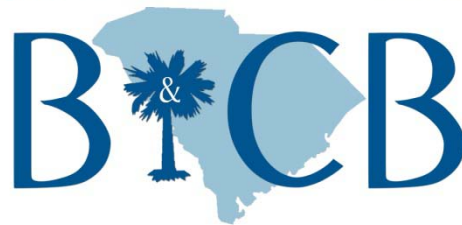


South Carolina Utility Demand-Side Management & System and Pricing Overview 2009

A Report by the
South Carolina Energy Office
SC Budget and Control Board

SC ENERGY OFFICE



SC BUDGET AND CONTROL BOARD

South Carolina Utility Demand-Side Management and System Overview 2009

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Table of Contents

Executive Summary.....	iv
Definition of Terms used in this Report.....	v
Status of Demand-Side Management Activities in 2009.....	1
Introduction	1
Categories of Demand-Side Management Activities.....	1
Electric Utilities Participating in DSM	2
Natural Gas Utilities Participating in DSM.....	3
Demand-Side Management Activities, 2009.....	4
Electric Cooperatives	4
Municipal Electric Utilities	9
Investor-Owned Electric Utilities	10
State-Owned Electric Utility	26
Natural Gas Utilities	28
Brief System and Pricing Overview	29
Electricity	29
System Summary.....	29
Price Comparison for Electric Utilities	30
Qualified Facilities	34
Natural Gas.....	35
System Summary.....	35
Appendices.....	37
Appendix A: South Carolina State Statute Authorizing DSM Report.....	37
Appendix B: 2009 Survey for Gas Utilities	38
Appendix C: 2009 Electric and Gas Utility Respondents	39

List of Tables

Table 1. Listing of DSM Activity for Electric Utilities, 2009.....	3
Table 2. Listing of DSM Activity for Natural Gas Utilities, 2009	3
Table 3. Residential Sector Information in South Carolina, by Electric Utility, 2009	30
Table 4. Commercial Sector Information in South Carolina, by Electric Utility, 2009.....	31
Table 5. Industrial Sector information in South Carolina, by Electric Utility, 2009.....	32
Table 6. Listing of Electricity Qualified Facilities, 2009	34
Table 7. Natural Gas Utility Data, 2009	35

List of Figures

Figure 1. Share of Total Customers Served by S.C. Electric Utilities, 2009	29
Figure 2. Electric Utilities Price Comparison, 2009.....	33
Figure 3. Natural Gas Utility Annual Demand (Decatherms), 2004-2009	36

Executive Summary

Demand-side management (DSM) is the process of modifying energy consumption through the use of cost-effective conservation, efficiency, and load management programs in order to reduce the demand for, and cost of, energy services. In contrast to "supply-side" strategies, which increase generation capacity (by building new power plants, for example), the purpose of DSM is to reduce energy use and to smooth out the daily peaks and valleys in electric or gas energy demand to make the most efficient use of energy resources and to defer the need to develop new power plants.

The South Carolina Energy Conservation and Efficiency Act of 1992 requires all utilities to report their demand-side activities. The relevant section of the S.C. Code of Laws can be found in Appendix A. The intent of the legislation was to encourage the implementation of additional DSM activities. The objective of this report is to summarize the DSM activities of those utilities that contributed such information and to place these activities in context by providing a basic system and pricing overview.

To facilitate the collection of data related to electric generation, the SC Energy Office (SCEO) requested EIA-861 forms from electric utilities, which already have to be completed for submittal to the Energy Information Administration. In addition, electric and gas utilities were both asked to submit brief narratives outlining current and future demand-side management activities. Finally, SCEO requested additional data points from gas utilities, as outlined in Appendix B: annual decatherm (DT) peak system demand excluding sales for re-sale, total annual system decatherm (DT) excluding sales for re-sale, total miles of distribution line in service area (in miles), and total number of customers (all classes).

Information and data regarding DSM were received from 43 of the 46 electric utilities operating in South Carolina. Central Electric Power Cooperative, Inc. submitted a report on behalf of all 20 distribution electric cooperatives. These cooperatives, as well as the one state-owned electric utility and all four investor-owned electric utilities, are fully represented in this report. 27 of the 46 electric utilities reported having active DSM programs: three investor-owned utilities, the state-owned Santee Cooper, three municipal utilities, and all twenty cooperatives.

Duke Energy, SCE&G, Progress Energy, and Santee Cooper reported several new and/or revised electric DSM programs for 2009. In addition, SCE&G, Progress Energy, and Piedmont Natural Gas all reported that new programs have been implemented in 2010; these new programs will be described in the 2010 DSM report. The City of Union operated a load management system in 2008 that was phased out in 2009 due to inoperable equipment; they are currently in the process of working with Piedmont Municipal Power Agency to set up a new system.

Definition of Terms Used in This Report

Cogeneration systems produce electricity and process steam or heat from a single fuel source. See **Qualified Facilities** below.

Demand-side management (DSM) refers to the use of cost-effective conservation, efficiency, and load management programs that help to reduce the demand for, and cost of, energy services.

Decatherm (DT) is a unit of measurement of natural gas, equal to 1,000,000 BTUs or 293 kWh.

Kilowatt (kW) is a measure of real power, equal to 1,000 watts. 3/4 kW is equivalent to one horsepower. Higher quantities are expressed in megawatts (MW), equal to one million watts. A typical coal-fired electric plant produces about 300 MW.

Kilowatt-hour (kWh) is a unit of electrical measurement indicating the expenditure of 1,000 watts for one hour. Higher quantities are expressed in megawatt-hours (MWh), or the expenditure of one thousand kilowatts for one hour.

Load management shifts demand for power from periods of peak demand to periods of less demand. Although this process may more efficiently utilize generation and transmission systems and thus reduce the need for construction of generation and transmission facilities, it does not necessarily decrease the overall use of energy.

Peak Demand refers to energy consumption by electric and natural gas customers at the point in the day, season, and/or year when need for energy is greatest, such as during daylight hours or winter months.

Qualified Facilities (QF) are defined by the Public Utilities Regulatory Policies Act of 1978 as both 1) small power production facilities using renewable fuel sources, such as wind, solar, hydroelectric, biomass, waste or geothermal; and 2) cogeneration facilities that produce both electricity and thermal energy in a way that is more efficient than the separate production of both forms of energy. Utility companies are required to purchase power from qualified facilities at a price equivalent to the avoided cost of additional generation.

Thermal Envelope is an enclosure—such as the walls, windows, doors, ceiling, and floor of a building—that holds warm or cool air.

Status of Utility Demand-Side Management Activities in 2009

Introduction

The South Carolina Energy Conservation and Efficiency Act of 1992 requires all utilities to report their demand-side activities. The relevant section of the S.C. Code of Laws can be found in Appendix A. The objective of this report is to summarize the Demand-Side Management (DSM) activities of those utilities that provided such information and to present an overview of basic system information to provide a context for DSM activities.

DSM is the process of modifying energy consumption through the use of cost-effective conservation, efficiency, and load management programs in order to reduce the demand for, and cost of, energy services. In contrast to "supply-side" strategies, which increase generation capacity (by building new power plants, for example), the purpose of DSM is to reduce energy use and to smooth out the daily peaks and valleys in electric or gas energy demand to make the most efficient use of energy resources and to defer the need to develop new power plants.

DSM typically works by inducing utility consumers to change their energy consumption habits and use energy-efficient appliances, equipment, and buildings. DSM is a resource option that complements power supply. Additionally, cost savings to customers and reduction of pollution are indirectly achieved through DSM.

DSM refers only to energy and load management activities undertaken in response to utility-administered programs. It does not refer to changes arising from the normal operation of the marketplace or from government-mandated energy-efficiency standards.

Categories of Electricity Demand-Side Management Programs

CONSERVATION

Conservation programs are designed to entice consumers to use less electricity through changes in working and living habits, thereby reducing their need for electricity. Included in this category are public education and awareness programs that promote energy-reducing activities such as maintaining conservative thermostat settings, turning off appliances when not in use, and installing low-flow showerheads. It is difficult to quantify the results of any one program, but many electric suppliers conduct energy awareness advertising campaigns, demonstrations, and seminars for various classes of customers.

ENERGY EFFICIENCY

Energy efficiency programs reduce energy consumption by encouraging consumers to use energy more efficiently. There are many programs available, and each program is intended for a specific group of electricity users. Some of the targeted groups are newly

built residences, existing residences, industry, commercial buildings, and agricultural users. These programs promote the use of more effective building insulation, high efficiency industrial equipment, appliances, air conditioning equipment, and lighting. Incentives that are offered may include more favorable rate schedules, cash rebates, low interest loans, and technical assistance.

LOAD MANAGEMENT

Demand-side activities in this category reduce the instantaneous demand for electricity by limiting or discouraging use during periods of high demand. For many reasons, it typically costs more to supply power during peak periods. For example, some older, less efficient plants are only used to meet peak hour demand. Furthermore, other newer facilities are also only brought online during peak times because they use more expensive fuel. Therefore, transferring the use of energy to periods of lower demand allows the energy to be generated and distributed using more efficient, base-load generating plants. Typical load management activities include allowing direct, remote control of air conditioners and water heaters, interruptible rate schedules for large customers, thermal energy storage systems using off-peak power, and time-of-use rates.

STANDBY GENERATION PROGRAMS

Standby generation programs provide incentives for customers owning standby generators to utilize them during periods of high demand, thereby reducing the system peak demand. These are generation displacement programs, similar to cogeneration, although the customers may not necessarily be qualified facilities as defined by the Public Utilities Regulatory Policies Act (PURPA) of 1978. The requirements for these programs vary, but there is usually a payment from the electric company for the amount of capacity that is displaced by the generator as well as a fuel supplement payment based on kWh. Most suppliers require participants to have a minimum size generator as well as an agreement regarding its operation.

VOLTAGE REDUCTION

Voltage reduction programs reduce the supplied voltage of electricity to all customers, usually between 2% and 5% percent. Lowering the supplied voltage has the overall impact of reducing the demand for electricity. There is some controversy concerning the effects of this practice, and as a result, it is used primarily as a last resort before interrupting the supply of electricity. Some municipalities employ this practice for reducing the load during critical periods, thereby reducing the peak demand and energy consumption for all customers in each sector.

Electric Utilities Participating in Demand-Side Management

According to EIA-861 forms and responses to SCEO requests submitted by electric utilities, the number of electricity-supplying utility companies reporting demand-side management activity was 27 out of 46. This indicates that less than two-thirds of the electricity-supplying utilities (58.7%) practiced any demand-side management in 2009. However, all of the major electricity suppliers—together representing over 95% of total electricity customers—reported DSM activity.

Table 1. Listing of DSM Activity for Electric Utilities, 2009

Electric Utilities Reporting DSM Activity	Electric Utilities Reporting No DSM Activity
City of Camden	City of Abbeville
Duke Energy Carolinas	Bamberg Public Works
City of Newberry	City of Bennettsville
Progress Energy Carolinas	City of Clinton
City of Rock Hill	Easley Combined Utility System
Santee Cooper	City of Gaffney
SC Electric Cooperatives (20 Member Coops)	City of Georgetown
South Carolina Electric & Gas	Laurens Commission of Public Works
	Lockhart Power Company
	Town of McCormick
	Orangeburg Department of Utilities
	Town of Prosperity
	City of Seneca
	City of Union
	City of Westminster
	Town of Winnsboro

Sources: 2008 EIA-861 Forms submitted to SCEO and responses to SCEO information requests
 Non-Respondent Utilities: Town of Due West, Greer Commission of Public Works, Greenwood Commission of Public Works

Natural Gas Utilities Participating in Demand-Side Management

According to the survey conducted by the SC Energy Office, only one natural gas-supplying utility reported demand-side management activities in 2009. However, this entity—South Carolina Electric & Gas—accounted for the majority of statewide natural gas sales in 2009.

Table 2. Listing of DSM Activity for Natural Gas Utilities, 2009

Natural Gas Utilities Reporting DSM Activities	Natural Gas Utilities Reporting No DSM Activities
South Carolina Electric & Gas	Chester County Natural Gas Authority
	Clinton-Newberry Natural Gas Authority
	Fort Hill Natural Gas Authority
	Fountain Inn Natural Gas System
	Town of Lancaster
	Orangeburg Department of Utilities
	Piedmont Natural Gas Company
	City of Union
	Town of Winnsboro
	York County Natural Gas Authority

Sources: Survey of Natural Gas Utilities by SCEO
 Non-Respondent Utilities: Bamberg Public Works, City of Bennettsville, Greenwood Commission of Public Works, Greer Commission of Public Works, and Laurens Commission of Public Works

Demand-Side Management Activities, 2009

Electric utilities were provided with their detailed DSM reports from 2008 and asked to submit changes for 2009. Natural gas utilities were also asked to submit descriptions of their DSM activities. This section describes the DSM activities of the utilities that submitted such reports to the SCEO; the following information was taken directly from those submissions. To maintain the objectivity of this report, minimal changes were made to the content or length of the responses.

Twenty-seven of the 46 electric utilities reported having active DSM programs: three investor-owned utilities, the state-owned Santee Cooper, three municipal utilities and all 20 cooperatives.

One of the 16 natural gas utilities reported having an active DSM program: South Carolina Electric & Gas.

Electric Cooperatives

Central Electric Power Cooperative, Inc., is reporting on behalf of the twenty electric cooperative distribution companies in South Carolina, with respect to their activities in 2009 regarding Demand Side Management, Energy Efficiency, and Renewable Resource development.

The electric cooperatives have a long history in the area of demand side management as we have had programs to reduce peak demands for water heating and air conditioning since the early 1980's. These programs have historically been designed, not to save energy, but to reduce peak demands thereby making better use of existing generating resources. The economic benefits are obvious and these programs continue to have well over one hundred thousand participants throughout the cooperative system. While these programs have been in effect for many years, we are constantly re-evaluating the programs to determine if additional efforts need to be made to expand or modify the programs, and if so, by what extent.

Changing system conditions and load shapes determine how much programs like this can be implemented effectively. We feel that as system growth makes the need for new generation greater, any measures to minimize that need through demand side management only becomes more valuable. By utilizing new technology such as "smart metering" or advanced metering infrastructure (AMI) these new methods of communicating with customers, or customer's individual appliances, enhances our opportunities to manage system load levels. We are working with our Members to make these opportunities bear fruit and by doing it in a manner that minimizes inconveniences to customers.

In 2007 the Board of Central Electric Power Cooperative began an effort to evaluate and quantify the potential of renewable resources and energy efficiency in South Carolina. The cooperatives recognize the importance these issues have upon the supply and demand for electricity in South Carolina, and we are keenly aware of our obligations to our Member / Owners to supply their electric power needs in as cost-effective manner as possible while

maintaining a reliable generation, transmission, and distribution system. Also, a part of that mandate is our obligation to also provide those services in a manner as to minimize the impacts upon the environment. As a public recognition of that long-held belief, our Board of Directors made the following commitment:

ENERGY AND ENVIRONMENTAL COMMITMENT

Central is committed to meeting the needs of the Members, by maintaining and delivering a power supply which balances price, reliability, and environmental stewardship. Our actions will be guided by the following principles:

a.) As part of our power supply, we will seek renewable resources which are environmentally responsible, which offset or reduce CO2 and other emissions, and which are economically reasonable to our Members.

b.) We view conservation and energy efficiency as a resource equal to power generation, and we will offer conservation and energy efficiency programs designed to reduce the growth in demand and energy on our system.

c.) We will encourage partnerships which promote research to limit emissions from power generation, encourage conservation and enhance energy efficiency.

The first step in implementing this policy was to assess where we are today. To that end we commissioned two nationally known consultants, expert in the areas of renewable resource assessment, and energy conservation to perform two in-depth studies. The first study was to do an assessment of the potential for renewable resource development in South Carolina. What technologies are available, are they currently commercially viable, and are they technologically feasible given the conditions on the ground in South Carolina? Also, as a part of that study, what technologies are under development which might one day play a role? It is the position of the Cooperatives that all reasonably economic and environmentally responsible renewable resource technologies available to South Carolina should be developed. We do not expect that renewable resources will necessarily be available at a cost, at or below, the cost of traditional central station power. However, the Cooperatives are committed to renewable resource generation that is “reasonably economic”.

The results of that study indicate that biomass technology has the greatest potential for development in South Carolina today both in terms of absolute technical potential and reasonably economic potential. The cooperatives are working with several individuals and companies to bring biomass generation to the marketplace. While biomass has the potential to bring the greatest benefit at the lowest potential cost, there are opportunities in wind, solar, and small scale hydropower, that also have development potential and we are committed to those technologies as well.

As a part of renewable resource development, we have not forgotten the potential for the development of renewable resources at the customer level. Many people have an interest in renewable resource development at their home or place of business. To facilitate this market for our customers, the cooperatives have developed a Net Metering Pilot Program. The cooperative will purchase from customers any energy generated by the customer beyond his own need at a price reflective of the value of that power to the generating system.

Distributed generation as it is sometimes called, might have benefits for the customer, and possibly to the transmission and generation systems. But, it presents some challenges as well. We recognize that some distributed generation technologies correlate better with our demand curve than do others. Our pilot programs are designed to facilitate integration and to better our understanding of distributed generation effects on the system by standardizing interconnection standards and by providing a “buy / sell” rate methodology fair to all parties.

Our net metering pilot rate has been used by just a handful of customers, but is operational and the cooperatives are buying excess customer power from several sources. We continue to monitor the rate and are incorporating feedback from customers on how we may make the rate easier to understand and implement. Each year we reevaluate the energy and demand charges to keep them in line with generation costs.

Renewable resources available to us that reduce overall electric use can do so without generating any electricity. Solar water heating is one example. Water heaters are the second largest energy users in the typical home. Central initiated a pilot in conjunction with the SCEO in 2009 to install and monitor 70 residential solar water heating systems. At the conclusion of the study, we fully expect to see the electric water heating energy use drop, but the more important metric for us, is the change in electric demand of the water heaters and how it benefits the system.

While alternative generation technologies will help, perhaps the best kilowatt-hour produced is actually the one saved. The second study the Cooperatives commissioned dealt with energy conservation and energy efficiency. Reducing energy use is just as effective as building power plants in terms of meeting need, and in many cases may be less costly. The study shows in fact, that energy efficiency has a much greater potential impact in meeting energy needs in South Carolina than do alternative or renewable energy resources. Our analysis shows that energy efficiency will be the fastest, most economical, and customer friendly way to meet our goals.

While the renewable resources assessment focused on South Carolina as a state, the energy conservation and energy efficiency study looked at the customer base of the electric cooperatives specifically. The cooperatives serve a much different customer base than do the investor-owned utility companies. These differences pose some unique challenges to us, but conversely, they also provide us with some unique opportunities. Our Board has directed us to develop energy efficiency programs designed specifically for our customer base to deliver the greatest amount of energy savings as possible at the lowest possible cost to customers. We will begin essentially to “pick the lowest hanging fruit first,” and from those successes, build momentum, and move forward. The work performed by our consultants essentially gave us a road map by which we can garner the greatest savings in the shortest period of time. No program can make our

consumers, or anyone's consumers for that matter, accept and participate in a program unless it makes sense to them, and is affordable to them.

We began an energy efficiency residential pilot of site built homes in 2009 weatherizing 60 homes built over the past 40 years. We are monitoring their energy use to gauge the effectiveness of the upgrades chosen. In addition to these homes, Central is funding, in conjunction with grant money secured from the South Carolina Energy Office, a 1,500 home pilot focusing on manufactured housing. A quarter of our membership resides in manufactured housing. By creating a wide range of programs we hope there will be something for everyone, and something that everyone can participate in.

Several distribution cooperatives are making available to their membership near real time feedback of home energy use. They are leveraging AMI and the internet to bring hourly data to the home computer and smart phones. Programs that reduce energy use don't proportionally reduce peak demand. It is important for us to quantify this effect in all of the programs we implement to make sure the proper price signal is sent to the customer.

Cooperatives are also working with their principal power supplier, Santee Cooper, to bring renewable resource generation to South Carolina. We have signed agreements with some producers, and additional project development is underway mostly in the area of biomass production.

Having a statement of commitment and developing programs is just a start. In order to measure how effective we are, we have created an internal goal for meeting these challenges. We have committed to reducing our forecasted energy requirements over the next ten years by twenty percent. This reduction is equivalent to the demand requirements of four base load generating units. This goal will require a focused effort and a considerable financial commitment to make it happen. We have made that financial commitment and incorporated the anticipated savings into our future generation and transmission planning assumptions.

As a result of these two studies and what we have learned over the past few years, Central's board adopted the following resolution in order to set specific carbon free generation, renewable generation and energy efficiency goals. This Statement of Energy Supply, originally adopted in 2007 was modified and readopted in 2010:

Statement of Energy Supply

RESOLVED, that the Board re-adopts Central's Statement of Energy Supply as follows:

Based upon current system conditions and concerns regarding trends in

"We have committed to reducing our forecasted energy requirements over the next ten years by twenty percent."

**--South Carolina
Electric Cooperatives**

national energy policy, and based upon the findings of recently completed research for the Central/Santee Cooper system, Central supports the following concepts:

1) Central may be able to obtain 15% to 30% of Member energy requirements with energy supplied from nuclear fueled generation by 2020.

2) Central may be able to obtain 3% to 6% of Member energy requirements with energy supplied from generation produced by “reasonably economic” renewable resources by 2020.

3) Central may be able to meet 12% to 18% of Member energy requirements by implementing cost effective energy efficiency and conservation measures by 2020.

These remain transformative times in the electric utility industry. Forces beyond our control will shape the landscape and we will react to those changes in the best interests of our membership. As member-owned companies existing solely for the benefit of our customers, we are committed to bringing value to our customers and to our communities. The electric cooperatives have a role to play in this changing environment and we look forward to participating in moving South Carolina forward toward a cleaner, and more energy efficient future.

Municipal Electric Utilities

There were three municipal electric utilities that reported the use of DSM programs in 2009 on their EIA-861 forms. None submitted narrative descriptions of their DSM activities.

Fifteen municipal electric utilities reported no DSM programs. One of these utilities—City of Union—operated a load management system in 2008 that was phased out in 2009 due to inoperable equipment; they are currently in the process of working with Piedmont Municipal Power Agency to set up a new system. Three municipal electric utilities did not report at all.

Investor-Owned Electric Utilities

The three largest investor-owned utilities all reported having DSM activities in 2009. Lockhart Power Company reported having no DSM activity in 2009. Additional DSM activities were implemented by some utilities during 2010; these activities and their impacts will be described in next year's report.

Please note that some utilities differentiate between energy efficiency/conservation programs, which are typically "dispatched" (administered) at the customer level and rely on consumer decisions, and demand-response programs, which include load curtailment and other measures that are often dispatched by the utility itself. Both types of programs are considered to be DSM activities for the purposes of this report.

Duke Energy Carolinas

Duke Energy Carolinas uses Energy Efficiency (EE) and Demand-Side Management (DSM) programs to help manage customer demand in an efficient, cost-effective manner. These programs can vary greatly in their dispatch characteristics, size and duration of load response, certainty of load response, and frequency of customer participation. In general, programs include two primary categories: EE programs that reduce energy consumption (conservation programs) and DSM programs that reduce energy demand (demand-side management or demand response programs and certain rate structure programs).

The following are the current EE and DSM programs in place in the Carolinas:

Demand Response – Load Control Curtailment Programs

These programs can be dispatched by the utility and have the highest level of certainty. Once a customer agrees to participate in a demand response load control curtailment program, the Company controls the timing, frequency, and nature of the load response. Duke Energy Carolinas' current load control curtailment program is:

Power Manager

Power Manager is a residential load control program. Participants receive billing credits during the billing months of July through October in exchange for allowing Duke Energy Carolinas the right to cycle their central air conditioning systems and, additionally, to interrupt the central air conditioning when the Company has capacity needs

Demand Response – Interruptible and Related Rate Structures

These programs rely either on the customer's ability to respond to a utility-initiated signal requesting curtailment or on rates with price signals that provide an economic incentive to reduce or shift load. Timing, frequency and nature of the load response depend on customers' voluntary actions. Duke Energy Carolinas' current interruptible and time of use curtailment programs include:

PowerShare®

PowerShare® is a non-residential curtailable program consisting of three options—an Emergency Option for curtailable load, an Emergency Option for load curtailment using on-site generators, and a Voluntary Option.

- The Emergency Option customers will receive capacity credits monthly based on the amount of load they agree to curtail during utility-initiated emergency events. Customers enrolled in the Emergency Option may also be enrolled in the Voluntary Option and eligible to earn additional credits.*
- Voluntary Option customers will be notified of pending emergency or economic events and can log on to a Web site to view a posted energy price for that particular event. Customers will then have the option to nominate load for the event and will be paid the posted energy credit for load curtailed.*

Rates using price signals:

Residential Time-of-Use (including a Residential Water Heating rate)

This category of rates for residential customers incorporates differential seasonal and time-of-day pricing that encourages customers to shift electricity usage from on-peak time periods to offpeak periods. In addition, there is a Residential Water Heating rate for off-peak water heating electricity use.

General Service and Industrial Optional Time-of-Use rates

This category of rates for general service and industrial customers incorporates differential seasonal and time-of-day pricing that encourages customers to use less electricity during on-peak time periods and more during off-peak periods.

Hourly Pricing for Incremental Load

This category of rates for general service and industrial customers incorporates prices that reflect Duke Energy Carolinas' estimation of hourly marginal costs. In addition, a portion of the customer's bill is calculated under their embedded-cost rate. Customers on this rate can choose to modify their usage depending on hourly prices.

Energy Efficiency Programs

These programs are typically non-dispatchable, conservation-oriented education or incentive programs. Energy and capacity savings are achieved by changing customer behavior or through the installation of more energy-efficient equipment or structures. All effects of these existing programs are reflected in the customer load forecast. Duke Energy Carolinas' existing conservation programs include:

Residential Energy Star® rates for new construction

This rate promotes the development of homes that are significantly more energy efficient than a standard home. Homes are certified when they meet the standards set by the U.S. EPA and the U.S. DOE. To earn the symbol, a home must be at least 30 percent more efficient than the national Model Energy Code for homes, or 15 percent more efficient than the state energy code, whichever is more rigorous. Independent third-party inspectors test the homes to ensure they meet the standards to receive the Energy Star® symbol. The independent home inspection is the responsibility of the homeowner or builder. Electric space heating and/or electric domestic waterheating are not required.

Non-Residential Energy Assessments

The purpose of this program is to assist non-residential customers in assessing their energy usage and to provide recommendations for more efficient use of energy. The program also helps identify those customers who could benefit from other Duke Energy Carolinas DSM nonresidential programs. The types of available energy assessments are as follows:

- *Online Analysis. The customer provides information about its facility. Duke Energy Carolinas will provide a report including energy-saving recommendations.*
- *Telephone Interview Analysis. The customer provides information to Duke Energy Carolinas through a telephone interview, after which billing data, and, if available, load profile data, will be analyzed. Duke Energy Carolinas will provide a detailed energy analysis report with an efficiency assessment along with recommendations for energy-efficiency improvements. A 12-month usage history may be required to perform this analysis.*
- *On-site Audit and Analysis. For customers who have completed either an Online Analysis or a Telephone Interview Analysis, Duke Energy Carolinas will cover 50% of the costs of an on-site assessment. Duke Energy Carolinas will provide a detailed energy analysis report with an efficiency assessment along with recommendations, tailored to the customer's facility and operation, for energy efficiency improvements. The Company reserves the right to limit the number of off-site assessments for customers who have multiple facilities on the Duke Energy Carolinas system. Duke Energy Carolinas may provide additional engineering and analysis, if requested, and the customer agrees to pay the full cost of the additional assessment.*

Residential Energy Assessments

This program assists residential customers in assessing their energy usage and provides recommendations for more efficient use of energy in their homes. The program also helps identify those customers who could benefit most by investing in new demand-side management measures, undertaking more energy-efficient practices and participating in Duke Energy Carolinas programs. The types of available energy assessments and demand-side management products are as follows:

- *Mail-in Analysis. The customer provides information about their home, number of occupants, equipment, and energy usage on a mailed energy 35 profile survey, from which Duke Energy Carolinas will perform an energy use analysis and provide a Personalized Home Energy Report including specific energy-saving recommendations.*
- *Online Analysis. The customer provides information about their home, number of occupants, energy usage and equipment through an online energy profile survey. Duke Energy Carolinas will provide an Online Home Energy Audit including specific energy-saving recommendations.*
- *On-site Audit and Analysis. Duke Energy Carolinas will perform one onsite assessment of an owner-occupied home and its energy efficiency related features during the life of this program.*

Low Income Energy Efficiency and Weatherization Program

The purpose of this program is to assist low income residential customers with demand-side management measures to reduce energy usage through energy efficiency kits or through assistance in the cost of equipment or weatherization measures.

Energy Efficiency Education Program for Schools

The purpose of this program is to educate students about sources of energy and energy efficiency in homes and schools through a curriculum provided to public and private schools. This curriculum includes lesson plans, energy efficiency materials, and energy audits.

Residential Smart Saver® Energy Efficient Products Program

The Smart Saver® Program provides incentives to residential customers who purchase energy efficient equipment. The program has two components –compact fluorescent light bulbs and high-efficiency air conditioning equipment. This residential compact fluorescent light bulbs (CFLs) incentive program provides market incentives to customers and market support to retailers to promote use of CFLs. Special incentives to buyers and in-store support will increase demand for the products, spur store participation, and increase availability of CFLs to customers. Part of this program is to educate customers on the advantages (functionality and savings) of CFLs so that they will continue to purchase these bulbs in the future when no direct incentive is available. The residential air conditioning program provides incentives to customers, builders, and heating contractors (Heating Ventilation & Air Condition (HVAC) dealers) to promote the use of high-efficiency air conditioners and heat pumps with electronically-commutated fan motors (ECM). The program is designed to increase the efficiency of air conditioning systems in new homes and for replacements in existing homes.

Smart Saver® for Non-Residential Customers

The purpose of this program is to encourage the installation of high-efficiency equipment in new and existing non-residential establishments. The program provides incentive payments to offset a portion of the higher cost of energy efficient equipment. The following types of equipment are eligible for incentives: high-efficiency lighting, high-efficiency air conditioning equipment, high efficiency motors, and high-efficiency pumps. Customer incentives may be paid for other high-efficiency equipment as determined by the Company to be evaluated on a case-by-case basis. The projected impacts from these programs are included in this year's assessment of generation needs.

South Carolina Electric & Gas

The Demand-Side Management Programs at SCE&G can be divided into three major categories: Customer Information Programs, Energy Conservation Programs and Load Management Programs. The Customer Information Programs and Energy Conservation Programs can also be categorized as Energy Efficiency Programs while the Load Management Programs are also known as Demand Response Programs:

Customer Information Programs

SCE&G's customer information programs fall under two headings: the annual energy campaigns and web-based information initiatives. The following is an overview of each.

*1. **Annual Energy Campaigns:** In 2009, SCE&G continued to proactively educate its customers and create awareness on issues related to energy efficiency and conservation.*

***Customer Outreach Marketing and Communications:** SCE&G initiated an aggressive customer outreach initiative during spring 2009 to measure customer energy efficiency behaviors and to obtain feedback on the types of energy efficiency programs/services they would like to see the company implement. Feedback was obtained through multiple channels to include an Outbound Telephone Survey, online at sceg.com and print surveys at service territory-wide community events. The majority of feedback fell into three categories of interest: rebates/incentives, consumer education and in-home services, all three of which are covered within existing energy efficiency programs at SCE&G, as well as proposed new residential programs – pending approval by the Public Service Commission in 2010.*

***SCE&G/EnergyWise Blog:** Beginning in August, SCE&G developed and implemented a blog (www.sceg.com/blog) for customers to learn more about energy efficiency programs/services offered by the company. Topics of interest change weekly and have included a broad range of energy efficiency messaging.*

***Brand Advertising and Advertorials:** In response to customer feedback to help them find new ways to save energy, 2009 brand advertising (print and billboards) featured a member of the SCE&G Energy Team and recommended visiting www.sceg.com for valuable energy savings information. In August, SCE&G initiated a monthly EnergyWise Advertorial featuring a Q&A on energy efficiency topics in *The State Newspaper, Post and Courier* and *Aiken Standard*. The Q&A's featured information on ENERGY STAR appliances, weatherization, in-home services, low-income customer assistance, programmable thermostats, and do-it-yourself energy efficiency ideas. Customers were encouraged to learn more and "join in the conversation" at www.sceg.com/blog.*

***2009 Fall Energy Savings Campaign:** Featuring members of SCE&G's Energy Team, the company launched a six-week energy savings campaign in October (Energy Awareness Month), providing customers with a variety of energy savings tips and reminders about SCE&G special offers to include free in-home energy consultations and \$300 bill credits for switching to high-efficiency, natural gas heat or water heat. Also included was a reminder about federal tax credits available for qualified energy efficient home upgrades. Channels of communication included major daily newspapers and their respective web sites for *The State Newspaper, Post**

and Courier and Aiken Standard. Weekly publications included SC Black News, The Charleston Chronicle, The Gullah Sentinel, The Carolina Panorama and The Community Times. The call-to-action for all print advertising included a drive-to-web for www.sceg.com/blog. In addition, a six-week, 60-second radio spot ran in Columbia (WTCB-FM, WLXC-FM, WOMG-FM) and Charleston (WXST-FM, WXLV-FM, WAVF-FM) – educating customers about common everyday household items that can waste energy. Additional radio promotions in Columbia included Clear Channel’s WCOS AM/FM, WLTY FM, WNOK FM, WVOC AM and WXBT FM – with two 60-second testimonials for a three-week run with on air talent promoting SCE&G’s energy efficiency programs and services. Radio advertising directed customers to www.sceg.com for additional information and resources.

SCE&G Business Offices (37 locations statewide): Energy Savings promotions implemented in all Business Office locations through spring 2009, including distribution of “Top 10 Energy Savings Tips” via envelope in drive-through payment transactions.

News Releases: Distributed to print and broadcast media throughout SCE&G’s service territory on a variety of energy savings programs and services to include Project SHARE and Weatherization. A campaign to promote the SCE&G Energy Team and the services they offer was conducted in the fall of 2009 and in conjunction with Energy Awareness Month (October). Numerous media outlets were invited to tag along on customer energy consultations to promote the service. Stories appeared in major print and broadcast media in both Charleston and Columbia.

Speakers Bureau – Representatives from SCE&G made presentations on energy efficiency and conservation programs to several organizations in 2009 including church groups, senior citizen and low-income housing communities, civic organizations, builder groups and homeowner associations.

EnergyWise Newsletters (Print and new E-Newsletter): Provides energy efficiency and conservation information for all customer classifications. The print version of the newsletter is mailed to approximately 625,000 residential customers twice annually, with 2009 editions being distributed during the winter/spring and fall seasons. In addition, we developed and e-mailed a new EnergyWise e-newsletter (based on customer demand/online requests for energy savings information) to approximately 1000 residential customers in 4th Quarter 2009.

Television Advertising: Are You Smarter than a 5th Grader?™ sponsorship with FOX affiliates in Charleston and Columbia, South Carolina. SCE&G sponsored the “Brain Buster” segment of the nightly family game show. Local students delivered energy efficiency solutions via questions to over 800,000 households.

ENERGY STAR® Partnership: Throughout 2009, SCE&G continued to promote its partnership with ENERGY STAR® (established in 2008), giving our company permission to use their logo on appropriate marketing communications to our customers. Appropriate links to the ENERGY STAR web site are placed throughout our web site, giving our customers access to valuable energy savings information, tools and resources.

2. Web-Based Information and Services Programs: SCE&G’s online offerings can be broken into four components: the Energy Analyzer tool, the online Energy Audit tool, Customer Awareness Information and EnergyWise Blog/E-Newsletter. Altogether there have been more

than 2.9 million visits to SCE&G's website in 2009 and feedback has been positive. Customers must be registered to use the interactive tools: Energy Analyzer and Energy Audit. There are almost 245,656 customers registered for this access. Following is a description of these components:

a. **Energy Analyzer:** Energy Analyzer, added in 2004, is a 24 month bill analysis tool. It uses complex analytics to identify a customer's seasonal usages and target the best ways to reduce demand. This Web-based tool allows customers to access their current and historical consumption data and compare their energy usage month-to-month and year-to-year -- noting trends, temperature impact and spikes in their consumption. There were a little over 100,000 visits to the Energy Analyzer tool in 2009.

b. **Energy Audit:** The Energy Audit tool, added to the site in August 2008, leads customers through the process of creating a complete inventory of their home's insulation and appliance efficiency. The tool allows customers to see the energy and financial savings of upgrades before making an investment. There were 6,500 customers who used the Energy Audit tool in 2009.

c. **Customer Awareness Information:** The SCE&G Web site supports all communication efforts to promote energy savings tips through a section of the website called "Save Energy & Money" and through the Energy Audit library. Energy savings information includes how-to videos on insulation, thermostats and door and windows. Information on the latest tax credits offered by the American Recovery and Reinvestment Act of 2009 is also available, including links to help customers explore and learn how they can take advantage of these credits. For business customers, online information also includes: power quality technical assistance, conversion assistance, new construction information, expert energy assistance and more (2009 traffic greater than 20,000).

d. **SCE&G EnergyWise Blog and E-Newsletter:** As noted in the Annual Energy Campaigns' section, SCE&G's web-based information and services included development, implementation and ongoing management of two new tools/resources in 2009 – the company's blog on energy efficiency at www.sceg.com/blog (2009 traffic from August launch through year-end was 3000) and an EnergyWise e-newsletter to support customer demand for additional information on ways to help them save energy.

Existing Energy Conservation Programs

There are four energy conservation programs: the Value Visit Program, the In-Home Energy Consultation, the Conservation Rate and our use of seasonal rate structures. A description of each follows:

1. The **Value Visit Program** is designed to assist residential electric customers who are considering an investment in upgrading their home's thermal efficiency. The customer is asked to complete a 1-page application and a visit is scheduled with an Energy Services Representative to verify what (if any) rebates the customer may qualify for (see rebate schedule below). Upon our visit, an SCE&G representative also explains the benefits of upgrading different areas of the home and what effect upgrading these areas will have on energy bills and comfort levels. There is a \$25 charge for the program, but this charge is reimbursed if the customer implements any suggested upgrade within 90 days of the visit. Information on this program is available on our website and by brochure.

Rebate schedule:

- *0 to R30 attic insulation - \$6.00 per 100 sq. ft.*
- *R11 to R30 attic insulation - \$3.00 per 100 sq. ft.*
- *Storm windows - \$30.00 per house*
- *Duct insulation - \$60.00 per house*
- *Wall Insulation - \$80.00 per house*

*2. **In-Home Energy Consultation:** SCE&G's free in-home energy consultation is designed for residential customers who want to be proactive in managing their energy consumption. An Energy Services Representative will walk through a customer's home inspecting windows & doors, caulking, weather stripping, insulation levels, appliances, water heaters and HVAC, and assess the home's thermal efficiency. Information about this program is available on our website, through bill inserts, and through numerous media outlets (newspaper, television, internet, radio, etc.).*

*3. **Rate 6 Energy Saver / Energy Conservation Program:** The Rate 6 Energy Saver / Energy Conservation Program rewards homeowners and home builders who upgrade their existing homes or build their new homes to a high level of energy efficiency with a reduced electric rate. This reduced rate, combined with a significant reduction in energy usage, provides for considerable savings for our customers. Participation in the program is very easy as the requirements are prescriptive which is beneficial to all of our customers and trade allies. Homes built to this standard have improved comfort levels and increased re-sale value over homes built to the minimum building code standard which is also a significant benefit to participants. Information on this program is available on our website and by brochure.*

*4. **Seasonal Rates:** Many of our rates are designed with components that vary by season. Energy provided in the peak usage season is charged a premium to encourage conservation and efficient use.*

Demand Side Management: Next Steps

In 2009, SCE&G completed a comprehensive evaluation of its portfolio of DSM programs with the specific intention of revitalizing its energy efficiency programs and introducing new DSM programs where appropriate. In June 2009, the Company presented its DSM portfolio to the Commission for review and approval.

Progress Energy Carolinas

New Demand Side Management (DSM) and Energy Efficiency (EE) Programs

Progress Energy Carolinas, Inc. (PEC) continues to pursue a long-term balanced capacity and energy strategy to meet the future electricity needs of its customers. This balanced strategy includes a strong commitment to demand side management (DSM) and energy efficiency (EE) programs, investments in renewable and emerging energy technologies, and state-of-the art power plants and delivery systems. PEC currently has the following six EE programs, three DSM programs and one pilot program that have been approved by both the North Carolina Utilities Commission and the Public Service Commission of South Carolina:

Energy Efficiency Programs

- *Residential Home Energy Improvement*
- *Residential Home Advantage*
- *Residential Neighborhood Energy Saver (Low-Income)*
- *Residential Lighting Program*
- *Residential Appliance Recycling Program*
- *Commercial, Industrial, and Governmental (CIG) Energy Efficiency*

Demand Response Programs

- *Residential EnergyWise Homes*
- *CIG Demand Response Automation Program*
- *Distribution System Demand Response (DSDR) Program*

Pilot Programs

- *Solar Water Heating Pilot Program*
- *Energy Efficiency Programs*

Residential Home Energy Improvement Program

The Residential Home Energy Improvement Program offers PEC customers a variety of energy conservation measures designed to increase energy efficiency for existing residential dwellings that can no longer be considered new construction. The prescriptive menu of energy efficiency measures provided by the program allows customers the opportunity to participate based on the needs and characteristics of their individual homes. Financial incentives are provided to participants for each of the conservation measures promoted within this program. The program utilizes a network of pre-qualified contractors to install each of the following energy efficiency measures:

- *High-Efficiency Heat Pumps and Central A/C*
- *Duct Testing & Repair*
- *HVAC Tune-up*
- *Insulation Upgrades/Attic Sealing*
- *Window Replacement*

In addition, PEC's previously existing Energy Efficiency Financing program was incorporated into this program in 2009 to connect customers with screened contractors who provide complete installation and financing on a range of energy-saving home improvements.

The Residential Home Energy Improvement program was launched in July 2009. Through July 31, 2010, there have been 25,746 participants contributing 11,510 MWh in net annualized energy savings and 8,776 kW in peak demand savings.

Residential Home Advantage (New Construction) Program

The Residential Home Advantage New Construction Program offers developers and builders the potential to maximize energy savings in various types of new residential construction. The program utilizes a prescriptive approach for developers and builders of projects for single-family, multi-family (three stories or less), and manufactured housing units. The program is also available to high rise multi-family units that are currently not eligible for ENERGY STAR® as long as each unit meets the intent of the ENERGY STAR® builder option package for their climate zone and the Home Advantage Program criteria.

The primary objectives of this program are to reduce system peak demands and energy consumption within new homes. New construction represents a unique opportunity for capturing cost effective DSM and EE savings by encouraging the investment in energy efficiency features that would otherwise be impractical or more costly to install at a later time. These are often referred to as lost opportunities.

Since the launch of the Residential Home Advantage program in December 2008, there have been 1,608 participants through July 31, 2010, contributing 1,797 MWh in net annualized energy savings and 618 kW in peak demand savings.

Residential Neighborhood Energy Saver (Low-Income) Program

PEC's Neighborhood Energy Saver Program was launched in October 2009 to assist low-income residential customers implement energy conservation measures which in turn lessen their household energy costs. The program provides assistance to low-income families by installing a comprehensive package of energy conservation measures that lower energy consumption at no cost to the customer. Prior to installing measures, an energy assessment is conducted on each residence to identify the appropriate measures to install. In addition to the installation of energy efficiency measures, an important component of the Neighborhood Energy Saver program is the provision for one-on-one energy education. Each resident receives education on energy efficiency techniques and is encouraged to make behavioral changes to help reduce and control their energy usage.

As of July 31, 2010, measures have been installed in 2,936 homes. These installed measures contributed 2,727 MWh in net annualized energy savings and 420 kW in peak demand savings.

Commercial, Industrial, and Governmental (CIG) Energy Efficiency Program

The CIG Energy Efficiency Program is available to all CIG customers interested in improving the energy efficiency of their new construction projects or existing facilities. New construction incentives provide an opportunity to capture cost effective energy efficiency savings that would otherwise be impractical or more costly to install at a later time. The retrofit market offers

energy saving opportunities for CIG customers with older, energy inefficient electrical equipment. The program includes prescriptive incentives for measures that address the following major end-use categories:

- HVAC
- Lighting
- Motors & Drives
- Refrigeration

In addition, the program offers incentives for custom measures to specifically address the individual needs of customers in the new construction or retrofit markets, such as those with more complex applications or in need of energy efficiency opportunities not covered by the prescriptive measures. The program also seeks to meet the following overall goals:

- Educate and train trade allies, design firms and customers to influence selection of energy efficient products and design practices.
- Educate CIG customers regarding the benefits of energy efficient products and design elements and provide them with tools and resources to cost-effectively implement energy-saving projects.

The CIG Energy Efficiency program was launched in April 2009. As of July 31, 2010, there have been 905 participants contributing 32,203 MWh in net annualized energy savings and 7,014 kW in peak demand savings.

Demand Response Programs:

Residential EnergyWise Homes Program

The Residential EnergyWise Homes Program is a direct load control program that allows PEC, through the installation of load control switches at the customer's premise, to remotely control the following residential appliances:

- Central air conditioning or electric heat pumps
- Auxiliary strip heat on central electric heat pumps (Western Region only)
- Electric water heaters (Western Region only)

For each of the control options above, an initial one-time bill credit of \$25 following the successful installation and testing of load control device(s) and annual bill credits of \$25 will be provided to program participants in exchange for allowing PEC to control the listed appliances. The program provides PEC with the ability to reduce and shift peak loads, thereby enabling a corresponding deferral of new supply-side peaking generation and enhancing system reliability. Participating customers are impacted by (1) the installation of load control equipment at their residence, (2) load control events which curtail the operation of their air conditioning, heat pump strip heating or water heating unit for a period of time each hour, and (3) the receipt of an annual bill credit from PEC in exchange for allowing PEC to control their electric equipment.

Through July 31, 2010, the Residential EnergyWise Homes Program has 32,189 participants contributing 36,642 kW of summer peak load reduction capability and 1,671 kW of winter peak load reduction capability. Since the time of PEC's last biennial resource plan filing in September 2008, and extending through July 2010, there have been three Residential EnergyWise Homes Program activations. In addition, PEC has performed 17 test activations for measurement and valuation purposes in 2009 and 2010 to help estimate program impacts and identify

opportunities to maximize program use while minimizing customer complaints that may cause them to drop out of the program.

Commercial, Industrial, and Governmental (CIG) Demand Response Automation Program

The CIG Demand Response Automation Program allows PEC to install load control and data acquisition devices to remotely control and monitor a wide variety of electrical equipment capable of serving as a demand response resources. This program utilizes customer education, enabling two-way communication technologies, and an event-based incentive structure to maximize load reduction capabilities and resource reliability. The primary objective of this program is to reduce PEC's need for additional peaking generation by reducing PEC's seasonal peak load demands, primarily during the summer months, through deployment of load control and data acquisition technologies.

The CIG Demand Response Automation Program was launched in October 2009. As of July 31, 2010, there were 18 active installations in the program contributing 6,333 kW of available load reduction capability. From this program's inception through July 31, 2010, there have been two CIG Demand Response Automation Program control events.

Distribution System Demand Response Program (DSDR)

PEC and other utilities have historically utilized conservation voltage reduction (CVR) to reduce peak demand for short periods of time by lowering system voltage. This practice has been used in a limited fashion due to concerns that some customers could experience voltages below the lowest allowable level. DSDR is a program that enables PEC to increase peak load reduction capability and displace the need for additional future peaking generation capacity by investing in a robust system of advanced technology, telecommunications, equipment, and operating controls.

This increased peak load reduction is accomplished while maintaining customer delivery voltage above the minimum requirements. The DSDR Program enables PEC to implement a least cost mix of demand reduction and generation resources that meet the electricity needs of its customers.

Pilot Programs:

Residential Solar Water Heating Pilot Program

This pilot program was launched in June 2009 and was designed to provide PEC with the ability to measure and validate the achievable energy savings and coincident peak impacts associated with implementing residential solar water heating in the PEC service territory. Results from the pilot program will enable PEC to determine whether it is cost effective to incorporate solar water heating as part of its least cost mix of demand reduction and generation measures to meet the electricity needs of its customers. The data from this pilot program will also enable PEC to form a validated foundation for determining the future value of energy efficiency rebates or potential REC values, and create a better database of operational characteristics that could be used by other stakeholders (i.e., vendors/installers, developers, homeowners, solar advocates, policy makers, regulators, etc.).

As of July 31, 2010, there are 104 customers participating in the Residential Solar Water Heating Pilot Program, which has a cap of 150 total participants in PEC's service area.

Summary of Prospective Program Opportunities
PEC is considering the implementation of a new EE resource targeted to residential customers and designed to reduce residential electrical consumption by applying behavioral science principals in which eligible customers receive reports that compare their energy use with neighbors in similar homes. In addition to the household comparative analysis, the reports will provide specific recommendations to motivate participants to reduce their energy consumption. PEC is also considering expanding its Residential Home Energy Improvement program to include several new, additional EE measures.

Previously Existing Demand Side Management and Energy Efficiency Programs

Prior to the passage of North Carolina Senate Bill 3 in 2007, PEC had a number of EE & DSM programs in place. These programs are available in both North and South Carolina and include the following:

Existing Energy Efficiency Programs

Energy Efficient Home Program

PEC introduced in the early 1980's an Energy Efficient Home program. This program provides residential customers with a 5% discount of the energy and demand portions of their electricity bills when their homes met certain thermal efficiency standards that were significantly above the existing building codes and standards. Homes that pass an ENERGY STAR test receive a certificate as well as a 5% discount on the energy and demand portions of their electricity bills. Through December 2009, 282,504 dwellings system-wide qualified for the discount.

Energy Efficiency Financing

PEC began offering energy efficiency financing for its residential customers through its "Home Energy Loan Program" in 1981. Since the last biennial report, energy efficiency financing options have now been integrated within PEC's Residential Home Energy Improvement program.

Existing Demand Response (DR) Programs

Time of Use Rates

PEC has offered voluntary Time-of-Use (TOU) rates to all customers since 1981. These rates provide incentives to customers to shift consumption of electricity to lower-cost off-peak periods and lower their electric bill.

NOTE: North Carolina Senate Bill 3—passed in 2007—established a Renewable Energy and Energy Efficiency Portfolio Standard, which mandated that investor-owned utilities meet 12.5% of their energy needs through renewable energy and/or energy efficiency.

Thermal Energy Storage Rates

PEC began offering thermal energy storage rates in 1979. The present General Service (Thermal Energy Storage) rate schedule uses two-period pricing with seasonal demand and energy rates applicable to thermal storage space conditioning equipment. Summer on-peak hours are noon to 8 p.m. and non-summer hours are 6 a.m. to 1 p.m. weekdays.

Real-Time Pricing

PEC's Large General Service (Experimental) Real Time Pricing tariff was implemented in 1998. This tariff uses a two-part real time pricing rate design with baseline load representative of historic usage. Hourly rates are provided on the prior business day. A minimum of 1 MW load is required. This rate schedule is presently fully subscribed.

Curtable Rates

PEC began offering its curtable rate options in the late 1975, and presently has two tariffs whereby industrial and commercial customers receive credits for PEC's ability to curtail system load during times of high energy costs and/or capacity constrained periods.

Voltage Control

This procedure involves reducing distribution voltage during periods of capacity constraints, representing a potential system reduction of 76 MW. This level of reduction does not adversely impact customer equipment or operations.

Customized Home Energy Report

During 2009, PEC launched a new educational tool available to all residential customers called the Customized Home Energy Report. This free tool educates customers about their household energy usage and how to save money by saving energy. The customer answers a questionnaire either online via www.progresscher.com or through the mail, and then receives a report that details their energy usage and educates them on specific ways to reduce their energy consumption. Additionally, the report provides specific information about energy efficiency programs and rebates offered by Progress Energy that are uniquely applicable to the customer based on data obtained within the questionnaire.

On Line Account Access

On Line Account Access provides energy analysis tools to assist customers in gaining a better understanding of their energy usage patterns and identifying opportunities to reduce energy consumption. The service allows customers to view their past 24 months of electric usage including the date the bill was mailed; number of days in the billing cycle; and daily temperature information. This program was initiated in 1999.

"Lower My Bill" Toolkit

This tool, implemented in 2004, provides on-line tips and specific steps to help customers reduce energy consumption and lower their utility bills. These range from relatively simple no-cost steps to more extensive actions involving insulation and heating and cooling equipment.

Energy Saving Tips

PEC has been providing tips on how to reduce home energy costs since approximately 1981. PEC's web site includes information on household energy wasters and how a few simple actions

can increase efficiency. Topics include: Energy Efficient Heat Pumps, Mold, Air Conditioning, Appliances and Pools, Attics and Roofing, Building/Additions, Ceiling Fans, Ducts, Heating, Hot Water, Humidistats, Landscaping, Seasonal Tips, Solar Film, and Thermostats.

Energy Resource Center

In 2000, PEC began offering its large commercial, industrial, and governmental customers a wide array of tools and resources to use in managing their energy usage and reducing their electrical demand and overall energy costs. Through its Energy Resource Center, located on the PEC web site, PEC provides newsletters, online tools and information which cover a variety of energy efficiency topics such as electric chiller operation, lighting system efficiency, compressed air systems, motor management, variable speed drives and conduct an energy audit.

CIG Account Management

All PEC commercial, industrial, and governmental customers with an electrical demand greater than 200 kW (approximately 4,800 customers) are assigned to a PEC Account Executive (AE). The AEs are available to personally assist customers in evaluating energy improvement opportunities and can bring in other internal resources to provide detailed analyses of energy system upgrades. The AEs provide their customers with a monthly electronic newsletter which includes energy efficiency topics and tips. They also offer numerous educational opportunities in group settings to provide information about PEC's new DSM and EE program offerings and to help ensure the customers are aware of the latest energy improvement and system operational techniques.

SavetheWatts.com

In 2007, Progress Energy Carolinas launched "Save the Watts," a customer education and engagement campaign primarily targeted to PEC's residential customers. Its goal was to help customers understand not only how to use energy wisely, but to also provide them with specific tools and tips to help them save energy and money. At Progress Energy's customized, interactive website, www.savethewatts.com, customers can find energy-efficiency tips, calculators to help identify potential savings and information about PEC's energy-efficiency and demand-side management programs.

Wind for Schools

PEC is a partner in a North Carolina's first -ever Wind for Schools program in Madison County. This program involves a regional partnership providing for the installation of a small wind turbine at Hot Springs Elementary School in Madison County. The partnership also includes development of a K-12 alternative-energy curriculum as part of an effort to introduce wind power to rural communities and initiate community discussions around the benefits and challenges of alternative-energy resources. The program is modeled after the U.S. Department of Energy's (DOE) Wind for Schools initiative. The intent of the program, as defined by DOE, is to provide students and teachers with a physical example of how communities can take part in providing for the economic and environmental security of the nation while allowing exciting, hands-on educational opportunities.

Energy Efficiency World Website

PEC is offering a new educational online resource for teachers and students in our service area called Energy Efficiency World. The web site educates students on energy efficiency,

conservation, and renewable energy and offers interactive activities in the classroom. It is available on the web at www.progress-energy.com/shared/eew. PEC also distributes workbooks for kids that accompany the website experience.

SunSense Schools Program

The SunSense Schools program was launched by PEC in March 2009. This solar education program is the first of its kind in the Carolinas, and is designed to give middle and high school students and faculty a unique, hands-on opportunity to learn more about solar energy. Five winning schools received a two-kilowatt solar photovoltaic system installed on their campus along with internet-based tracking equipment that shows the real-time energy output. Progress Energy is proud to bring this exciting opportunity to local schools. Program details are available at www.progress-energy.com/sunsense.

Newspapers in Education

During 2009 and 2010, PEC designed and authored an educational newspaper insert geared toward K-12 students, which included information about energy efficiency and renewable energy. This insert was distributed to customers via the Raleigh News & Observer and was provided cost-free to more than 15,000 students in the PEC service area.

Community Events

PEC representatives participated in community events across the service territory to educate customers about PEC's energy efficiency programs and rebates and to share practical energy saving tips. PEC energy experts attended events and forums to host informational tables and displays, and distributed handout materials directly encouraging customers to learn more about and sign up for approved DSM & EE energy saving programs.

State-Owned Electric Utility

Santee Cooper (South Carolina Public Service Authority)

1. Good Cents New and Improved Home Program

The Good Cents Program was developed to provide residential customers an incentive to build new homes to higher levels of energy efficiency and improve existing homes by upgrading heating and air conditioning equipment and the thermal envelope to high energy efficiency standards. All homes are evaluated to determine if they meet the standards set for the program. Inspections are completed during construction for new homes and at the completion of construction for new and improved homes. This program was closed to new customers on and after November 1, 2009, except for any customer who applied for the Good Cents Program prior to that date and whose home is certified under Santee Cooper's Good Cents Home Program prior to November 1, 2010.

2. H2O Advantage Water Heating Program

H2O Advantage is a storage water heating program designed to shift the demand related to water heating off-peak. This is accomplished with the installation of an electronic timer or radio controlled switch on an 80 gallon water heater. This program began in 1990 and was offered for the last time in 2000. The contract spans 10 years so this program will no longer be impacting the system after 2010.

3. Commercial Good Cents

Commercial Good Cents is offered to commercial customers building new facilities that improve the efficiency in the building thermal envelope, heating and cooling equipment, and lighting. Commercial customers that meet program standards are given an up-front rebate to encourage participation in the program.

4. Thermal Storage Cooling Program

The Thermal Storage Cooling Program shifts energy used by commercial customers for air conditioning from peak to off-peak hours by utilizing thermal energy stored in a medium such as ice or water. Rebates are offered to customers who install this type of equipment.

5. Demand Control Program

As part of Santee Cooper's demand control program, Large Commercial and Industrial Customers currently are offered service under interruptible and economy power schedules. This load is excluded from the peak demand calculations for generation planning and reserves resource planning.

6. Compact Fluorescent Lights (CFLs)

This program encourages the use of compact fluorescent lights (CFLs) in homes served by Santee Cooper as a way to conserve energy. Customers received a voucher for twelve Energy Star, 75-watt equivalent CFLs that were redeemable by dropping by any of Santee Cooper's Customer Service offices. CFLs use up to 75 percent less energy than incandescent light bulbs, last up to 10 times longer, and provide a quick return on investment.

7. Reduce the Use Campaign

"Reduce the Use South Carolina" energy efficiency campaign was launched on September 16, 2009. The goal of this 10-year-long campaign is to substantially reduce the use of electricity and improve energy efficiency among its 163,000 direct serve residential and commercial customers through rebates and programs.

The comprehensive "Reduce the Use South Carolina" energy efficiency campaign includes a total of 42 energy efficiency initiatives to help achieve 209 million kilowatt hour savings annually, by 2020.

Santee Cooper has launched in this first year the following rebate programs:

8. Existing Homes Program

Smart Energy Existing Homes are certified by a Santee Cooper Energy Advisor to meet minimum energy performance guidelines. A home can receive the Smart Energy Home certificate by achieving an energy performance target or installing a specific number of eligible energy efficiency upgrades.

9. New Homes Program

The Smart Energy New Homes Program is comprised of two tiers of energy efficient standards, and it offers incentives to builders to facilitate and encourage their participation. ENERGY STAR® New Home performance standards require that homes be 15% more efficient than the requirements in 2006 International Energy Efficiency Code (IECC). Smart Energy New Home performance standards require that homes be 10% more efficient than the requirements of 2006 IEE. The rebate for Smart Energy New Homes ENERGY STAR® initiative is \$1,600 and the rebate for the Smart Energy New Homes initiative is \$1,000.

10. Heat Pump Program

The heat pump program is for residential customers and offers rebates of up to \$700. When customers participate in the Smart Energy Existing Homes program (\$600 rebate), and choose to add a 15 SEER heat pump with quality installation, they will receive an additional rebate of \$50. They may receive the rebate for up to two heat pumps, bringing the total rebate to \$700. For customers who choose to only install the 15 SEER heat pump with quality installation, they will receive a rebate of \$150. They may receive the rebate for up to two heat pumps, bringing the total rebate to \$300.

11. Water Heater Program

The water heater program is for residential customers and offers a \$35 rebate for purchase of a 0.93 EF (Energy Factor) electric heater.

12. Refrigerator Rebate Program

- *\$35 Rebate towards the recycling of a working pre-1993 refrigerator*
- *\$40 Rebate towards the purchase of a new ENERGY STAR® refrigerator*
- *\$75 Rebate towards the purchase of a new ENERGY STAR refrigerator plus recycling of one working refrigerator*
- *\$110 Rebate for purchasing a new ENERGY STAR refrigerator and recycling of two working refrigerators**

**At least one must be a pre -1993 model*

Natural Gas Utilities

There was one natural gas utility that reported the use of DSM programs in 2009. Ten reported no DSM programs in 2009. Five did not report at all.

South Carolina Electric and Gas

SCE&G has four DSM programs that support its gas customers. All four programs are energy efficiency programs that fall under the general umbrella of customer education and outreach. Three of the programs are web-based and have almost 219,000 customers registered. The programs are:

- **Energy Analyzer:** *Energy Analyzer, added in 2004, is a 24 month bill analysis tool to identify a customer's seasonal usages and target the best ways to reduce demand.*
- **Energy Audit:** *The Energy Audit tool leads customers through the process of creating a complete inventory of their home's insulation and appliance efficiency and allows customers to see the energy and financial savings of upgrades before making an investment.*
- **Customer Awareness Information:** *The SCE&G Web site supports all communication efforts to promote energy savings tips through a new section called "Save Energy & Money" and through the Energy Audit library. Information is also provided on the latest tax credits offered by the Emergency Economic Stabilization Act of 2008, including links to help customers explore and learn how they can take advantage of these credits. For business customers, online information also includes: power quality technical assistance, conversion assistance, new construction information, expert energy assistance and more.*
- **Annual Energy Campaign:** *Each year SCE&G designs a collection of methods to proactively educate its customers and create awareness of issues related to energy efficiency and conservation. Among the methods used are the following:*
 - *Bill Inserts/Messages*
 - *SCE&G Business Offices literature*
 - *Project Share*
 - *Weatherization projects for combined electric/gas customers*
 - *Speakers Bureau*
 - *Energy Awareness Month (October)*
 - *Public Service Announcements*

In addition, it is important to note that SCE&G is a combination utility which provides both electric and gas services to its customers. As a combination utility, the programs stated-above also support the demand-side management efforts of the Company which focus on SCE&G's electric customers. Likewise, in instances where SCE&G provides both electric and natural gas services to a customer, the benefits derived from demand-side management programs focusing on electric service also provide ancillary benefits concerning natural gas service.

Brief System and Pricing Overview

The full impact of DSM programs cannot be determined without an understanding of the size and customer base of each utility offering such programs. System information is reported in two sections: electricity, beginning on this page, and natural gas, beginning on page 35. Information about electricity was obtained by requesting copies of EIA Form 861, which utilities are already required to submit to the Energy Information Agency. For utilities unable or unwilling to submit these forms, data was retrieved manually from the EIA's online Form 861 database. Natural gas information was obtained via a questionnaire, and includes information about peak and total system demand, number of customers, and miles of distribution lines.

In 2009 the state's Electric Cooperatives were responsible for the largest share of electric customers in the state, followed by South Carolina Electric & Gas and Duke Energy Carolinas.

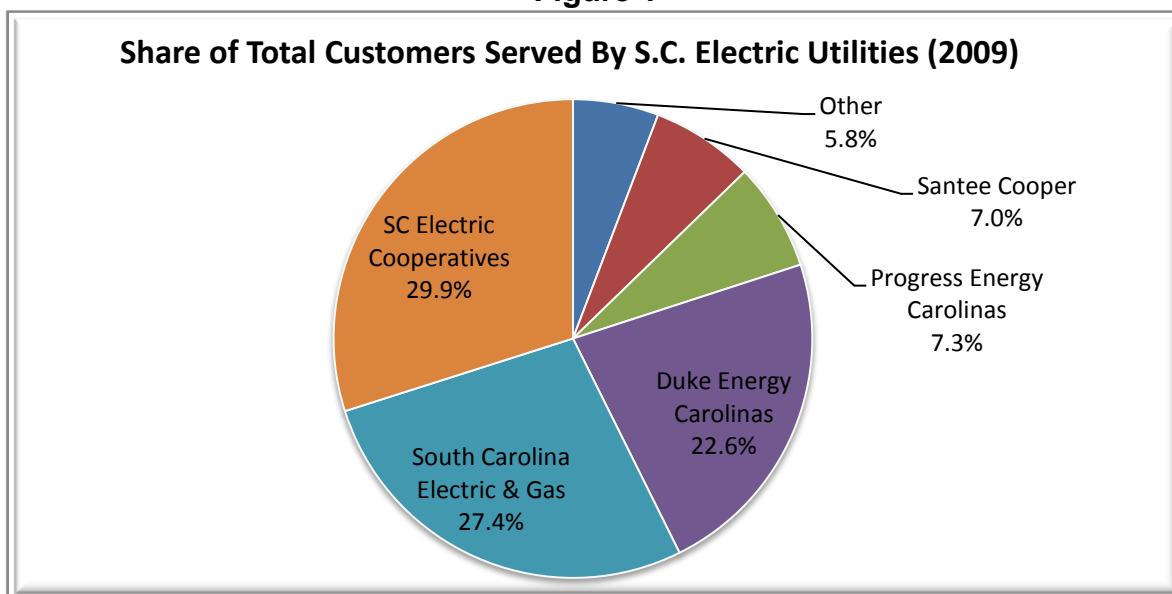
Electric Utility Data

System data were obtained for all 46 electric utilities operating in South Carolina. Central Electric Power Cooperative, Inc. submitted a report on behalf of all 20 distribution electric cooperatives.

SYSTEM SUMMARY

In 2009 the state's Electric Cooperatives were responsible for the largest share of electric customers in the state, followed by South Carolina Electric & Gas and Duke Energy Carolinas:

Figure 1



The tables on the following pages provide data about the number of customers, sales and revenue, and average retail price charged for each class of customer:

Table 3. Class of Ownership, Number of Consumers, Revenue, Sales, and Average Retail Price for the Residential Sector, by Utility, 2009

Entity	Class of Ownership	Number of Consumers	Revenue (thousand dollars)	Sales (megawatt hours)	Average Retail Price (cents/kWh)
Abbeville, City of	Public	3,013	3,634	32,154	11.30
Bamberg Public Works	Public	1,465	1,812	21,331	8.50
Bennettsville, City of	Public	4,082	5,252	52,517	10.00
Camden, City of	Public	9,196	10,661	107,015	9.96
Clinton, City of	Public	3,475	4,165	35,929	11.59
Due West, Town of	Public	321	348	3,296	10.56
Duke Energy Carolinas	Investor	450,458	531,277	6,525,520	8.14
Easley Combined Utility System	Public	11,513	15,426	153,435	10.05
Gaffney, City of	Public	5,628	6,315	70,917	8.91
Georgetown, City of	Public	3,863	4,772	52,575	9.08
Greenwood Commission of Public Works	Public	11,138	10,332	113,035	9.14
Greer Commission of Public Works	Public	13,454	16,321	162,016	10.07
Laurens Commission of Public Works	Public	4,452	5,269	46,426	11.35
Lockhart Power Company	Investor	5,105	7,477	69,751	10.72
McCormick, Town of	Public	894	1,153	10,299	11.20
Newberry, City of	Public	4,095	4,638	48,607	9.54
Orangeburg, City of	Public	20,727	27,354	299,000	9.15
Progress Energy Carolinas	Investor	139,520	212,881	2,178,207	9.77
Prosperity, Town of	Public	653	700	7,544	9.28
Rock Hill, City of	Public	33,450	31,517	340,955	9.24
Santee Cooper	Public	134,331	148,262	1,663,701	8.91
SC Electric Coops	Cooperative	639,537	1,002,534	9,691,597	10.34
Seneca, City of	Public	6,854	6,768	61,875	10.94
South Carolina Electric & Gas	Investor	560,401	907,591	7,893,333	11.50
Union, City of	Public	5,928	6,931	71,628	9.68
Westminster, City of	Public	1,322	1,322	13,423	9.85
Winnsboro, Town of	Public	3,320	3,292	30,602	10.76

Source: 2009 EIA-861 Forms as submitted to SCEO or downloaded from EIA. Electric cooperative data provided by Central Electric Cooperative.

Table 4. Class of Ownership, Number of Consumers, Revenue, Sales, and Average Retail Price for the Commercial Sector in South Carolina, by Utility, 2009

Entity	Class of Ownership	Number of Consumers	Revenue (thousand dollars)	Sales (megawatt hours)	Average Retail Price (cents/kWh)
Abbeville, City of	Public	528	2,602	25,902	10.05
Bamberg Public Works	Public	356	1,783	20,514	8.69
Bennettsville, City of	Public	575	4,637	43,668	10.62
Camden, City of	Public	1,440	7,880	73,690	10.69
Clinton, City of	Public	625	4,459	42,765	10.43
Due West, Town of	Public	32	835	9,344	8.94
Duke Energy Carolinas	Investor	86,765	411,435	5,770,328	7.13
Easley Combined Utility System	Public	1,950	13,297	133,006	10.00
Gaffney, City of	Public	1,631	9,532	97,117	9.82
Georgetown, City of	Public	1,211	8,334	77,702	10.73
Greenwood Commission of Public Works	Public	2,524	4,338	44,582	9.73
Greer Commission of Public Works	Public	3,983	14,174	154,347	9.18
Laurens Commission of Public Works	Public	861	4,753	53,013	8.97
Lockhart Power Company	Investor	1,257	2,152	19,398	11.10
McCormick, Town of	Public	188	748	6,760	11.07
Newberry, City of	Public	866	5,906	65,620	9.00
Orangeburg, City of	Public	3,374	6,723	72,000	9.34
Progress Energy Carolinas	Investor	32,684	162,134	1,831,661	8.85
Prosperity, Town of	Public	115	355	3,827	9.25
Rock Hill, City of	Public	3,408	34,150	376,338	9.07
Santee Cooper	Public	31,103	160,696	2,040,787	7.87
SC Electric Cooperatives	Cooperative	71,629	232,787	2,395,483	9.72
Seneca, City of	Public	1,053	8,158	72,805	11.21
South Carolina Electric & Gas	Investor	92,033	732,210	7,914,375	9.25
Union, City of	Public	1,101	5,815	58,415	9.95
Westminster, City of	Public	246	1,306	13,516	9.66
Winnsboro, Town of	Public	552	1,432	13,982	10.24

Source: 2009 EIA-861 Forms as submitted to SCEO or downloaded from EIA. Electric cooperative data provided by Central Electric Cooperative.

Table 5. Class of Ownership, Number of Consumers, Revenue, Sales, and Average Retail Price for Industrial Sector in South Carolina, by Utility, 2009

Entity	Class of Ownership	Number of Consumers	Revenue (thousand dollars)	Sales (megawatt hours)	Average Retail Price (cents/kWh)
Abbeville, City of	Public	0	0	0	N/A
Bamberg Public Works	Public	5	510	8,205	6.22
Bennettsville, City of	Public	0	0	0	N/A
Camden, City of	Public	0	0	0	N/A
Clinton, City of	Public	6	2,376	31,305	7.59
Duke Energy Carolinas	Investor	1,797	390,023	7,782,432	5.01
Due West, Town of	Public	0	0	0	N/A
Easley Combined Utility System	Public	0	0	0	N/A
Gaffney, City of	Public	29	2,626	42,038	6.25
Georgetown, City of	Public	0	0	0	N/A
Greenwood Commission of Public Works	Public	220	9,739	144,372	6.75
Greer Commission of Public Works	Public	0	0	0	N/A
Laurens Commission of Public Works	Public	5	373	3,263	11.43
Lockhart Power Company	Investor	9	4,866	67,850	7.17
McCormick, Town of	Public	0	0	0	N/A
Newberry, City of	Public	13	5,680	83,858	6.77
Orangeburg, City of	Public	433	36,353	492,000	7.39
Progress Energy Carolinas	Investor	729	144,485	2,277,163	6.34
Prosperity, Town of	Public	0	0	0	N/A
Rock Hill, City of	Public	14	4,324	52,159	8.29
Santee Cooper	Public	30	346,318	6,500,838	5.33
SC Electric Cooperatives*	Cooperative	648	180,681	2,943,085	6.14
Seneca, City of	Public	1	2	24	8.33
South Carolina Electric & Gas	Investor	747	344,821	5,324,280	6.48
Union, City of	Public	12	657	7,881	8.34
Westminster, City of	Public	0	0	0	N/A
Winnsboro, Town of	Public	16	1,218	13,151	9.26

*For the Cooperatives' data, there is no "industrial" category, but rather "large power." For this reason, a direct comparison between the Cooperatives and the other utilities for the commercial and industrial classes cannot be made.

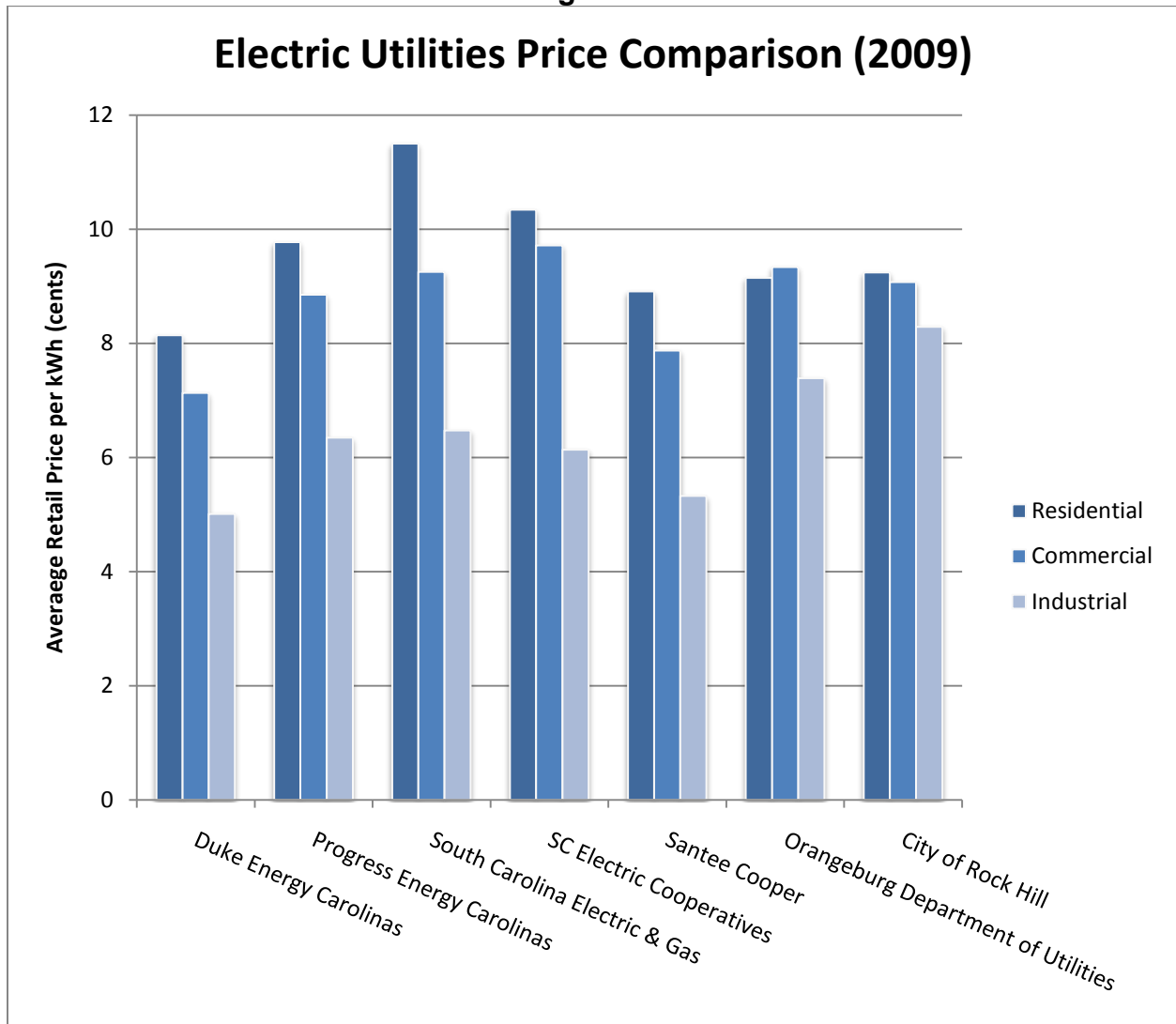
Source: 2009 EIA-861 Forms as submitted to SCEO or downloaded from EIA. Electric cooperative data provided by Central Electric Cooperative.

PRICE COMPARISON FOR ELECTRIC UTILITIES

Generally, residential prices were the highest and industrial prices were the lowest for electricity in SC in 2009. The City of Clinton had the highest residential prices at 11.59 cents per kWh, the Laurens Commission of Public Works had the highest industrial prices at 11.43 cents per kWh, and the City of Seneca had the highest commercial prices at 11.21 cents per kWh. Prices were calculated for each utility by sector by dividing revenue by sales.

A price-by-sector comparison is given below for the top seven utilities by megawatt-hour sales in 2009.

Figure 2



Source: 2009 EIA-861 Forms as submitted to SCEO and downloaded from EIA. Electric cooperative data provided by Central Electric Cooperative.

QUALIFIED FACILITIES

The Public Utilities Regulatory Policies Act of 1978 (PURPA) enables end users who generate power for their facilities to make any excess power available to the electric utilities supplying those users. PURPA also allows private companies to generate and to supply electricity to public utilities if that power is generated using approved energy resources. Qualified facilities, as defined by PURPA, include both 1) small power production facilities using renewable fuel sources, such as wind, solar, hydroelectric, biomass, waste or geothermal; and 2) cogeneration facilities that produce both electricity and thermal energy in a way that is more efficient than the separate production of both forms of energy. Utility companies are required to purchase power from qualified facilities at a price equivalent to the avoided cost of additional generation.

Qualified facilities reduce the need for new power plants just as load management does, by reducing the demand on utilities' systems at peak times.

Electricity from qualified facilities is classified into two categories: 1) purchase, meaning that the utilities purchase the power generated; and 2) displace, meaning that the power is used by the facility itself, thus displacing power that would otherwise be drawn from the utility grid. As shown in Table 3, qualified facilities in South Carolina had the capacity to provide 556 MW of power in 2007.

Table 6. Listing of Electricity Qualified Facilities, 2007

Utility	Plant Owner	Location	Fuel Type	Capacity (MW)	Purchase/ Displace
Progress Energy	Montenay Charleston RRI	Charleston	Solid Waste	13.000	Purchase/Displace
Progress Energy	Foster Wheeler	Charleston	Refuse	8.700	Purchase
Progress Energy	Stone Container	Florence	Wood Chips	68.000	Purchase
Progress Energy	Invista	Camden	Coal waste	30.000	Displace
			TOTAL=	119.700	
Duke Energy	Aquenergy	Multiple	Hydro	8.700	Purchase
Duke Energy	Customer-self generation	Multiple	Multiple	105.000	Displace
Duke Energy	Bob Jones University	Greenville	Diesel	4.400	Displace
Duke Energy	Cherokee County	Gaffney	Gas	100.000	Purchase
Duke Energy	Converse Energy	Clifton	Hydro	1.250	Purchase
Duke Energy	Daniel Nelson Evans	Spartanburg	Hydro	.225	Purchase
Duke Energy	Northbrook Carolina Hydro	Multiple	Hydro	7.400	Purchase
Duke Energy	Pacolet River Power	Clifton	Hydro	.800	Purchase
Duke Energy	Pelzer Hydro Co.	Pelzer	Hydro	5.300	Purchase
			TOTAL=	233.075	
SCE&G	International Paper	Eastover/Georgetown	Wood waste	205.200	Purchase/Displace
			TOTAL=	205.200	
TOTAL				557.975	

Source: S.C. Office of Regulatory Staff

Natural Gas Utility Data

SYSTEM SUMMARY

For purposes of the 2009 report, the SCEO survey administered to natural gas utilities requested data on annual decatherm (DT) peak system demand, total annual system DT sales, total miles of distribution line, and total numbers of customers. Only 11 of the 16 natural gas utilities responded to the survey. However, the non-responding utilities were mostly minor entities, together representing less than 10% of total annual system demand (based on data from previous years).

Table 7. Natural Gas Utility Data, 2009

	Annual Peak System Demand (DT)	Total Annual System DT, Excluding Sales for Re-sale	Miles of Natural Gas Distribution Lines	Number of Customers
Chester County Natural Gas Authority	8,500	2,837,951	570	7,539
Clinton-Newberry Natural Gas Authority	14,989	2,003,518	639	12,360
Fort Hill Natural Gas Authority	46,484	5,174,138	2,869	37,873
Fountain Inn Natural Gas System	6,946	676,071	264	6,288
Laurens Commission of Public Works	6,900	730,406	383	7,267
Orangeburg Department of Utilities	13,634	1,743,743	316	8,487
Piedmont Natural Gas Company	194,502	22,618,046	3,498	131,434
South Carolina Electric & Gas	337,896	61,475,446	15,922	309,691
Union, City of	8,607	1,517,195	385	6,480
Winnsboro, Town of	3,366	447,806	132	2,418
York County Natural Gas	54,331	6,114,109	1,508	54,189
TOTAL	696,155	105,338,429	26,486	584,026

Source: SCEO Survey for Gas Utilities, found in Appendix B.

ANNUAL PEAK SYSTEM DEMAND

Of the 11 natural gas utilities submitting data, South Carolina Energy & Gas (SCE&G) reported the highest annual peak system demand with 319,672 DT, representing almost half (48.5%) of 2009 peak demand for all reporting natural gas utilities. Piedmont Natural Gas company reported the second largest annual peak system demand at 194,502 DT, 27.9% of total reported peak demand.

TOTAL ANNUAL SYSTEM DATA AND CUSTOMERS

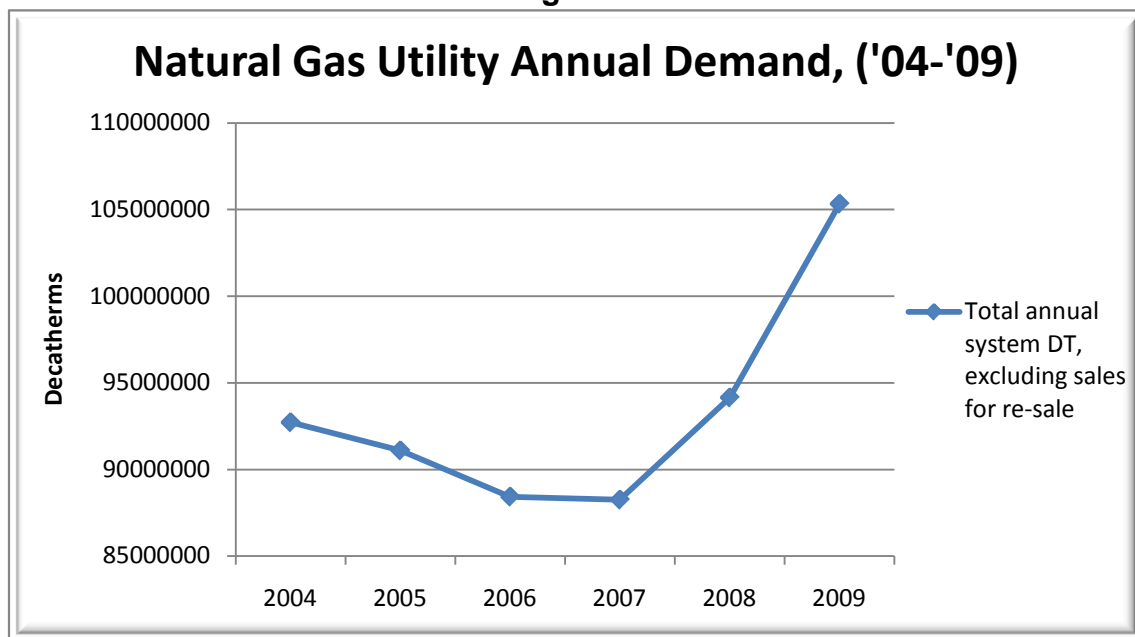
The total annual system demand for natural gas in DT dropped steadily between 2004 and 2007 but then increased markedly between 2007 and 2009, as can be seen below

in Figure 2. Most of this increase occurred in the largest reporting natural gas utility, SCE&G, which reported a 9.9% increase in natural gas usage in 2008 and a 27.2% increase in natural gas usage in 2009. (These increases were largely the result of additional production from a large gas-fueled electric generation facility supplied by SCE&G.)¹

In 2009, SCE&G accounted for 58.4 percent of the total natural gas sold to customers as indicated by the reporting entities, followed by Piedmont Natural Gas Company with 21.5 percent.

Among the utilities which submitted data for the survey, the total number of natural gas customers for all classes (residential, commercial, and industrial) in 2009 was 584,026. In 2009, SCE&G served 53.0 percent of all natural gas customers, and Piedmont Natural Gas Company accounted for 22.5 percent.

Figure 3



Source: SCEO DSM Survey for Gas Utilities

TOTAL DISTRIBUTION LINES

In 2009, there were 26,486 miles of distribution lines for natural gas in South Carolina controlled by the reporting utilities. By far the largest owner of these lines was SCE&G with 60.1 percent of the total, or 15,922 miles of distribution lines.

¹ These data do not include natural gas utilities that did not respond to the SCEO survey. In addition, there are significant numbers of large industrial and commercial consumers that purchase natural gas through federally regulated interstate pipelines, bypassing local natural gas distribution utilities. Data from the U.S. Energy Information Administration's State Energy Data system more accurately reflect total statewide natural gas demand— http://www.eia.gov/emeu/states/state.html?q_state_a=sc&q_state=SOUTH CAROLINA

Appendices

Appendix A: South Carolina State Statute Authorizing DSM Report

SECTION 58-37-30. Reports on demand-side activities of gas and electric utilities; forms.

(A) The South Carolina Public Service Commission must report annually to the General Assembly on available data regarding the past, on-going, and projected status of demand-side activities and purchase of power from qualifying facilities, as defined in the Public Utilities Regulatory Policies Act of 1978, by electrical utilities and public utilities providing gas services subject to the jurisdiction of the Public Service Commission.

(B) Electric Cooperatives providing resale or retail services, municipally-owned electric utilities, and the South Carolina Public Service Authority shall report annually to the State Energy Office on available data regarding the past, on-going, and projected status of demand-side activities and purchase of power from qualifying facilities. For electric cooperatives, submission to the State Energy Office of a report on demand-side activities in a format complying with the current Rural Electrification Administration regulations constitutes compliance with this subsection. An electric cooperative providing resale services may submit a report in conjunction with and on behalf of any electric cooperative which purchases electric power and energy from it. The State Energy Office must compile and submit this information annually to the General Assembly.

(C) The State Energy Office may provide forms for the reports required by this section to the Public Service Commission and to electric cooperatives, municipally-owned electric utilities, and the South Carolina Public Service Authority. The office shall strive to minimize differing formats for reports, taking into account the reporting requirements of other state and federal agencies. For electrical utilities and public utilities providing gas services subject to the jurisdiction of the commission, the reporting form must be in a format acceptable to the commission.

Appendix B: 2009 Survey for Gas Utilities

I am writing to request information about ongoing and projected demand-side management activities that your natural gas utility conducts. We are requesting this information in accordance with South Carolina Code of Laws Section 58-37-10, which requires utilities to report demand-side management activities.

(A demand side activity is defined as “a program conducted by a producer, supplier, or distributor of energy for the reduction or more efficient use of energy requirements of the producer’s, supplier’s, or distributor’s customers, including, but not limited to, conservation and energy efficiency, load management, cogeneration, and renewable energy technologies.”)

Information regarding demand-side management may be in a format of your choosing, i.e., a brief narrative description.

In addition, we are requesting additional data pursuant to SC 58-37-10:

Please provide system summary totals for 12-month periods (on a calendar year basis) using actual annual values for each of the previous six calendar years, January 2004 through December 2009:

Data Description	ACTUAL					
	2004	2005	2006	2007	2008	2009
(1) Annual decatherm (DT) peak system demand, excluding sales for re-sale.						
(2) Total annual system decatherm (DT), excluding sales for re-sale.						
(3) Total miles of distribution line in service area (in miles).						
(4) Total number of customers (all classes).						

Appendix C: 2009 Electric and Gas Utility Respondents

ELECTRIC UTILITIES: RESPONDENTS

City of Abbeville	City of Newberry
Bamberg Public Works	City of Orangeburg
City of Bennettsville	Progress Energy Carolinas
City of Camden	Town of Prosperity
City of Clinton	City of Rock Hill
Duke Energy Carolinas	Santee Cooper
Easley Combined Utility System	City of Seneca
City of Gaffney	SC Electric Cooperatives
City of Georgetown	South Carolina Electric & Gas
Laurens Commission of Public Works	City of Union
Lockhart Power Company	City of Westminster
Town of McCormick	Town of Winnsboro

ELECTRIC UTILITIES: NON-RESPONDENTS

Town of Due West	Greenwood Commission of Public Works
	Greer Commission of Public Works

NATURAL GAS UTILITIES: RESPONDENTS

Chester County Natural Gas Authority	Orangeburg Department of Utilities
Clinton-Newberry Natural Gas Authority	Piedmont Natural Gas
Fort Hill Natural Gas Authority	South Carolina Electric & Gas
Fountain Inn Natural Gas System	City of Union
Laurens Commission of Public Works	Town of Winnsboro
	York County Natural Gas Authority

NATURAL GAS UTILITIES: NON-RESPONDENTS

Bamberg Public Works	Greenwood Commission of Public Works
City of Bennettsville	² Lancaster County Natural Gas
Greer Commission of Public Works	

² Lancaster County Natural Gas provided information about the status of their DSM activities. However, they did not submit the requested system data.

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