Residual Fuel Oils, 1983-1998 (Cents per Gallon excluding Taxes)									
Year	No. 2 Distillate			Kerosene			Residual Fuel		
	Sales to End Users	Percent Change	Sales for Resales	Sales to End Users	Percent Change	Sales for Resales	Sales to End Users	Percent Change	Sales for Resales
1983	84.0	N/A	81.9	105.4	N/A	89.6	62.6	N/A	*
1984	83.3	-0.8%	81.6	108.5	2.9%	91.4	69.4	10.9%	68.9
1985	79.0	-5.2%	77.5	102.0	-6.0%	88.0	64.1	-7.6%	64.0
1986	47.7	-39.6%	46.4	90.1	-11.7%	62.5	38.1	-40.6%	44.6
1987	55.0	15.3%	53.0	100.5	11.5%	58.8	42.4	11.3%	*
1988	49.7	-9.6%	47.0	93.4	-7.1%	55.5	34.2	-19.3%	30.5
1989	57.3	15.3%	55.7	91.4	-2.1%	67.3	40.0	17.0%	38.2
1990	73.8	28.8%	69.0	110.8	21.2%	87.7	46.3	15.8%	37.3
1991	64.9	-12.1%	62.4	126.7	14.4%	75.8	36.9	-20.3%	*
1992	61.0	-6.0%	58.7	111.1	-12.3%	65.5	37.2	0.8%	**
1993	58.7	-3.8%	55.0	N/A	N/A	61.6	*	N/A	*
1994	54.6	-7.0%	51.0	N/A	N/A	60.5	*	N/A	*
1995	55.3	1.3%	51.8	93.8	N/A	57.2	*	N/A	37.2
1996	67.1	21.3%	63.5	100.3	6.9%	71.0	48.7	N/A	*
1997	63.3	-5.7%	58.3	106.3	6.0%	65.7	45.6	-6.4%	41.1
1998	47.6	-24.8%	42.6	91.5	-13.9%	48.8	*	N/A	30.2

Note: No. 2 distillate includes No. 2 fuel oil and/or No. 2 diesel fuel.

*Withheld to avoid disclosure of individual company data.

**No data reported.

Source: Energy Information Administration, *Petroleum Marketing Annual*.

No. 2 Distillate Prices

No. 2 distillate average prices fell by 30.5% during the period 1990 to 1998. Residential sector prices decreased by 21.9%, commercial sector prices dropped by 28.7%, industrial sector prices decreased by 29.7%, retail outlet prices decreased by 33.5%, and all other sectors dropped by 30.6%.

Table 3.12

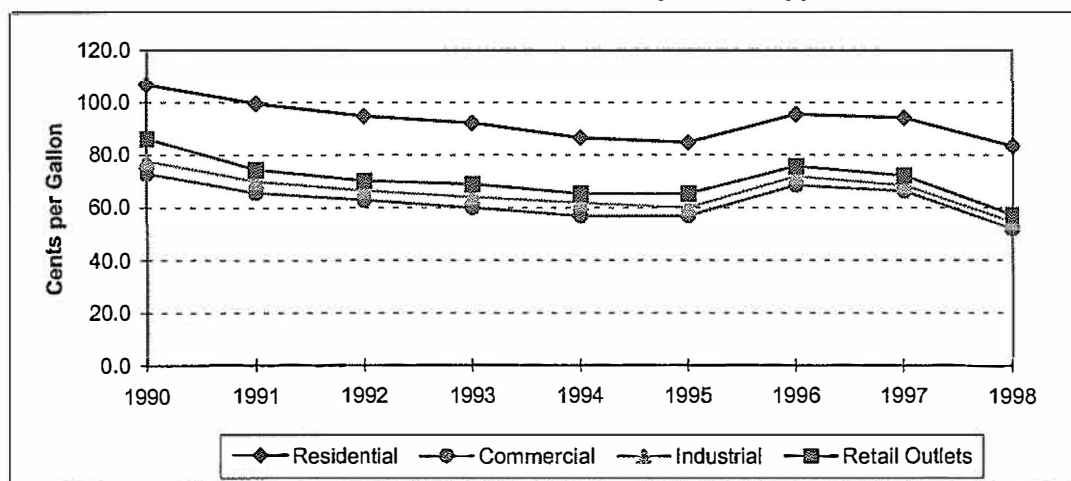
Year	Residential	Commercial	Industrial	Retail Outlets	Other	Average	Percent Change
1990	106.8	72.9	77.7	86.2	81.0	81.1	N/A
1991	99.6	65.7	70.1	74.5	71.6	72.2	-11.0%
1992	94.8	62.9	66.5	70.3	68.6	70.2	-2.8%
1993	92.2	60.1	64.2	69.0	65.8	67.4	-4.0%
1994	86.6	57.0	61.9	65.4	63.7	63.5	-5.8%
1995	84.8	57.0	60.0	65.4	62.8	62.9	-0.9%
1996	95.5	68.5	72.0	75.7	73.6	73.9	17.5%
1997	94.1	66.3	68.5	72.2	71.3	71.0	-3.9%
1998	83.4	52.0	54.6	57.3	56.2	56.4	-20.6%

*These are the average annual prices for No. 2 distillate for PAD District I, Subdistrict C, which includes South Carolina (Southeast Region).

Source: Energy Information Administration, *Petroleum Marketing Annual*.

Figure 3.14

South Carolina No. 2 Distillate Prices by Sales Type, 1990-1998



Source: Energy Information Administration, *Petroleum Marketing Annual*.

SECTION 4: NATURAL GAS

South Carolina Customers Served by Privately Owned Natural Gas Utilities

The number of residential customers served by privately owned natural gas companies increased by 115,498 (55.8%) during the period 1978 to 1998. The commercial and small industrial sectors saw customer growth of 17,190 (89.2%), and the large industrial sector experienced an increase of 410 (53.9%) in customer numbers. Altogether, there was an increase of 133,099 (58.7%) in the number of customers served by privately owned natural gas utilities from 1978 to 1998. Natural gas sales for resale have remained relatively constant. The privately owned natural gas companies are South Carolina Electric and Gas, South Carolina Pipeline Corporation, Piedmont Natural Gas, and United Cities Gas Company.

Table 4.1

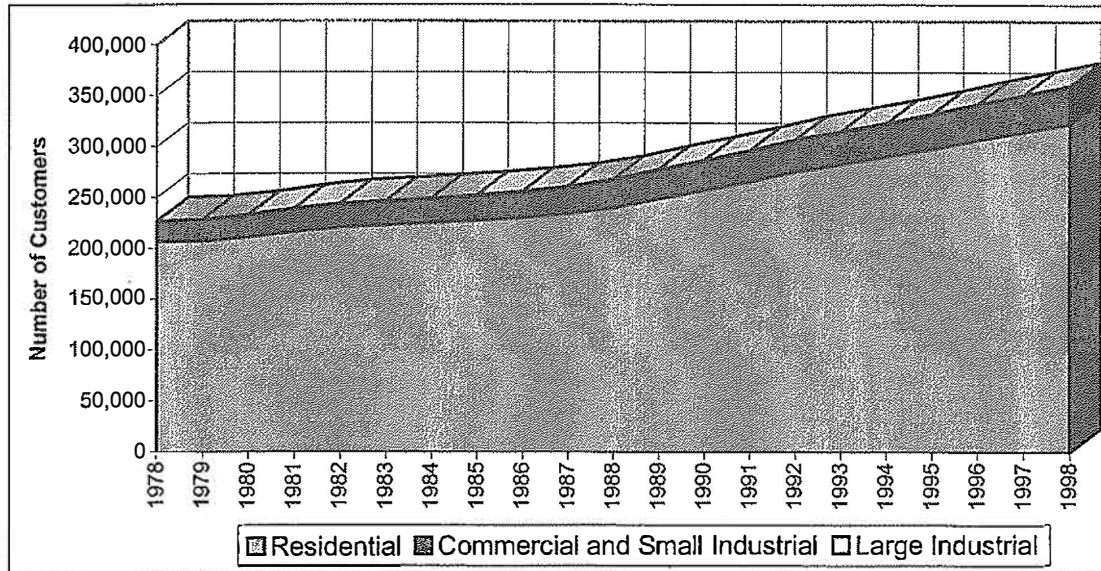
South Carolina Customers Served by Privately-Owned Natural Gas Utilities, 1978-1998*						
Year	Residential	Commercial and Small Industrial	Large Industrial	Sales for Resale	Total Customers	Percent Change
1978	206,815	19,281	761	14	226,871	-0.3%
1979	206,777	21,059	806	13	228,655	0.8%
1980	210,992	21,400	814	14	233,220	2.0%
1981	216,419	22,008	825	12	239,264	2.6%
1982	220,828	22,360	844	12	244,044	2.0%
1983	222,952	22,837	890	12	246,691	1.1%
1984	224,976	23,460	892	13	249,341	1.1%
1985	227,336	24,041	926	21	252,324	1.2%
1986	230,192	24,792	976	22	255,982	1.4%
1987	234,138	25,805	932	25	260,900	1.9%
1988	239,974	26,852	899	16	267,741	2.6%
1989	248,722	27,938	903	16	277,579	3.7%
1990	256,902	28,727	906	16	286,551	3.2%
1991	265,626	29,734	910	16	296,286	3.4%
1992	275,259	30,622	906	16	306,803	3.5%
1993	282,551	31,438	917	16	314,922	2.6%
1994	290,080	32,299	952	15	323,346	2.7%
1995	297,878	33,233	1,085	15	332,211	2.7%
1996	306,636	34,480	1,094	15	342,225	3.0%
1997	314,554	35,570	1,140	15	351,279	2.6%
1998	322,313	36,471	1,171	15	359,970	2.5%

*Note: This table does not include data from publicly-owned natural gas companies since its availability was limited to a short time span. This was not conducive to a viable trend analysis. Future editions of this report may contain such data.

Source: South Carolina Public Service Commission.

Figure 4.1

South Carolina Customers Served by Privately-Owned Natural Gas Utilities by Sector, 1978-1998



Source: South Carolina Public Service Commission.

South Carolina Annual Deliveries of Natural Gas to End-Use Customers

End-use deliveries of natural gas in South Carolina were 34.3% higher in 1998 than in 1980. Most of the increase occurred in the industrial sector, where natural gas deliveries increased by 39.4%. On a comparative level, the industrial sector accounted for 67% of all natural gas deliveries in South Carolina in 1998, while accounting for 44% in the United States.

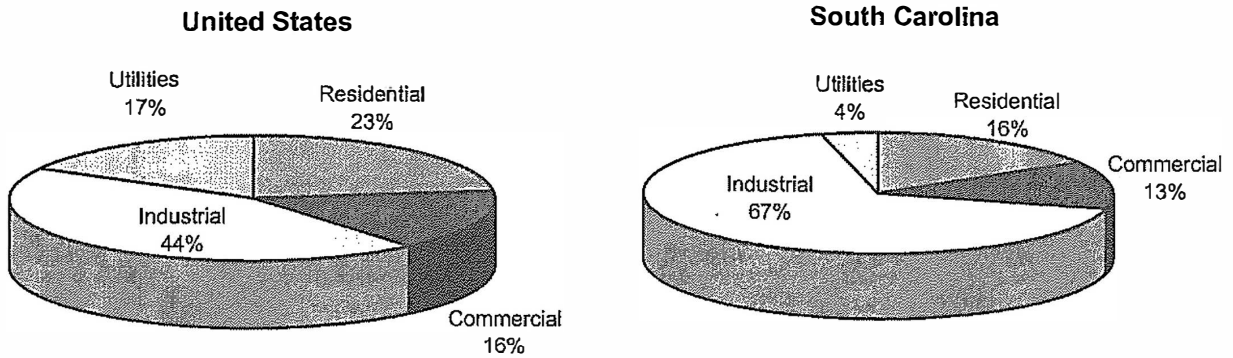
Table 4.2

South Carolina Annual Deliveries of Natural Gas to End-Use Customers, 1980-1998 (Million Cubic Feet)						
Year	Residential	Commercial	Industrial	Utilities	Total	Percent Change
1980	19,932	15,174	75,234	5,783	116,123	N/A
1981	20,210	15,682	73,478	5,314	114,684	-1.2%
1982	18,347	15,844	63,086	546	97,823	-14.7%
1983	19,101	16,540	61,659	597	97,897	0.1%
1984	19,048	16,555	68,240	268	104,111	6.3%
1985	16,435	15,271	63,038	484	95,228	-8.5%
1986	18,103	15,421	59,106	1,387	94,017	-1.3%
1987	20,200	17,195	63,340	538	101,273	7.7%
1988	20,648	17,290	69,575	2,378	109,891	8.5%
1989	20,262	16,250	73,911	2,705	113,128	2.9%
1990	18,623	16,032	87,912	6,975	129,542	14.5%
1991	19,611	15,795	85,790	9,824	131,020	1.1%
1992	22,934	16,644	94,328	1,794	135,700	3.6%
1993	24,093	16,764	94,892	1,850	137,599	1.4%
1994	23,484	17,870	97,501	3,004	141,859	3.1%
1995	25,164	18,868	98,332	6,615	148,979	5.0%
1996	29,406	20,329	95,493	1,206	146,434	-1.7%
1997	25,475	20,713	115,115	2,731	164,034	12.0%
1998	25,315	19,886	104,878	5,895	155,974	-4.9%

Source: Energy Information Administration, *Natural Gas Annual* and *Natural Gas Monthly*.

Figure 4.2

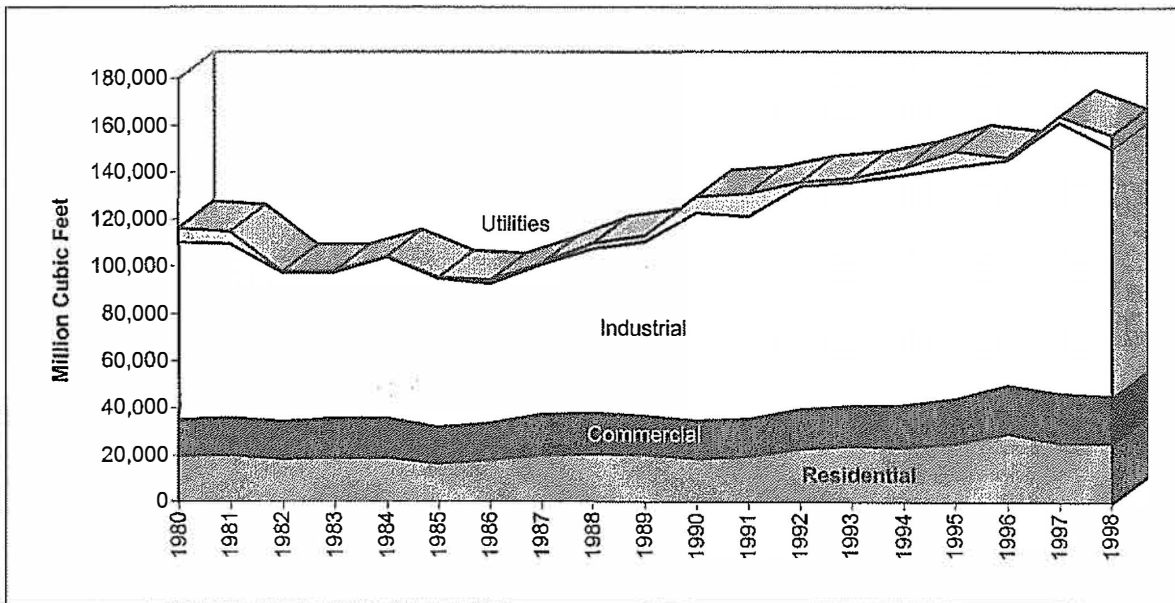
United States and South Carolina Annual Deliveries of Natural Gas to End-Use Customers, 1998



Source: Energy Information Administration, *Natural Gas Monthly*.

Figure 4.3

South Carolina Annual Deliveries of Natural Gas to End-Use Customers, 1980-1998



Source: Energy Information Administration, *Natural Gas Annual* and *Natural Gas Monthly*.

South Carolina Monthly Deliveries of Natural Gas

Table 4.3

South Carolina Monthly Deliveries of Natural Gas to End-Use Customers, 1990-1998
(Million Cubic Feet)

1990

Month	Residential	Commercial	Industrial	Electric Utilities	TOTAL
Jan	4,972	2,612	5,760	8	13,352
Feb	2,636	1,755	5,442	11	9,844
Mar	2,292	1,678	6,474	12	10,456
Apr	1,565	1,344	6,312	13	9,234
May	750	1,123	6,299	28	8,200
Jun	447	903	6,542	404	8,296
Jul	367	843	8,846	1,798	11,854
Aug	347	838	9,787	2,020	12,992
Sep	376	879	9,301	1,898	12,454
Oct	484	974	8,866	709	11,033
Nov	1,608	1,326	7,581	66	10,581
Dec	2,781	1,760	6,926	8	11,475
TOTAL	18,625	16,035	88,136	6,975	129,771
%TOTAL	14.4%	12.4%	67.9%	5.4%	100.0%

1991

Month	Residential	Commercial	Industrial	Electric Utilities	TOTAL
Jan	3,764	2,199	6,903	10	12,876
Feb	3,740	2,076	6,453	15	12,284
Mar	2,875	1,746	7,392	158	12,171
Apr	1,318	1,143	7,017	173	9,651
May	604	908	7,013	652	9,177
Jun	439	818	6,984	491	8,732
Jul	375	810	7,068	4,174	12,427
Aug	370	859	7,415	3,869	12,513
Sep	390	875	7,493	254	9,012
Oct	645	952	7,806	11	9,414
Nov	1,969	1,492	7,405	10	10,876
Dec	3,122	1,917	6,841	7	11,887
TOTAL	19,611	15,795	85,790	9,824	131,020
%TOTAL	15.0%	12.1%	65.5%	7.5%	100.0%

1992

Month	Residential	Commercial	Industrial	Electric Utilities	TOTAL
Jan	4,196	2,251	6,973	15	13,435
Feb	4,064	2,135	7,634	3	13,836
Mar	2,645	1,727	8,983	793	14,148
Apr	2,291	1,422	8,187	13	11,913
May	1,032	1,057	8,182	10	10,281
Jun	596	940	8,145	202	9,883
Jul	423	817	7,945	525	9,710
Aug	385	877	7,729	82	9,073
Sep	408	869	7,810	42	9,129
Oct	790	994	7,607	22	9,413
Nov	1,747	1,328	8,329	82	11,486
Dec	3,777	2,063	6,992	5	12,837
TOTAL	22,354	16,480	94,516	1,794	135,144
%TOTAL	16.5%	12.2%	69.9%	1.3%	100.0%

1993

Month	Residential	Commercial	Industrial	Electric Utilities	TOTAL
Jan	4,232	2,225	7,909	17	14,383
Feb	4,247	2,114	7,408	20	13,789
Mar	4,230	2,158	8,723	69	15,180
Apr	2,532	1,478	7,967	21	11,998
May	947	988	7,301	24	9,260
Jun	495	861	7,884	311	9,551
Jul	402	826	7,449	806	9,483
Aug	373	834	8,188	417	9,812
Sep	387	830	7,195	132	8,544
Oct	624	983	8,487	6	10,100
Nov	2,009	1,436	8,801	10	12,256
Dec	3,615	2,031	7,580	17	13,243
TOTAL	24,093	16,764	94,892	1,850	137,599
%TOTAL	17.5%	12.2%	69.0%	1.3%	100.0%

1994

Month	Residential	Commercial	Industrial	Electric Utilities	TOTAL
Jan	5,993	2,931	6,160	6	15,090
Feb	4,965	2,547	6,891	19	14,422
Mar	3,022	1,968	9,089	28	14,107
Apr	1,525	1,235	8,497	53	11,310
May	713	1,062	8,095	86	9,956
Jun	528	1,387	8,433	329	10,677
Jul	438	946	7,546	38	8,968
Aug	429	985	8,569	11	9,994
Sep	444	983	8,625	63	10,115
Oct	734	1,130	10,417	1,074	13,355
Nov	1,589	1,411	9,636	632	13,268
Dec	3,088	1,897	9,360	665	15,010
TOTAL	23,468	18,482	101,318	3,004	146,272
%TOTAL	16.0%	12.6%	69.3%	2.1%	100.0%

1995

Month	Residential	Commercial	Industrial	Electric Utilities	TOTAL
Jan	4,919	2,628	7,001	7	14,555
Feb	5,128	2,651	6,975	3	14,757
Mar	3,604	2,101	10,075	695	16,475
Apr	1,584	1,380	8,702	7	11,673
May	746	1,043	8,954	185	10,928
Jun	510	979	9,437	471	11,397
Jul	472	949	7,836	825	10,082
Aug	397	954	8,498	1,897	11,746
Sep	474	1,040	8,138	1,441	11,093
Oct	646	1,052	8,338	1,064	11,100
Nov	2,262	1,669	8,287	10	12,228
Dec	4,422	2,385	6,963	12	13,782
TOTAL	25,164	18,831	99,204	6,617	149,816
%TOTAL	16.8%	12.6%	66.2%	4.4%	100.0%

1996

Month	Residential	Commercial	Industrial	Electric Utilities	TOTAL
Jan	6,539	3,092	6,107	4	15,742
Feb	5,887	2,743	6,330	5	14,965
Mar	3,706	2,160	7,668	9	13,543
Apr	2,968	1,858	8,275	9	13,110
May	945	1,424	8,236	189	10,794
Jun	542	1,270	7,826	279	9,917
Jul	421	927	7,710	239	9,297
Aug	415	950	7,991	64	9,420
Sep	472	1,033	7,925	350	9,780
Oct	792	1,150	8,800	23	10,765
Nov	2,148	1,631	8,603	16	12,398
Dec	4,295	2,414	8,462	20	15,191
TOTAL	29,130	20,652	93,933	1,207	144,922
%TOTAL	20.1%	14.3%	64.8%	0.8%	100.0%

1997

Month	Residential	Commercial	Industrial	Electric Utilities	TOTAL
Jan	5,097	2,799	8,152	11	16,059
Feb	4,994	2,689	8,054	4	15,741
Mar	2,592	1,816	9,152	12	13,572
Apr	1,776	1,379	9,260	72	12,487
May	1,230	1,278	9,122	67	11,697
Jun	701	1,214	8,451	621	10,987
Jul	512	997	17,104	922	19,535
Aug	444	1,019	10,653	422	12,538
Sep	466	1,904	8,883	212	11,465
Oct	631	1,176	8,239	240	10,286
Nov	2,399	1,771	8,702	112	12,984
Dec	4,634	2,671	9,344	35	16,684
TOTAL	25,476	20,713	115,116	2,730	164,035
%TOTAL	15.5%	12.6%	70.2%	1.7%	100.0%

1998

Month	Residential	Commercial	Industrial	Electric Utilities	TOTAL
Jan	5,432	2,955	9,645	33	18,065
Feb	5,177	2,781	9,129	11	17,098
Mar	4,006	2,440	9,121	106	15,673
Apr	2,421	1,732	8,159	37	12,349
May	1,071	1,209	8,713	687	11,680
Jun	562	1,063	8,464	1,413	11,502
Jul	474	1,013	7,613	1,239	10,339
Aug	463	1,019	8,389	1,238	11,109
Sep	491	1,055	8,475	919	10,940
Oct	606	1,148	8,837	73	10,664
Nov	1,754	1,531	9,092	97	12,474
Dec	2,858	1,940	9,241	42	14,081
TOTAL	25,315	19,886	104,878	5,895	155,974
%TOTAL	16.2%	12.7%	67.2%	3.8%	100.0%

Source: Energy Information Administration, *Natural Gas Monthly*.

South Carolina Natural Gas Service from Privately-Owned Companies to Residential Customers

The number of residential customers receiving natural gas service from privately-owned companies (South Carolina Pipeline Corporation does not service residential customers) increased by 52.6% from 1980 to 1998. Natural gas sales to residential customers increased by 19.5%, and the average use per residential customer (in million cubic feet) decreased by 21.7%. This decrease in natural gas use per residential customer could indicate the adoption of efficiency measures in South Carolina homes.

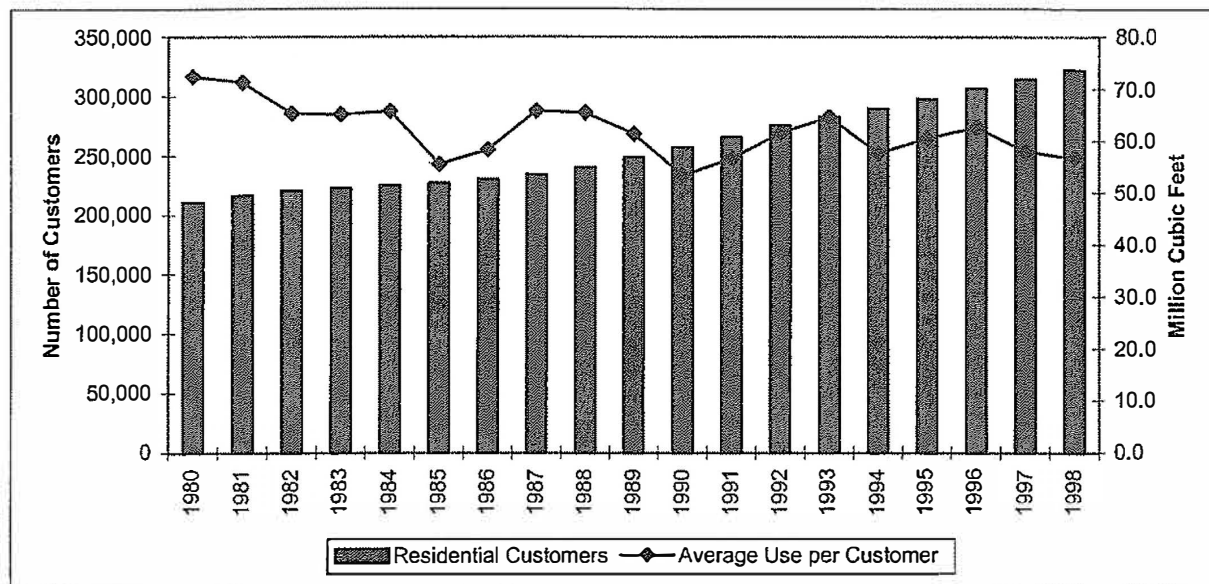
Table 4.4

Natural Gas Service from Privately-Owned Companies to Residential Customers in South Carolina, 1980-1998 (In Million Cubic Feet)			
Year	Residential Customers	Residential Gas Sales (mcf)	Average Use per Customer (mcf)
1980	210,992	15,275,992	72.4
1981	216,419	15,429,192	71.3
1982	220,828	14,425,041	65.3
1983	222,952	14,501,623	65.1
1984	224,976	14,771,137	65.7
1985	227,336	12,609,989	55.5
1986	230,192	13,424,281	58.3
1987	234,138	14,405,117	65.8
1988	239,974	15,687,512	65.4
1989	248,722	15,237,798	61.3
1990	256,902	13,697,251	53.3
1991	265,626	15,041,167	56.6
1992	275,259	16,919,438	61.5
1993	282,551	18,253,313	64.6
1994	290,080	16,700,986	57.6
1995	297,878	18,023,288	60.5
1996	306,636	19,184,739	62.6
1997	314,554	18,238,295	58.0
1998	322,030	18,250,454	56.7

Source: South Carolina Public Service Commission.

Figure 4.4

Number of South Carolina Residential Natural Gas Customers Served by Privately-Owned Companies and Average Use per Customer, 1980-1998



Source: South Carolina Public Service Commission.

South Carolina Average Consumption and Annual Cost of Natural Gas

Table 4.5

South Carolina Average Consumption and Annual Cost of Natural Gas per Consumer by Economic Sector, 1980-1998 (Thousand Cubic Feet and Dollars)						
Year	Residential		Commercial		Industrial	
	Consumption (thousand cubic feet)	Cost (dollars)	Consumption (thousand cubic feet)	Cost (dollars)	Consumption (thousand cubic feet)	Cost (dollars)
1980	72	301	848	2,721	88,420	264,408
1981	71	347	694	2,750	89,236	342,610
1982	66	362	563	2,710	57,782	252,708
1983	65	417	525	2,906	54,063	262,552
1984	66	438	515	3,015	67,707	341,281
1985	56	371	463	2,666	51,883	243,859
1986	59	383	467	2,632	49,680	185,206
1987	67	440	486	2,717	52,023	N/A
1988	66	446	471	2,632	54,342	N/A
1989	63	421	425	2,402	57,027	N/A
1990	54	388	386	2,275	62,739	N/A
1991	57	397	395	2,197	61,279	N/A
1992	63	440	406	2,294	60,158	N/A
1993	66	469	403	2,347	58,804	N/A
1994	56	431	393	2,401	50,571	N/A
1995	61	460	399	2,431	54,568	N/A
1996	69	512	418	2,618	54,288	N/A
1997	58	486	385	2,595	58,350	N/A
1998	55	459	380	2,458	59,215	N/A

Source: Energy Information Administration, *Historical Natural Gas Annual*.

Average Price Comparison of Natural Gas Deliveries to South Carolina and United States End-Use Consumers

South Carolina natural gas prices rose by \$5.30 (176.7%) per thousand cubic feet from 1978 to 1998 in the residential sector as compared to \$4.26 for the United States average. In the commercial sector, South Carolina natural gas prices increased by \$4.02 (163.4%) per thousand cubic feet with the average United States prices increasing by \$3.25. The industrial sector in South Carolina experienced an increase of \$1.44 (77.8%) per thousand cubic feet with the same amount for the United States. The price of natural gas deliveries to South Carolina electric utilities increased by \$1.65 (83.8%) per thousand cubic feet and by only \$0.92 for the United States. Overall, South Carolina prices of natural gas deliveries to end-use consumers are considerably higher than the United States average in all but the industrial sector.

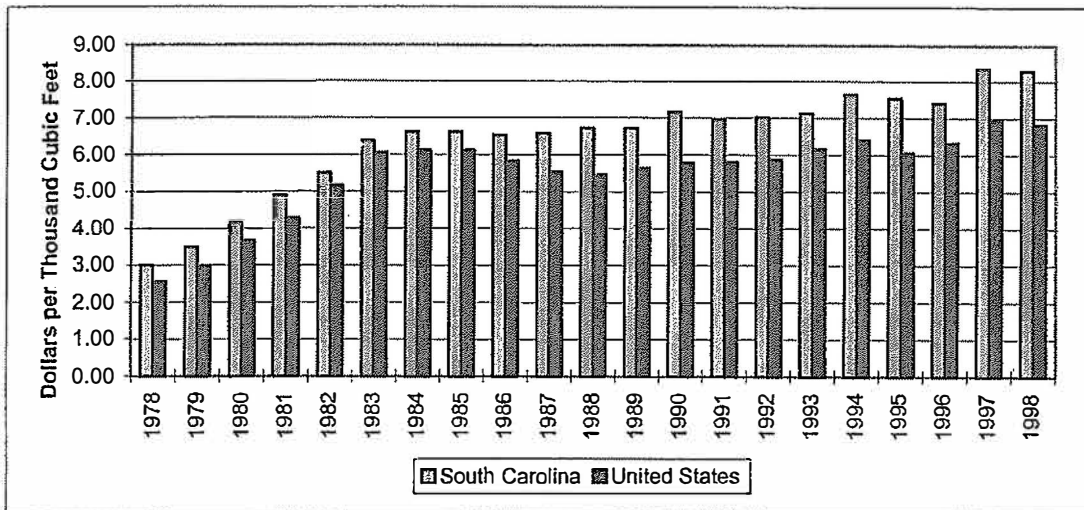
Table 4.6

Average Price Comparison of Natural Gas Delivered to South Carolina and U.S. Residential, Commercial, Industrial and Electric Utilities Consumers, 1978-1998 (Dollars per Thousand Cubic Feet)								
Year	Residential		Commercial		Industrial		Electric Utilities	
	S.C.	U.S.	S.C.	U.S.	S.C.	U.S.	S.C.	U.S.
1978	3.00	2.56	2.46	2.23	1.85	1.70	1.97	1.48
1979	3.50	2.98	2.78	2.73	2.47	1.99	2.27	1.81
1980	4.19	3.68	3.21	3.39	2.99	2.56	2.48	2.27
1981	4.90	4.29	3.96	4.00	3.84	3.14	3.37	2.89
1982	5.51	5.17	4.81	4.82	4.37	3.87	4.05	3.48
1983	6.38	6.06	5.53	5.59	4.86	4.18	4.40	3.58
1984	6.62	6.12	5.86	5.55	5.04	4.22	4.51	3.70
1985	6.62	6.12	5.76	5.50	4.70	3.95	4.67	3.55
1986	6.54	5.83	5.63	5.08	3.73	3.23	2.27	2.43
1987	6.59	5.54	5.60	4.77	3.93	2.94	3.45	2.32
1988	6.73	5.47	5.59	4.63	3.43	2.95	1.86	2.33
1989	6.73	5.64	5.65	4.74	3.46	2.96	2.27	2.43
1990	7.17	5.80	5.90	4.83	3.35	2.93	1.76	2.38
1991	6.98	5.82	5.56	4.81	2.95	2.69	1.53	2.18
1992	7.03	5.89	5.65	4.88	3.13	2.84	1.73	2.36
1993	7.14	6.16	5.82	5.22	3.35	3.07	2.97	2.61
1994	7.65	6.41	6.11	5.44	3.32	3.05	1.71	2.28
1995	7.54	6.06	6.09	5.05	3.11	2.71	1.64	2.02
1996	7.41	6.34	6.26	5.40	3.77	3.42	4.56	2.69
1997	8.37	6.94	6.74	5.79	3.72	3.59	4.07	2.74
1998	8.30	6.82	6.48	5.48	3.29	3.14	3.62	2.40

Source: Energy Information Administration, *Historical Natural Gas Annual*.

Figure 4.5

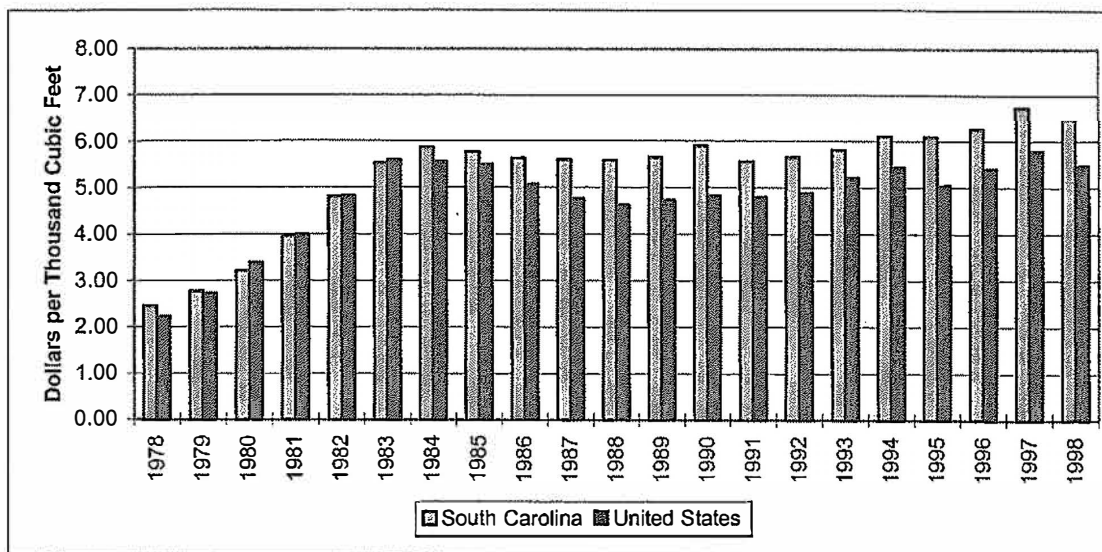
South Carolina and U.S. Average Price Comparison of Natural Gas Deliveries to Residential Sector Consumers, 1978-1998



Source: Energy Information Administration, *Historical Natural Gas Annual* and *Natural Gas Annual*.

Figure 4.6

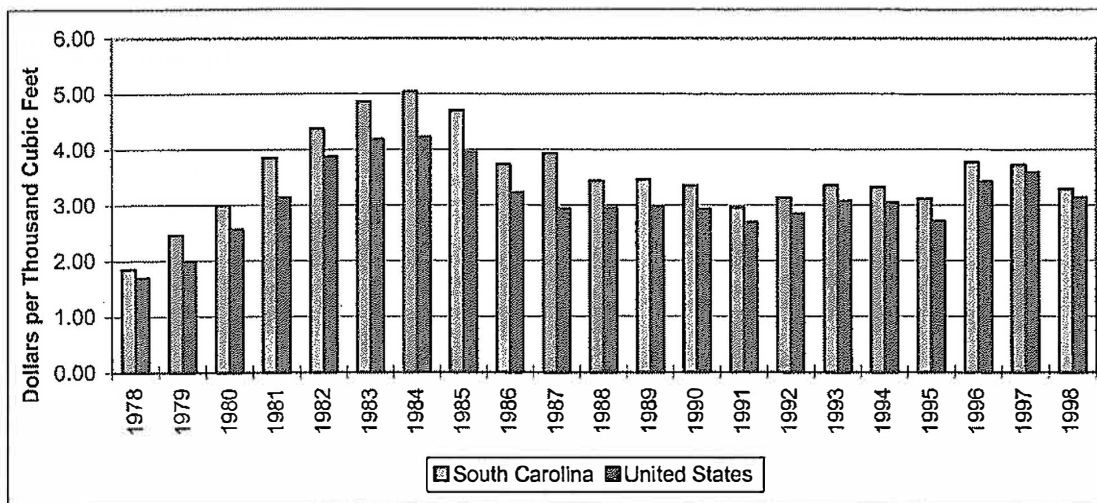
South Carolina and U.S. Average Price Comparison of Natural Gas Delivered to Commercial Sector Consumers, 1978-1998



Source: Energy Information Administration, *Historical Natural Gas Annual* and *Natural Gas Annual*.

Figure 4.7

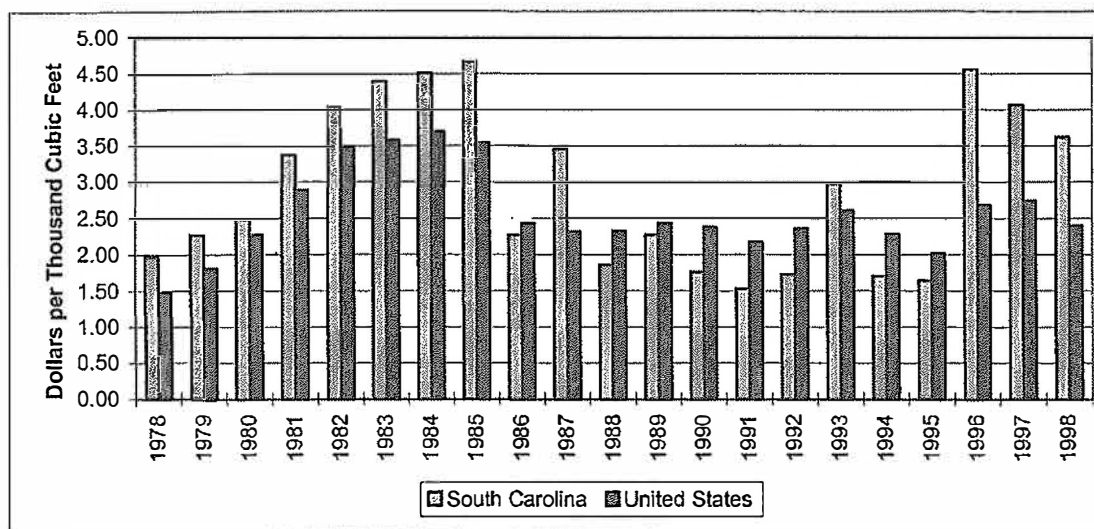
South Carolina and U.S. Average Price Comparison of Natural Gas Delivered to Industrial Sector Consumers, 1978-1998



Source: Energy Information Administration, *Historical Natural Gas Annual* and *Natural Gas Annual*.

Figure 4.8

South Carolina and U.S. Average Price Comparison of Natural Gas Delivered to Electric Utilities, 1978-1998



Source: Energy Information Administration, *Historical Natural Gas Annual* and *Natural Gas Annual*.

Quantity and Heating Value of Natural Gas Delivered to South Carolina Consumers

The amount (million cubic feet) of natural gas delivered to residential consumers in South Carolina increased by 34.7% from 1980 to 1998, while the number of consumers increased by 75.0%. In the commercial sector, the amount of natural gas delivered decreased by 13.4%, but the number of commercial customers increased by 93.5%. The industrial sector experienced an 11.2% increase in the amount of natural gas delivered, and had an increase of 72.8% in the number of consumers. The amount of natural gas delivered to electric utilities fluctuates wildly, so it is difficult to provide an accurate percentage amount. Overall, the amount of natural gas delivered to all sectors in South Carolina increased by 10.2% during this same period. The heating value (Btu per cubic foot) remained quite constant during this period.

Table 4.7

Natural Gas Delivered to South Carolina Consumers with Quantity and Heating Value 1980-1998									
Year	Residential		Commercial		Industrial		Electric Utilities	Total Quantity Delivered to Consumers (mcf)	Heating Value (Btu per cubic foot)
	Quantity (mcf)	Consumers	Quantity (mcf)	Consumers	Quantity (mcf)	Consumers	Quantity (mcf)		
1980	18,866	263,000	22,885	27,000	92,046	1,000	5,417	139,214	1,033
1981	18,980	268,000	19,436	28,000	95,304	1,000	5,008	138,728	1,023
1982	17,548	267,000	15,560	28,000	61,595	1,000	517	95,220	1,030
1983	18,741	287,000	16,548	32,000	62,767	1,000	942	98,998	1,027
1984	19,246	291,000	16,635	32,000	69,526	1,000	435	105,842	1,026
1985	16,434	293,000	15,270	33,000	63,038	1,000	483	95,225	1,028
1986	17,440	298,000	15,894	34,000	61,455	1,000	1,386	96,175	1,030
1987	20,200	302,321	17,195	35,414	65,340	1,256	538	103,273	1,028
1988	20,790	313,831	17,472	37,075	69,177	1,273	2,378	109,817	1,027
1989	20,472	327,527	16,525	38,856	74,534	1,307	2,705	114,236	1,026
1990	18,396	339,486	15,394	39,904	86,831	1,384	6,975	127,596	1,028
1991	19,612	344,763	15,796	39,999	85,790	1,400	9,823	131,021	1,027
1992	22,392	357,818	16,644	40,968	94,327	1,568	1,795	135,158	1,027
1993	24,345	370,411	17,014	42,191	95,557	1,625	1,851	138,767	1,029
1994	23,486	416,773	17,870	45,487	97,500	1,928	3,005	141,861	1,031
1995	25,164	412,259	18,868	47,293	98,332	1,802	6,615	148,979	1,027
1996	29,406	426,088	20,328	48,650	95,493	1,759	1,206	146,433	1,030
1997	25,741	443,093	19,560	50,817	102,929	1,764	273	148,503	1,031
1998	25,430	460,141	19,828	52,237	102,324	1,728	5,893	153,476	1,034

Source: Energy Information Administration, *Historical Natural Gas Annual*.

SECTION 5: COAL

South Carolina Annual Coal Consumption by Sector

Annual coal consumption in the residential and commercial sectors varied widely in South Carolina during the period 1977 to 1997, with only 1,000 tons being used in 1997. However, during the same period, the industrial sector doubled its consumption of coal, and electric utilities increased their consumption of coal by 87.4%. Overall, coal consumption in South Carolina increased by 78.3% from 1977 to 1997. In 1997, electric utilities accounted for 86% of all coal consumed in South Carolina, while the industrial sector accounted for the remaining 14%.

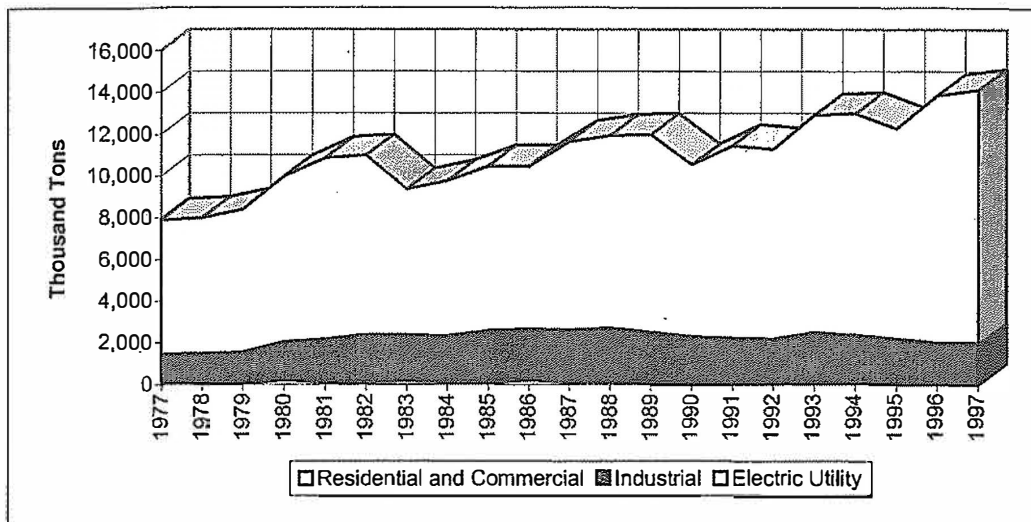
Table 5.1

South Carolina Annual Coal Consumption by Sector, 1977-1997 (Thousand Tons)					
Year	Residential and Commercial	Industrial	Electric Utility	TOTAL	Percent Change
1977	120	1,339	6,455	7,914	14.4%
1978	43	1,460	6,495	7,998	1.1%
1979	54	1,500	6,848	8,402	5.1%
1980	211	1,842	7,927	9,980	18.8%
1981	105	2,074	8,679	10,858	8.8%
1982	117	2,292	8,581	10,990	1.2%
1983	172	2,200	6,989	9,361	-14.8%
1984	115	2,226	7,428	9,769	4.4%
1985	66	2,525	7,888	10,479	7.3%
1986	219	2,465	7,777	10,461	-0.2%
1987	120	2,502	9,019	11,641	11.3%
1988	126	2,602	9,210	11,938	2.6%
1989	17	2,491	9,472	11,980	0.4%
1990	6	2,310	8,228	10,544	-12.0%
1991	22	2,212	9,218	11,452	8.6%
1992	31	2,177	9,078	11,286	-1.4%
1993	109	2,395	10,410	12,914	14.4%
1994	61	2,334	10,597	12,992	0.6%
1995	17	2,188	10,074	12,279	-5.5%
1996	19	2,000	11,833	13,852	12.8%
1997	1	2,014	12,096	14,111	1.9%

Source: Energy Information Administration, 1977-1991, *State Energy Data Report*; 1992-1997, *Coal Industry Annual*.

Figure 5.1

South Carolina Annual Coal Consumption by Sector, 1977-1997



Source: Energy Information Administration, *State Energy Data Report* and *Coal Industry Annual*.

Receipts and Delivered Cost of Coal by South Carolina Electric Utility and Plant

As indicated in Table 5.2 below, coal receipts at South Carolina electric utilities increased by 3,330 thousand short tons from 1996 to 1998. At the same time, the average delivered cost of coal to these utilities decreased by \$0.94 per short ton. The Winyah plant operated by Santee Cooper (South Carolina Public Service Authority) accounted for the most coal receipts of all the plants, numbering 2,656 (in thousand short tons) in 1998.

Table 5.2

Receipts and Average Delivered Cost of Coal by South Carolina Electric Utility and Plant, 1996-1998						
	1996		1997		1998	
Electric Utility and Plant	Receipts (Thousand Short Tons)	Cost per Short Ton	Receipts (Thousand Short Tons)	Cost per Short Ton	Receipts (Thousand Short Tons)	Cost per Short Ton
Carolina Power & Light Co.						
Robinson	411	34.96	257	33.90	415	36.41
Duke Power Co.						
Lee	411	39.71	401	38.74	435	36.56
SC Electric & Gas Co.						
Canadys	388	41.60	412	39.28	759	39.16
Cope	-	-	828	38.33	1,101	38.22
Hagood	-	-	-	-	-	-
McMeekin	592	41.38	503	39.71	629	39.27
Parr	-	-	-	-	-	-
Urquhart	323	39.81	402	39.20	436	39.77
Wateree	1,534	38.54	1,409	37.52	1,693	37.42
Williams	1,440	42.11	1,582	41.64	1,346	41.62
Santee Cooper						
Cross	2,801	34.90	2,707	35.35	2,608	34.8
Grainger	115	42.00	154	39.95	227	40.1
Jefferies	451	35.90	591	34.95	640	35.13
Winyah	1,149	35.11	2,588	35.25	2,656	35.04
TOTAL	9,615	38.73	11,834	37.82	12,945	37.79

Source: Energy Information Administration, *Cost and Quality of Fuels for Electric Plants*.

Quarterly Average Coal Prices to Electric Utilities in South Carolina

Quarterly average coal prices to electric utilities in South Carolina hovered in the \$37.00-\$44.00 per ton range during the period 1980 to 1998. The only aberration occurred during the years 1983 and 1984, when the prices rose to \$49.15 and \$49.28 per ton, respectively. As indicated in Figure 5.2, since 1994, the total average price has been steadily declining, reaching an all-time low of \$37.06 in 1998.

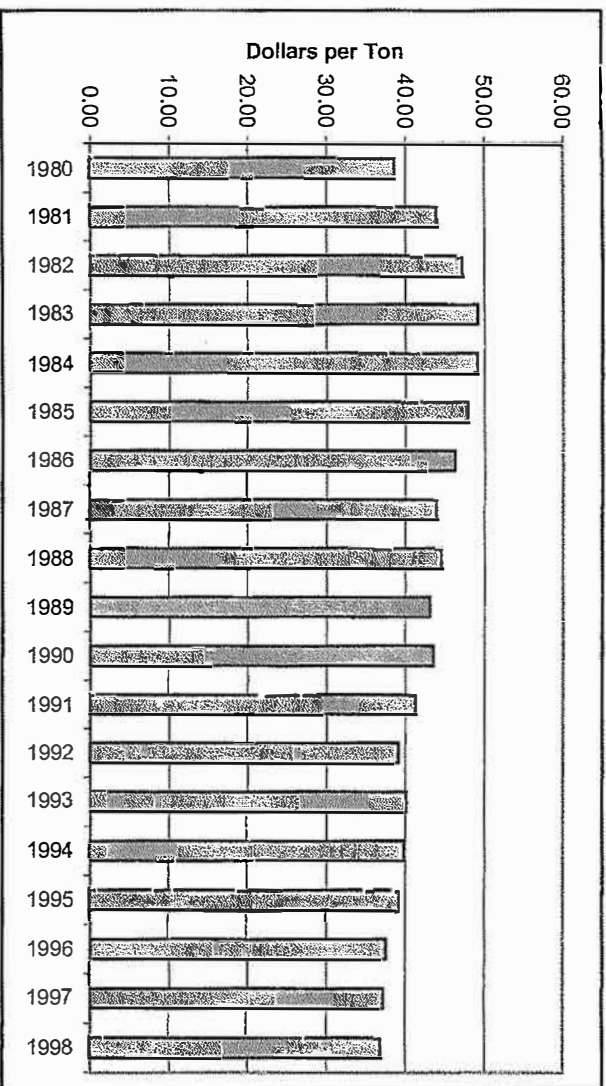
Table 5.3

South Carolina Quarterly Average Coal Prices to Electric Utilities, 1980-1998						
(Dollars per Ton)						
Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Average	Percent Change
1980	37.86	38.70	39.26	38.93	38.69	7.6%
1981	41.27	43.68	45.39	45.97	44.08	13.9%
1982	46.57	47.49	46.92	48.20	47.30	7.3%
1983	49.09	49.65	49.05	48.80	49.15	3.9%
1984	49.59	49.43	49.39	48.71	49.28	0.3%
1985	48.45	48.06	47.71	47.76	48.00	-2.6%
1986	47.38	46.54	46.00	45.26	46.30	-3.5%
1987	45.38	44.29	42.96	43.91	44.14	-4.7%
1988	45.79	44.98	43.49	44.60	44.72	1.3%
1989	44.12	42.67	42.82	42.86	43.12	-3.6%
1990	43.20	43.86	43.33	43.76	43.54	1.0%
1991	43.26	42.91	40.74	38.96	41.47	-4.8%
1992	39.00	39.02	38.74	39.76	39.13	-5.6%
1993	40.00	40.39	40.09	40.20	40.17	2.7%
1994	39.86	39.96	40.15	39.43	39.85	-0.8%
1995	39.72	39.81	38.05	37.99	38.89	-2.4%
1996	37.77	37.36	37.57	37.51	37.55	-3.4%
1997	37.68	36.98	37.13	37.07	37.22	-0.9%
1998	37.06	36.97	37.11	37.08	37.06	-0.4%

Source: Energy Information Administration, *Quarterly Coal Report*.

Figure 5.2

Quarterly Average Coal Prices to Electric Utilities in South Carolina, 1980-1998



Source: Energy Information Administration, *Quarterly Coal Report*.

South Carolina Price and Expenditure Estimates for Coal by Sector

Between 1970 and 1995, South Carolina price estimates for coal in the residential sector increased by 1.9 nominal dollars per million Btu. Both the commercial and the industrial sectors saw an increase of 1.21 nominal dollars per million Btu during this same period. The electric utilities sector had an increase of 1.08 nominal dollars per million Btu. Overall, there was an increase of 1.35 nominal dollars per million Btu during this period. Expenditure estimates for coal in the residential sector decreased by 80% from 1970 to 1995. The commercial sector also experienced a decrease of 78.9% in coal expenditure estimates. However, the coal expenditure estimates in the industrial sector increased by 329.5%, and, 903.8% in the electric utilities sector. Collectively, coal expenditure estimates in South Carolina increased by 644.5% during this same period.

Table 5.4

South Carolina Price and Expenditure Estimates for Coal by Sector, 1970-1995 (Price in Nominal Dollars per Million Btu; Expenditures in Million Nominal Dollars)										
Year	Residential		Commercial		Industrial		Electric Utilities		Totals	
	Prices	Expend.	Prices	Expend.	Prices	Expend.	Prices	Expend.	Prices	Expend.
1970	1.20	2.5	0.50	1.9	0.50	22.0	0.43	39.0	0.66	65.4
1971	0.96	1.8	0.56	2.0	0.56	20.2	0.49	54.4	0.64	78.4
1972	1.22	2.1	0.57	1.8	0.57	17.6	0.47	65.4	0.71	86.9
1973	1.16	2.3	0.60	2.2	0.60	16.9	0.52	69.6	0.72	91.0
1974	2.00	4.0	1.45	5.4	1.45	46.0	1.30	153.5	1.55	208.9
1975	2.47	4.9	1.53	5.7	1.53	43.2	1.14	120.9	1.67	174.7
1976	2.90	3.5	1.34	3.0	1.34	43.4	1.04	139.9	1.66	189.8
1977	3.00	3.0	1.38	2.6	1.38	45.2	1.24	191.4	1.75	242.2
1978	3.04	1.1	1.62	1.1	1.62	55.6	1.38	217.3	1.92	275.1
1979	3.01	1.2	1.63	1.2	1.63	59.0	1.46	246.4	1.93	307.8
1980	3.19	5.4	1.70	5.3	1.70	74.9	1.56	306.6	2.04	392.2
1981	3.88	3.4	1.88	3.1	1.88	94.8	1.80	384.6	2.36	485.9
1982	3.69	3.7	1.99	3.7	1.99	111.7	1.91	405.4	2.40	524.5
1983	3.67	5.5	1.86	5.2	1.86	101.3	1.96	343.3	2.34	455.3
1984	3.68	3.7	1.88	3.5	1.88	103.7	1.97	365.9	2.35	476.8
1985	3.48	2.0	1.77	1.9	1.77	111.3	1.91	378.4	2.23	493.6
1986	3.31	6.3	1.77	6.3	1.77	108.6	1.83	359.5	2.17	480.7
1987	3.20	3.4	1.70	3.3	1.70	109.3	1.74	397.0	2.09	513.0
1988	3.26	3.6	1.67	3.4	1.67	108.9	1.76	410.9	2.09	526.8
1989	3.34	0.5	1.69	0.5	1.69	105.1	1.71	408.0	2.11	514.1
1990	3.34	0.2	1.74	0.2	1.74	101.2	1.72	397.5	2.14	499.1
1991	3.15	0.6	1.71	0.6	1.71	95.5	1.63	381.4	2.05	478.1
1992	3.11	0.8	1.72	0.9	1.72	94.2	1.53	355.3	2.02	451.2
1993	3.26	3.3	1.72	2.9	1.72	103.8	1.57	418.2	2.07	528.2
1994	3.23	1.9	1.75	1.7	1.75	102.3	1.56	422.3	2.07	528.2
1995	3.10	0.5	1.71	0.4	1.71	94.5	1.51	391.5	2.01	486.9

Source: Energy Information Administration, *State Energy Price and Expenditure Report*.

Appendix A: Glossary

Anthracite: The highest rank of coal; used primarily for residential and commercial space heating. It is hard, brittle, and black lustrous coal, often referred to as hard coal, containing a high percentage of fixed carbon and a low percentage of volatile matter. The moisture content of fresh-mined anthracite is generally less than 15 percent. The heat content of anthracite ranges from 22 to 28 million Btu per ton on a moist, mineral-matter-free basis.

Average Revenue per Kilowatthour: The average revenue per kilowatthour of electricity sold by sector (residential, commercial, industrial, or other) and geographic area (State, Census, division, and national) is calculated by dividing the total monthly revenue by the corresponding total monthly sales for each sector and geographic area.

Barrel (bbl): A volumetric unit of measure for crude oil and petroleum products equivalent to 42 U.S. gallons.

Biomass (Biofuels): Energy sources from recent-term organic (plant and animal) matter. Nonfossil biomass energy sources are essentially unprocessed; they are burned or gassified, as received, to produce thermal energy or electricity. Examples are fuelwood, waste wood, garbage, and crop waste.

Bituminous Coal: A dense coal, usually black, sometimes dark brown, often with well-defined bands of bright and dull material, used primarily as fuel in steam-electric power generation, with substantial quantities also used for heat and power applications in manufacturing and to make coke. Bituminous coal is the most abundant coal in active U.S. mining regions. Its moisture content is usually less than 20 percent. The heat content of bituminous coal ranges from 21 to 30 million Btu per ton on a moist, mineral-matter-free basis.

British Thermal Unit (Btu): A standard unit for measuring the quantity of heat energy equal to the quantity of heat required to raise the temperature of 1 pound of water by 1 degree Fahrenheit. Because different energy types use different standards of measurement, they are often converted into Btu to enable comparison. One Btu is equal to 252 calories of heat.

Capability: The maximum load that a generating unit, generating station, or other electrical apparatus can carry under specified conditions for a given period of time without exceeding approved limits of temperature and stress.

Coal: A black or brownish-black solid combustible substance formed by the partial decomposition of vegetable matter without access to air. The rank of coal, which includes anthracite, bituminous coal, sub-bituminous coal, and lignite, is based on fixed carbon, volatile matter, and heating value.

Commercial Sector: The commercial sector is generally defined as non-manufacturing business establishments, including hotels, motels, restaurants, churches, wholesale businesses, retail stores, and health, social, and educational institutions.

Cooperative Electric Utility: An electric utility legally established to be owned by and operated for the benefit of those using its service. The utility company will generate, transmit, and/or distribute supplies of electric energy to a specified area not being serviced by another utility. Such ventures are generally exempt from Federal income tax laws. Most electric cooperatives have been initially financed by the Rural Electrification Administration, U.S. Department of Agriculture.

Demand-side-Management (DSM): Refers to the use of cost-effective conservation, efficiency, and load management in order to reduce the demand for and cost of energy services. DSM is a resource option that complements power supply. It not only saves the customer money, but also helps a utility achieve less pollution and avoid more costly supply-side investments.

Distillate Fuel Oil: Usually refers to "home heating oil." Included are Fuel Oils No. 1, No. 2, and No. 4; and Diesel Fuels No. 1, No. 2, and No. 4. These products are used primarily for space heating, on-and-off highway diesel engine fuel (including railroad engine fuel and fuel for agriculture machinery), and electric power generation.

Electric Utility: A corporation, person, agency, authority, or other legal entity that owns and/or operates facilities within the U.S. for the generation, transmission, distribution, or sale of electric energy for use by both the public and private sectors.

Energy: The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatthours, while heat energy is usually measured in Btus.

End-Use: Any ultimate consumption of any type of fossil fuel (petroleum, coal, natural gas) or electricity whether generated by fossil fuel or other energy sources. End-users are often classified by economic sector, such as residential, commercial, industrial, and transportation.

Facility: An existing or planned location or site at which prime movers, electric generators, and/or equipment for converting mechanical, chemical, and/or nuclear energy into electric energy are situated, or will be situated. A facility may contain more than one generator of either the same or different prime mover type.

Fossil Fuel: Any naturally occurring organic fuel, such as petroleum, coal, and natural gas, which are derived from the remains of ancient plants and animals. Fossil fuels are sometimes referred to as conventional fuels or conventional energy sources (as compared with renewable energy sources: solar power, biomass, wind energy, etc.) because the bulk of today's energy generation is derived from them and most of the industrial economy is based upon them.

Gallon: A unit of volume. A U.S. gallon contains 3.785 liters and it is 0.83 times the imperial gallon. One U.S. gallon of water weighs 8.3 pounds.

Gas Turbine Plant: A plant in which the prime mover is a gas turbine. It typically consists of an axial-flow air compressor and one or more combustion chambers, where liquid or gaseous fuel is burned and the hot gases are passed to the turbine and where the hot gases expand to drive the generator and are then used to run the compressor.

Generating Unit: Any combination of physically connected generator(s), reactor(s), boiler(s), combustion turbine(s), or other prime mover(s) operated together to produce electric power.

Hydroelectric Plant (Hydro): A plant in which the turbine generators are driven by falling water.

Industrial Sector: The industrial sector is that section of the economy generally defined as manufacturing, construction, mining, agriculture, fishing, and forestry establishments.

Interruptible Gas: Gas sold to customers with a provision that permits curtailment or cessation of service at the discretion of the distributing company under certain circumstances, as specified in the service contract.

Investor-Owned Utility: A class of utility whose stock is publicly traded and which is organized as a taxpaying business, usually financed by the sale of securities in the capital market. It is regulated and authorized to achieve an allowed rate of return.

Jet Fuel: Includes both naphtha-type and kerosene-type jet fuel meeting standards for use in aircraft turbine engines. Some jet fuel is used for generating electricity in gas turbines.

Kerosene: A petroleum middle distillate having burning properties suitable for use as an illuminant when burned in wick lamps. Kerosene is also used in space heaters, cooking stoves, and water heaters.

Kilowatt (kW): One thousand watts.

Kilowatthour (kWh): One thousand watt hours. The amount of electrical energy involved with a 1-kilowatt demand over a period of one hour. One kilowatthour is equivalent to 3,412 Btu of heat energy.

Liquified Gases (LPG): Propane, propylene, butane, and propane-butane mixtures produced at a refinery or natural gas processing plant, including plants that fractionate raw natural gas processing plant liquids. These are derived by refining and processing natural gas, crude oil or unfinished oil.

Load (Electric): The amount of electricity delivered or required at any specific point or points on a system. The requirement originates at the energy-consuming equipment of the consumers.

Mcf: One thousand cubic feet.

Megawatt: 1,000 kilowatts; 1 million watts.

Motor Gasoline: A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, that have been blended to form a fuel suitable for use in spark ignition engines. Included are leaded and unleaded products and refinery products.

Natural Gas: A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in porous geological formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane, and is generally much higher in heat content than manufactured gas.

Net Generation: Gross generation minus plant use from all electric utility owned plants. The energy required for pumping at a pumped-storage plant is regarded as plant use and must be deducted from the gross generation.

No. 1 Diesel Fuel: A light distillate having ignition properties suitable for use in compression ignition engines. City buses use this product extensively.

No. 1 Fuel Oil: A distillate fuel oil intended for use in vaporizing pot-type burners.

No. 2 Diesel Fuel: A heavier distillate for use in compression ignition engines less sensitive than those requiring No. 1 Diesel Fuel. Highway transport trucks are large consumers of this product.

No. 2 Fuel Oil: A distillate fuel oil for general purpose domestic heating in burners not requiring No. 1 fuel oil.

No. 4 Fuel Oil: An oil for commercial burner installations with preheating facilities. It is used extensively in industrial plants. This grade is a blend of distillate fuel oil and residual fuel oil stocks.

No. 5 and No. 6 Fuel Oil: See residual fuel.

Nuclear Fuel: Fissionable materials that have been enriched to such a composition that, when placed in a nuclear reactor, will support a self-sustaining fission chain reaction, producing heat in a controlled manner for process use. Also listed as uranium.

Peak Demand: The maximum electric load during a specified period of time.

Petroleum: A mixture of hydrocarbons existing in the liquid state found in natural underground reservoirs, which includes fuel oil products, crude oil, kerosene, and jet fuel.

Primary Energy: Energy in its naturally occurring form (coal, oil, uranium, etc.) before conversion to end-use forms. The term is used in this report to indicate energy consumed by the major sectors (especially electric utilities) without regard to energy consumed by end-users.

Propane: Also known as liquefied petroleum gas (LPG). A colorless, highly volatile hydrocarbon that is readily recovered as a liquefied gas at natural gas processing plants and refineries. It is used primarily for residential and commercial heating and cooling, and also a fuel for transportation and industrial uses. Propane is the first product refined from crude petroleum.

Qualifying Facility: A cogeneration or small power production facility that meets certain ownership, operating, and efficiency criteria established by the Federal Energy Regulatory Commission (FERC) pursuant to the Public Utility Regulatory Policies Act (PURPA).

Refined Petroleum: Products obtained from the processing of crude oil, unfinished oils, natural gas liquids and other miscellaneous hydrocarbon compounds. Includes aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, ethane, liquefied petroleum gases, petrochemical feedstocks, special naphtha, lubricants, paraffin wax, petroleum coke, asphalt, road oil, still gas, and miscellaneous products.

Renewable Resources: Naturally, but flow-limited resources that can be replenished. They are virtually inexhaustible in duration, but limited in the amount of energy that is available per unit of time. Some (such as geothermal and biomass) may be stock-limited in that stocks are depleted by use, but on a time scale of decades, or perhaps centuries, they can probably be replenished. Renewable energy resources include: biomass, hydro, geothermal, solar and wind.

Residential Sector: The residential sector is defined as private household establishments which consume energy primarily for space heating, water heating, air conditioning, lighting, refrigeration, cooking and clothes drying.

Residual Fuel: The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are boiled off in refinery operations. Included are products known as No. 5 and No. 6 fuel oil, heavy diesel oil, Navy Special Fuel Oil, Bunker C oil, and acid sludge and pitch used as refinery fuels. Residual fuel oil is used for production of electric power, space heating, vessel bunkering, and various industrial purposes.

Sales for Resale: Energy supplied to other electric utilities, cooperatives, municipalities, and federal and state electric agencies for resale to ultimate consumers.

Short Ton (coal): A unit of weight equal to 2,000 pounds used for calculating the volume of coal.

Steam-Electric Plant: A plant in which the prime mover is a steam turbine. The steam used to drive the turbine is produced in a boiler where fossil fuels are burned.

Watt: The unit of measure for electric power or rate of doing work. The rate of energy transfer equivalent to 1 ampere flowing under a pressure of 1 volt at unity power factor.

Watthour (Wh): An electrical energy unit of measure equal to 1 watt of power supplied to, or taken from, an electric circuit steadily for one hour.

Appendix B: Conversion Factors

Average Fuel/Btu Equivalents:

1 Kilowatthour of Electricity	3,413 Btu
1 Cubic Foot of Natural Gas	1,008 to 1,034 Btu
1 Therm of Natural Gas	100,000 Btu
1 Gallon of Liquefied Petroleum Gas (LPG)	95,475 Btu
1 Barrel of Crude Oil	5,800,000 Btu
1 Gallon of Crude Oil	138,095 Btu
1 Gallon of Kerosene or Light Distillate Oil	135,000 Btu
1 Gallon of Middle Distillate or Diesel Fuel Oil	138,690 Btu
1 Gallon of Residual Fuel Oil	149,690 Btu
1 Gallon of Gasoline	125,000 Btu
1 Ton of Coal	16,200,000 to 26,000,000 Btu
1 Ton of Wood	9,000,000 to 17,000,000 Btu
1 Standard Cord of Wood	6,000,000 to 8,000,000 Btu

Measurement Equivalents:

- 1 Ton (short) = 2,000 pounds; 6.65 barrels (crude oil)
- 1 Metric Ton = 2,200 pounds
- 1 Barrel (bbl) = 42 gallons; 5.615 cubic feet; 159.0 liters
- 1 Mcf = 1,000 cubic feet
- 1 Therm = 100,000 Btu
- 1 Thousand Btu (Mbtu) = 1,000 Btu
- 1 Kilowatthour (kWh) = 1,000 watt-hours
- 1 Megawatthour (MWh) = 1,000 kWh or 1,000,000 watt-hours
- 1 Gallon = 4.524 pounds of liquefied petroleum gas
- 1 Standard Cord of Wood = 8 feet x 4 feet x 4 feet; 128 cubic feet; approx. 4,000 pounds