

South Carolina must develop energy policies that ensure that the cost of service is affordable for all citizens of our state. For lower income consumers, we must ensure that policies we adopt do not make access to affordable utilities even more out of their grasp. As the cost of energy increases it becomes a major part of a family's budget. Parents should not have to choose between putting food on the table or keeping the heat on in the winter. Consumers who are late in making payments should never then be told their deposits will increase to keep service on. We must recognize that refrigeration, heat and lights are not luxuries, but necessities. South Carolina must recognize that as energy costs sky rocket we must find ways to help families afford the costs as well as working on programs to help households become more energy efficient. It is ironic that our lower cost housing often has higher utility bills due to lack of proper weatherization. We need to develop programs and incentives for utilities to help ensure that these homes are properly weatherized to help decrease energy use and the burden on consumers. We should investigate developing universal funds that families can use for weatherization; these funds can be funded by utility programs. This makes more sense than piecemeal funds that are not developed by each utility to help late payers. If we had a fund that could be used for weatherizing homes, and a portion of it was repaid by consumers through utility savings it is a win for all involved.

As we approach colder weather, we will see the costs once again escalate. The state can help with the cost burden by working to help ensure the weatherization of homes around the state. We need to help both homeowners and renters to make certain that they all benefit from programs. First we need to assess our existing Weatherization programs to determine whether or not we are maximizing service to those in need. While money is sent to local areas, it is often difficult to assess if they are operating properly and if all those who could be eligible for help are being considered. We must determine whether or not we are both accessing and leveraging all dollars for weatherization and coordinating appropriately with local communities. Are we being cost effective? While it is important to use funds for direct energy assistance, we must make sure we are giving equal importance to weatherization programs to limit usage. This helps families over time.

We must recognize that weatherization programs assist both homeowners and renters. If the intended beneficiaries of weatherization assistance are not homeowners, state weatherization assistance programs should include weatherization assistance to rental properties. However, the enhanced value of the weatherized property creates an incentive for a landlord to raise the rent, evict the tenant, and/or sell the improved

property for a profit, at the expense of the weatherization assistance program and in contravention of such a program's goals.

While working to develop weatherization and green energy programs, we need to use this as an opportunity to help develop jobs, especially for our poorer rural communities.

Seed money for weatherization programs is an excellent way to start micro enterprises to help promote renewable energy, living wage jobs in rural communities. Training at tech schools can provide individuals with the skills they need to do weatherization work, providing life long living wage jobs that will help the community as whole. Grant programs working on weatherization should look at this opportunity to provide jobs through contracts and private business. It is unnecessary for non profits and local government to hold onto these jobs. Would it not be more efficient for these granting entities to fund direct services rather than use funds for overhead? We have an opportunity right now to coordinate these efforts through long term energy programs and ARRA funds that have come to the state. South Carolina must look at coordinating all grants and funding streams that come to the state for energy assistance to evaluate whether or not they are being leveraged, whether or not there are missed opportunities to draw down additional dollars or use the dollars to match private funding to maximize assistance. Also determine whether or not we are being equitable and efficient in the use of these funds.



PURC Energy Efficiency Comments

10.20.2010

South Carolina's energy efficiency ranking recently slipped from 37th to 40th (ACEEE 2010), thus highlighting the need for more aggressive policies targeting the energy usage of our residents and businesses. At a time when energy rates are rising, unemployment remains high, and our economy continues to falter, energy efficiency offers an opportunity to create jobs, generate revenue, and reduce the burden of high energy costs on consumers.

A collection of recent studies focusing on energy usage in the Southeast and South Carolina provides a starting point for identifying policies that can reduce energy demand in ways that make sense for our environment and our economy. From building codes to demand side management to land use and transportation policy, there is ample room for improvement.

The Electric Cooperatives of SC have proposed a program that could be a national model for energy efficiency. Likewise, an aggressive approach to energy efficiency should be the cornerstone of a comprehensive energy policy for South Carolina.

2011

- ⊗ Require building codes to automatically update with the IECC
- ⊗ Enable municipalities and counties to adopt more stringent building codes at their discretion
- ⊗ Require real estate appraisers to consider energy efficiency aspects when assigning value to residential and commercial property
- ⊗ Improve appliance standards and incentives (commercial and residential)
- ⊗ Improve incentives for commercial and residential efficiency improvements
- ⊗ Create a Public Benefit Fund (PBF) – financing mechanism for a statewide retrofit program
- ⊗ Incentivize and promote solar thermal and geothermal applications for residential and commercial usage
- ⊗ Update Comprehensive Land Use Planning Act – add a sustainability element that connects land use, energy and transportation (develop a state model); require that zoning and development standards be consistent with comprehensive land use plans
- ⊗ Transportation – local updates based on federal “Livability Principles”
- ⊗ Streamline performance contract standards for state agencies
- ⊗ Remove barriers to expanded CHP deployment (current interconnection standards and stand-by rates)
- ⊗ Sustainable agriculture initiative
- ⊗ Workforce development initiative
- ⊗ Include energy efficiency and decoupling as components of the La Capra update
- ⊗ Designate an Energy Efficiency Working Group for development of 2012 recommendations

2012 and Beyond

- ⊗ Energy Efficiency Resource Standard (EERS) – including annual savings targets for utilities with cost recovery options
- ⊗ Water Related Policies – including plumbing efficiency standards and conservation pricing of water and sewer service

Energy Efficiency statement from Conservation Voters of South Carolina

As South Carolina's "first fuel," energy efficiency is the cheapest, cleanest, and fastest source of energy. Improving our energy efficiency will not only help to meet future demand, but help to stimulate the state's economy by reducing energy costs, saving ratepayer dollars, and creating thousands of new, local jobs.

South Carolina has the sixth highest unemployment rate in the nation. Investments in efficiency could create 22,000 jobs by 2025, the equivalent of building six new Boeing plants.¹ This would include new jobs for a variety of professions, like engineers, auditors, contractors, and architects. By reducing the demand for energy, efficiency could help "bridge the gap" as utilities plan for new generation. A recent study by the American Council for an Energy Efficient Economy (ACEEE) estimated that EE could reduce peak demand 4,600 megawatts by 2025, equivalent to over four 1,100-megawatt nuclear plants with construction and financing costs ranging from \$3,600 per kilowatt to \$8,000 per kilowatt.²

A growing population, the highest stock of manufactured housing per capita in the nation, below-average compliance with state building energy codes, and threatened water resources all increase South Carolina's vulnerability to rising energy prices. Despite these issues, South Carolina's commitments remain modest relative to other states that are moving quickly to embrace energy efficiency. As a result, South Carolina slipped from 37th to 40th place, behind South Dakota and ahead of Arkansas, in ACEEE's 2010 *State Energy Efficiency Scorecard* rankings.³

There is a silver lining. Federal legislation based on a program developed by South Carolina cooperatives called Rural Star would provide funds for low-interest loans for home efficiency upgrades for electric cooperative members, was passed by the U.S. House in September 2010. Over ten years, the legislation would create 3,500 jobs in South Carolina and save cooperative members \$4 billion in capital costs for new generation. South Carolina's military installations have also taken major steps to save energy as a matter of national security. Shaw Air Force Base, Fort Jackson, and Parris Island have all saved millions of taxpayer dollars by improving the efficiency of their operations and by working with energy service companies and the federal government to improve their heating/cooling systems, lighting, and demand management. South Carolina has also been prudently investing its stimulus dollars, creating a number of weatherization training programs at technical colleges and improving the energy efficiency of its state facilities, including secondary schools and universities. To fully realize the benefits that energy efficiency can create, the South Carolina State Legislature, the Public Service Commission, the State Energy Office, and other pertinent agencies need to build on these encouraging developments and then work toward the following:

Short-Term Recommendations:

- *Introduce Foundational and Enabling Policies:* Workforce development; expanded demand response programs; low-income weatherization; manufactured homes initiative; manufacturing initiative; rural and agricultural initiative; water education initiative.
- *Legislative Actions:* Amend building code adoption process so that codes are updated automatically when a new, national revision is introduced; strengthen state "lead by example" legislation, set by House Bill 4766; strengthen tax incentives / credits for energy efficiency at the residential and commercial levels.

Long-Term Recommendations:

- *Set Savings Targets for Utilities:* Either legislatively or through the SC Public Service Commission, introduce annual energy savings targets for utilities combined with strong water efficiency requirements for water utilities.

¹ <http://www.aceee.org/research-report/e099>

² See Synapse Energy Economics, Inc., *Nuclear Power Plant Construction Costs*, July 2008.

³ See <http://www.aceee.org/sector/state-policy/scorecard>

**PURC Energy Advisory Council
Comments Relating to Energy Efficiency
10/20/2010**

Natural gas is America's clean, secure, efficient, and abundant energy source. Natural gas utilities recognize that rising energy prices and growing concern about the environmental impact of energy use have increased customer interest in being more energy efficient. By investing in energy efficiency of buildings and appliances, promoting smart energy choices and subsidizing energy saving efforts for low-income families, natural gas utilities are helping their customers save money and reduce their carbon footprint, while maintaining the comfort and productivity of their homes and businesses.

- Residential natural gas consumers have a 30-year record of reducing consumption and greenhouse gas emissions even as demand for energy has risen. This is due in part to improved construction, but a major factor has been efficiency gains in natural gas appliances.

Natural gas consumption per household since 1980 fell one percent per year until 2000 and declined a further 2.2 percent annually through 2006. As a result the average American home uses 32 percent less natural gas than it did in 1980.

Ongoing efforts to improve technology have resulted in natural gas furnaces, boilers and water heaters that are over 90% efficient. Residential customers can reduce their energy use by up to 30 percent when they replace furnaces and water heaters with high-efficiency natural gas appliances

- On a national average basis, natural gas is three times more efficient than electricity in providing energy for end use applications. While 92 percent of the energy content of natural gas is delivered to customers as useful energy, less than a third of the energy used in the production of electricity reaches homes and businesses.

Use of natural gas in homes and businesses is part of the energy efficiency and climate change solution.

Policies should be adopted in South Carolina that consider Full-Fuel-Cycle Analyses in building energy codes and in promoting energy efficiency programs.

The U.S. Department of Energy is moving toward "source" based energy efficiency standards and appliance labeling to meet goals for energy conservation and GHG emissions reduction. The National Academies of Sciences supports full-fuel-cycle efficiency measurement.

- Regarding state level Energy Efficiency Resource Standards (EERS) - The natural gas industry has demonstrated energy efficiency over the last several decades and is also poised to be part of the solution for continued energy efficiency improvements. Therefore, Piedmont is not specifically promoting a natural gas inclusive EERs. However, in the general context of a natural gas EER we need to consider the following items in such a policy:

The long history of natural gas efficiency as outlined in the points above. Acknowledge the law of diminishing returns. The history in residential energy efficiency gains justifies a fuel specific metric that recognizes such.

Realistic savings targets

Utility rewards to be increased to reflect higher degree of risk and accountability associated with meeting targets, as well as responsibility of maintaining reliability or alternative compensation models

- Piedmont Natural Gas supports the following policies to adopt state laws and regulations that promote energy efficiency:

Increase building energy performance by 30% by 2012; enhance code enforcement and compliance to reach 90% compliance by 2015.

South Carolina needs to become a leader by promptly adopting model building energy codes such as the International Energy Conservation Code (IECC) and the International Green Construction Code (IGCC). Policies should be developed to reward owners and builders who exceed the status quo.

Revise state emissions standards to be based on energy efficiency (e.g. output-based standards) as opposed to emissions standards based on unit of fuel consumed. This would be the case for combined heat and power projects (CHP).

- The average low-income and fixed-income family spends 13.5 percent of their annual household income on energy. It is nearly four times higher than the 3.6 percent spent by the average U.S. household. Low-income families will see the greatest benefit from weatherization programs in South Carolina as they often live in the least efficient structures.

Leverage federal dollars targeted for low-income weatherization and appliance efficiency improvements.

Continue to pursue win-win programs from a regulatory and financial perspective that will encourage regulated natural gas utilities to invest in low-income energy efficiency and weatherization programs

Establish programs that encourage landlords to invest in energy efficiency measures.

Piedmont Natural Gas SC Energy Efficiency Programs

The Piedmont Natural Gas ("Piedmont") Energy Efficiency Programs were approved on May 20, 2010 by the Public Service Commission of South Carolina. These programs were approved for a 3-year period where Piedmont Natural Gas will spend \$350,000 on an annual basis supporting energy efficiency programs for customers within the Company's South Carolina service territory. During the first year, Piedmont is implementing a Customer Education Program, High Efficiency Equipment Rebate Program and a Low-Income Energy Efficiency Program.

CUSTOMER EDUCATION PROGRAM

Piedmont is implementing a communications campaign focusing on customer energy education, efficiency and conservation messages. Piedmont is going to spend approximately \$50,000 per year on this program, using a targeted marketing approach within our service territory. Piedmont is communicating the messages to customers through various means such as bill inserts, other print advertisements, radio and/or other available media. Piedmont is also going to encourage customers to take advantage of the federal tax credits and other available incentives for installing high-efficiency natural gas equipment, such as for water heating and space heating. Some program funding may be used to sponsor energy efficiency and energy conservation education sessions in local schools. The energy efficiency and conservation campaign will start with a November 2010 bill insert that has a targeted message telling customers about saving energy during the heating season. This campaign will continue with monthly bill inserts and newspaper ads during the heating season.

HIGH EFFICIENCY EQUIPMENT REBATE PROGRAM

This program provides rebates to Piedmont's residential and commercial customers who purchase and install qualifying high efficiency natural gas equipment. The residential rebates are limited to high efficiency water and space heating equipment only, since water heating and space heating constitutes a large portion of residential energy usage. Commercial customers are offered a rebate to purchase and install a high efficiency water heater. This program enables customers to help offset some of the higher cost of choosing a more efficient piece of equipment. This program is intended to help influence a customer to choose a more energy efficient piece of equipment. An upgrade to a higher efficiency water heater or furnace, given

consistent usage patterns, will help the program participant achieve recognizable energy savings. The extent of the energy savings will vary for each participant, depending on a variety of factors including their current energy efficiency.

The following table summarizes the Equipment rebates that are offered and the corresponding equipment efficiency requirements. Piedmont is going to spend approximately \$150,000 per year on this program.

Residential Equipment Rebate Summary

	Rebate Amount	Minimum Required Efficiency ¹
Natural Gas Storage Tank Water Heater	\$ 50	EF = 0.62 (or higher)
Natural Gas Tankless Water Heater	\$ 250	EF = 0.82 (or higher)
Natural Gas Forced Air Furnace	\$ 300	AFUE = 90% (or higher)

Commercial Equipment Rebate Summary

	Rebate Amount	Minimum Required Efficiency ²
Natural Gas Tankless Water Heater	\$ 250	EF = 0.82 (or higher)

Each customer is required to submit a rebate application, along with proof of purchase and installation of the qualifying equipment. Upon approval of the application, the rebate is mailed as a check to the customer. In addition to the rebate check, each customer that installed qualified equipment under the program is receiving a home energy efficiency kit that includes items to help the customer further reduce their natural gas energy usage.

The details of this Program are available on Piedmont's website which includes a rebate application form and a listing of the eligibility requirements. Piedmont sent a bill insert in August 2010 telling our customers about the Equipment rebates available. The SC Piedmont sales offices have communicated with local plumbing and HVAC Gas Advantage contractors telling them about the Equipment rebate program.

¹ EF is the Energy Factor; AFUE is the Annual Fuel Utilization Efficiency

² EF is the Energy Factor

This program, although it just started in May 2010, has been very successful. The amount of rebates received each month has continued to grow and customers are taking advantage of the program and installing high efficiency natural gas equipment.

RESIDENTIAL LOW-INCOME ENERGY EFFICIENCY PROGRAM

The primary purpose of this program is to provide energy efficiency measures and weatherization assistance, through a third-party, to low-income residential customers in Piedmont's service territory. The program is intended to create a more energy efficient and comfortable home environment for the customers served. In addition to the actual energy savings, there can be additional benefits to the low-income customer including improved health and safety conditions, and increased comfort for residents. Piedmont will spend approximately \$150,000 per year on this program. Piedmont has modeled this program after the Federal Weatherization Assistance program which has been in operation since 1976 and has weatherized over 6 million homes with DOE Funds.

Piedmont is working with the Furman University Community Conservation Corps who will utilize some of Piedmont's funding to provide community outreach and weatherization services to low-income residents in the Greenville area. This work will be coordinated with local governmental agencies, energy contractors, and volunteer students. Piedmont is also finalizing the details to provide funding to one of the Community Action Agencies that currently administers the Federal Weatherization Program. This funding will be used to leverage the Federal WAP program and reach out to additional low-income residents.

Under the low-income program, the primary energy efficiency measures provided to each program participant will be based on a comprehensive in-home energy audit. The measures to be offered and performed to each program participant may include:

- Sealing major air leaks in floors and ceilings (penetrations, bypasses, chases)
- Insulating attic, side wall, and/or floors
- Sealing and insulating ducts
- Installing programmable/setback thermostat
- Evaluating, cleaning and tuning heating systems
- Installing general heat waste measures (furnace filters, water heater insulation wrap, piping insulation, water-saving devices, and weather-stripping)

The energy auditor decides, primarily guided by the results of the in-home energy audit, which energy saving measures to install at the participant's home. The energy audit helps determine which energy saving measures would provide the greatest benefit to the participant. There will be no direct charge to the participating low-income customers for the services provided. Due to safety concerns, a carbon monoxide detector will be installed inside the participant's home if one is not currently installed. An in-home energy education session will also be provided in homes where energy efficiency measures were installed.

The target population for this program will be low-income customers dwelling in single-family houses that are served under Piedmont's residential rate schedules. For the purposes of this program, Piedmont will consider a customer to be "low-income" if their household income is within 200% of the Federal poverty income guidelines as established for the Federal Weatherization Assistance Program and/or their income falls under local HUD income guidelines. Priority will be placed on providing assistance to those eligible elderly individuals with disabilities, and eligible families with children.

To: Members of the PURC Energy Advisory Council
From: Dennis Boyd, Electrical Power Engineer – Nucor Steel Berkeley
Date: October 20, 2010
Re: Preliminary Comments on Energy Efficiency and Demand Response Issues

An important public policy objective should be to encourage and support reasonable energy efficiency (“EE”) and demand response (“DR”) in South Carolina through utility rate design and incentive programs and state policy initiatives such as tax incentives, state and local government energy efficiency improvements, and energy efficient regulatory policy. If properly designed and implemented, these programs and initiatives can provide significant benefits for the state and consumers. Improved EE and DR saves energy costs for those who participate, while reducing electrical peak demand and fuel costs for utilities, enhancing electrical reliability and producing a better environment.

The concept of encouraging EE and DR through the joint efforts of utilities and customers is nothing new. Well-established cost allocation and rate design principles have traditionally underscored the need for utility rates to send accurate price signals that are based on cost causation and have led to rate designs in South Carolina and nationwide that include time-of-use rates, real-time pricing and interruptible rates. Such rate designs are a crucial starting point for any EE or DR effort, since they are necessary to provide customers appropriate price signals. For example, interruptible customers agree to a lower-cost non-firm power supply and commit to interrupt their power supply when called upon for system reliability, allowing the utility to avoid the costs of generation and transmission capacity that would otherwise be required. Time-of-use and real-time-pricing rates provide a signal to voluntarily reduce loads during high-cost peak times and to implement measures to conserve energy use. Since the payback for EE and DR measures depends entirely on the cost of demand avoided and energy saved during the time the measure is employed, proper price signals are also necessary to ensure that customers will make the best decisions in implementing these measures. Electric utilities should be required to continue to offer and, based on customer input, improve upon these rate designs.

Aside from the price signals inherent in the actual rates, many electric utilities in South Carolina already offer EE and DR program portfolios that provide incentives to customers to undertake EE and DR investments, and have approved mechanisms (such as riders) for recovering the cost of developing and administering such programs. Therefore, additional specific statutory mandates do not appear to be necessary at this time. Costs for these types of programs should be properly allocated and recovered from customer classes in rates through an overall approach that recognizes: (a) cost responsibility for the primary beneficiaries of each program; (b) consistency with the allocation of costs of generating and transmission plant capacity that these programs will replace/avoid; and (c) the need for manufacturing competitiveness, economic development and job retention.

Finally, the state should evaluate other policy initiatives to support EE and DR. For example, the state could: (a) adopt tax incentives or credits for specific EE investments, (b) provide market transformation leadership by requiring state and local governments to make EE improvements in their operations (e.g., buildings, transportation, etc.), and (c) improve EE in the state through appropriate regulatory policies.

ELECTRIC COOPERATIVES OF SOUTH CAROLINA

Energy Efficiency Policy Suggestions Submitted to the State Regulation of Public Utilities Review Committee October 20, 2010

South Carolina's electric cooperatives view energy efficiency at the most cost-effective clean energy investment that can be made for our state.

1. The electric cooperatives view energy efficiency as an integral component of the resource planning process. We urge that the state's utilities be allowed to meet any state mandated goals for increased renewable energy generation -- whether a "clean energy standard" or some other type of target -- with cost-effective energy efficiency measures. The electric cooperatives also believe that any clean energy standard must include safety valves to protect the state's consumers from excessive cost escalation.
2. South Carolina's electric cooperatives, through Central Electric Power Cooperative, their power supplier, currently budget 1.1% of Central's annual revenues for the development of renewable generation and energy efficiency. The electric cooperatives suggest that all energy providers be authorized to make similar levels of investment in the development of renewable generation and energy efficiency.
3. In 2007, the electric cooperatives commissioned a study of the potential for energy efficiency for the cooperative system.* The study provided an informed basis on which to plan the electric cooperatives' future generation needs and allocate financial resources. In the past three years, many energy efficiency initiatives have been implemented throughout the country, and improvements have been made in technology. It would be beneficial to all stakeholders if a study were commissioned to provide an up to date statewide picture of the potential for cost-effective energy efficiency programs in South Carolina.
4. The electric cooperatives recommend leveraging federal dollars administered by the State Energy Office by underwriting loan funds which would make on-bill financing of energy efficiency measures available to residential consumers. Doing so would allow the state's electric utilities to begin implementing residential energy efficiency retrofit programs, while Congress considers funding a national energy efficiency program such as the Rural Energy Savings Program.
5. South Carolina should provide matching funds for academic research on energy efficiency and energy storage at the state's research universities. A review board appointed by the PURC should oversee the program, making merit based funding decisions, and establishing research priorities.

6. Generally, South Carolina utilities' customer charges or basic facilities charges do not reflect their actual fixed costs of service. Higher use customers are bearing the responsibility of covering part of their systems' fixed distribution costs through consumption charges. This link between revenue and consumption creates a disincentive against energy efficiency measures. In order to eliminate this disincentive, the state's utilities should be encouraged to begin adjusting their customer charges and basic facilities charges so as to generate sufficient revenue to cover their fixed cost of service.

* The report can be viewed online at <http://www.ecsc.org/newsroom/RenewablesStudy.ppt>

DUKE ENERGY CAROLINAS, LLC
COMMENTS TO THE PURC ENERGY ADVISORY COUNCIL

ENERGY EFFICIENCY COMMENTS

1. **The South Carolina Energy Conservation & Efficiency Act of 1992 (the “Act”) is progressive legislation that allows the Public Service Commission (PSC) to approve financial incentives for utilities and places demand-side resources on a level playing field with supply-side resources**
 - The Act could be improved to expressly authorize the PSC to approve annual incentives for utility investments in energy efficiency, including lost revenues associated with energy efficiency programs
 - Annual review and rider or rate stabilization proceedings also provide the PSC the opportunity to oversee the status of the utility’s achievement of any clean energy goals that may be enacted
 - Effective delivery of utility-sponsored energy efficiency requires that a utility be able to alter existing products and services and that new energy efficiency products and services be approved in a timely manner to capitalize on market conditions. Because the market for energy efficiency is evolving quickly as a result of increased customer awareness, technological improvements and more aggressive public policies, expeditious regulatory approvals will continue to be important
2. **Energy efficiency targets should be a voluntary goal**
 - Energy efficiency programs require willing customer participation and although a utility can market and incentivize its customers to participate in programs, customer adoption and achievement of targets will be largely outside of a utility’s control
 - There should be no limits on the amount of energy efficiency that can be used to meet any clean energy goals that may be enacted
3. **Cost-effectiveness of energy efficiency and other demand side resources varies significantly across the country; therefore, targets should be based on an informed, state-specific assessment and market potential evaluation**
 - Cost-effectiveness of energy efficiency and demand side resources is inherently dependent on the existing level of utility rates
 - A cost-effective program in a state with high electricity rates may not be cost effective in a state with low rates
 - Multiple tests exist to determine cost-effectiveness of energy efficiency programs. Although there is value in looking at each of these tests, Duke Energy believes that the Utility Cost Test is the test that should be used to determine what programs to pursue
4. **Allowing a utility to provide on-bill financing options with non-pay disconnect at rates that are flexible and adequate to attract capital from traditional financing sources (i.e., not just tax-exempt bond issuers)**
 - The interest rate allowed under existing legislation is unattractive to commercial banks and utilities because it does not provide an adequate risk-adjusted return versus other uses of capital
 - Ability to tie the financing to the meter rather than the customer would decrease the risk of not being able to collect from customers who move
 - Allow utilities to back-stand energy efficiency financings by capitalizing on loan losses as a regulatory asset and providing recovery “of and on” that asset through a rider
5. **Any changes to building codes and appliance standards at the state or federal level need to be incorporated as an adjustment to the utility’s baseline upon which its annual energy efficiency targets are determined**
 - A utility is only able to claim energy efficiency impacts for improvements above the existing code or standard, so an increase in codes and standards will eliminate part of the potential market for energy efficiency that was used to determine the annual targets
 - If a utility actively works to increase adoption of new codes and standards, the utility should be able to take credit for the associated impacts, as well as be able to recover the associated costs, lost revenues, and incentives

**Initial Comments of
South Carolina Electric & Gas Company
to the PURC EAC concerning Energy Efficiency**

In 2008, South Carolina Electric & Gas Company ("SCE&G") commissioned a comprehensive, "bottom up" analysis to determine how it might expand its offering of demand-side management ("DSM") programs to assist customers interested in reducing their demand for electricity and improving their energy efficiency. At the outset of its analysis, SCE&G adopted several principles to guide the creation of its DSM portfolio. To name a few, SCE&G believed that (i) its portfolio of programs should provide a reasonable opportunity for all customers to participate in at least one program; (ii) all programs should be cost effective with flexibility possible on a case-by-case basis for certain low-income measures; and (iii) each program should provide a meaningful contribution to megawatt or megawatt-hour savings on SCE&G's system.

As part of its analysis, SCE&G initiated a marketing/advertising campaign to engage customers in providing SCE&G input on the types of programs they would like to see us implement to help them save energy. Primary outreach included a variety of channels such as bill inserts, newspaper advertising, online promotions, local business offices, special event exhibits, small and large group presentations and personal interviews. From these efforts, SCE&G identified a suite of nine (9) DSM programs that it currently offers or will soon be offering its customers.

The South Carolina General Assembly has provided adequate and sufficient statutory provisions which encourage electric utilities to invest in cost-effective energy efficient technologies and energy conservation programs. Moreover, the law allows a utility to recover its costs and earn an incentive for investing in DSM programs. As an investor-owned utility subject to the jurisdiction of the Public Service Commission of South Carolina ("Commission"), SCE&G recently appeared before the Commission seeking approval of its DSM programs and a cost recovery mechanism as allowed by law. After conducting a hearing on SCE&G's application, the Commission issued Order No. 2010-472 approving a settlement agreement entered into between SCE&G, the South Carolina of Regulatory Staff, the Southern Environmental Law Center, the South Carolina Coastal Conservation League and Frank Knapp, Jr. The Commission also approved another settlement agreement entered into between SCE&G, ORS, the South Carolina Energy Users Committee, and CMC Steel South Carolina. The settlement agreements include a number of items such as the creation of an evaluation, measurement and verification plan, the development of an energy efficiency potential study, and the establishment of an advisory group, which will, among other things, consider and make recommendations to SCE&G with respect to efficiency potential studies, new program ideas and modifications to existing programs.

As evidenced by the result reached in SCE&G's DSM proceeding before the Commission, the existing statutory framework in South Carolina works. Through that proceeding, SCE&G, along with the efforts of the other entities involved, reached a resolution that balanced the other parties' interests along with the interests of SCE&G. Such a result is proof positive that the existing law functioned as designed. Thank you for allowing SCE&G the opportunity to comment on energy efficiency. If further information is needed, please advise.

SCE&G's Demand Side Management Programs

In June 2009, SCE&G filed, for approval, a portfolio of nine proposed Energy Efficiency programs with the Public Service Commission of South Carolina. Seven of the programs are geared toward SCE&G's residential customers, with the remaining two focused on the Company's commercial/industrial customers. A hearing before the SCPSC was held on April 1, 2010. The Commission issued its Order approving SCE&G's programs on July 15, 2010. A phased implementation of the approved programs is currently underway. All program roll outs are expected to conclude in the second quarter of 2011.

1. Residential Benchmarking

This program will provide customers, at no charge, with detailed energy consumption benchmarks for monthly and annual energy use, along with recommendations on how to improve energy efficiency. The program will use data to identify a customer's "peer group" (e.g., homes with similar construction characteristics, of a similar age, in a similar sub-division and/or with similar occupancy patterns) to compare that customer's energy usage to the peer group.

2. Residential Energy Information Display

This program will provide customers with a discounted (or free for low-income customers) in-home display device (one per household) that helps monitor energy usage. The device will provide customers with key information to help them effectively manage their energy usage, including current price of energy (\$/kWh and/or \$/hour), cost of energy used this month, and where they stand relative to their personal energy budget.

3. Residential Home Energy Check-up and Home Performance Audit

This program will offer two levels of home energy reviews: Tier 1) a free quick home energy check-up -- a visual inspection of key energy-related facets of the home performed by SCE&G staff; Tier 2) a comprehensive Home Performance audit performed by a qualified independent contractor. The audit is a whole-home inspection with diagnostic testing, typically including blower door and duct blaster tests, as well as the use of standardized energy auditing software. Based upon the audit's recommendations, SCE&G will provide incentives equal to approximately 15-25 percent of the cost of eligible recommended measures, up to \$1,500 per home (a higher cap and incentive level will be available for low income customers).

4. Residential ENERGY STAR Lighting and Appliances

This program will offer opportunities to all residential customers to purchase a variety of ENERGY STAR qualified products through retail sales channels at discounted prices that reflect an incentive provided by SCE&G. SCE&G will also provide informational, educational, and point-of-purchase materials to increase customer awareness of ENERGY STAR qualified products.

5. Residential New High Efficiency HVAC and Water Heater

This program will provide incentives to eligible customers for the purchase and installation of high efficiency central air conditioners, heat pumps, and high efficiency electric or alternative fuel water heaters in new construction or upon replacement in existing construction.

6. Residential Existing HVAC Efficiency

This program will provide incentives to eligible customers to improve the efficiency of existing central air conditioner and heat pump systems through HVAC tune-ups, refrigerant charge and air flow correction, and/or duct sealing and insulation.

7. Residential ENERGY STAR New Homes

This program will provide commercial builders with incentives to construct, market, and sell ENERGY STAR qualified homes, which are at least 15 percent more efficient than homes built to the 2004 International Residential Code (IRC) and often 20 to 30 percent more efficient than standard homes. The program will provide financial incentives to help builders offset the increased costs associated with incorporating more energy efficient features into new homes.

8. Commercial & Industrial - Prescriptive

This program will offer financial incentives according to a standard schedule of incentives and equipment efficiency and performance standards. Typical measures will include high efficiency lighting, lighting controls, motors, HVAC systems, and food service equipment. This program will provide incentives for an established list of common measures without requiring complex analysis or participation rules.

9. Commercial & Industrial - Custom

This program will provide calculated incentives (on a \$/kW and \$/kWh saved basis) to offset the cost of qualifying large energy efficiency projects. This program is focused on those technologies or customer applications that are not covered by the prescriptive program. Based on the nature of the operations and the equipment to be replaced or purchased, SCE&G will validate potential energy savings and provide a custom incentive unique to each project.



Energy Efficiency Comments

Energy efficiency is the alternative energy that has no negative environmental effects and should be a major priority for South Carolina. With 200 acres each day being transformed from rural to urban use, our state ranks 10th nationally in the rate of land conversion, despite being 40th in land area. The impacts on our landscapes from this rapid population growth and urban expansion include habitat destruction, altered river flows, and restrictions on controlled burning and forestry. Energy efficiency investments, protect South Carolina's natural resources and wildlife habitats by significantly reducing the amount of land needed for new energy production, and generally pay for themselves by reducing energy costs for consumers. In addition, if we encourage more compact patterns of growth in our land-use planning it would increase efficiency and reduce our footprint on the land.

South Carolina stands to benefit greatly from energy efficiency initiatives and is missing a great opportunity for progress by not capitalizing on the potential for economic growth from energy efficiency investments. The state of South Carolina currently ranks 40th for energy efficiency in the United States. While other states are generating revenue and jobs from efficiency investments and initiatives, South Carolina lags behind. The American Council for an Energy-Efficient Economy (ACEEE) recommends a suite of energy and water efficiency measures that could generate \$5.1 billion in net savings on South Carolinians' electricity and water bills by 2025. Implementing energy efficiency programs and policies in the state could generate almost 22,000 new jobs.

Establishing strong efficiency standards in the short term allows for achieving longer term goals, especially those related to renewable energy resources. Implementing efficiency standards to reduce demand and increase the viability of renewables not only protects ratepayers but is a good return on investment for utilities.

Recommendations:

- Expand Energy Efficiency Incentives and Programs:
 - For energy efficiency and weatherization investments by homeowners
 - Look for opportunities to promote land-use patterns that increase energy efficiency in buildings and transportation systems by making it a critical element when developing new zoning regulations and modifying old regulations, e.g., higher density development
- Adopt Energy Efficiency Standards:
 - Energy Efficiency Resource Standard (EERS)
 - Water efficiency standards for utilities
 - Building energy codes that require greater efficiency

Santee Cooper
Energy Efficiency Comments to the PURC Energy Advisory Committee

Santee Cooper has offered energy efficiency and demand side management programs to its customers since the early 1980's. Listed below are a few key points for us to consider as we discuss energy efficiency policy in South Carolina.

1. Education is the most important part of a successful energy efficiency program. Educating customers on how they use electricity and ways to be energy efficient are the first steps toward changing their habits and gaining their acceptance. For example, Santee Cooper currently educates customers through its ReDuce The Use website, Speakers Bureau, billboards, customer meetings, etc.
2. The amount of energy efficiency savings that can be realized varies with customer demographics; therefore, these demographics must be considered:
 - Age of housing and equipment stock
 - Residential versus commercial
 - Rental property versus owner occupied.
 - Income
 - Education
 - Etc.
3. The costs of implementing energy efficiency programs should not exceed a utility's avoided costs.
4. If the State were to adopt any type of clean energy goal, then past, present and future energy efficiency savings should be included towards meeting that goal without limitations.
5. As requested, the attached Program Summary for Santee Cooper's Energy Efficiency/DSM Programs provides a high level summary of the energy efficiency/DSM programs that:
 - Santee Cooper has offered in the past, with many of these programs continuing to today.
 - Santee Cooper has recently launched under our one year old ReDuce The Use umbrella program of 42 separate energy efficiency and demand response initiatives for residential and commercial customers.
 - Santee Cooper plans to launch under the ReDuce The Use umbrella program in the near future. These programs are currently planned to be launched over the next 3 – 15 months.
 - A complete description of the programs currently offered by Santee Cooper under ReDuce The Use can be found at our ReDuceTheUse.com website.

Historical		Program Summaries	
SANTÉE COOPER SUMMARY OF ENERGY EFFICIENCY /DSM PROGRAMS		Reduce The Use – Residential	Reduce The Use - Commercial
Classification Implemented	Year	Launched	Launched
Commercial	1992 1994 1984 1987 2002	<ul style="list-style-type: none"> New Homes <ul style="list-style-type: none"> Smart Energy New Homes ENERGY STAR initiative for homebuilders <ul style="list-style-type: none"> 15% more efficient than code \$1,600 rebate Smart Energy New Homes initiative for homebuilders <ul style="list-style-type: none"> 10% more efficient than code \$1,000 rebate Existing Homes – Smart Energy Existing Homes Program offers a comprehensive, whole-house approach to improving the energy efficiency and comfort of existing homes. <ul style="list-style-type: none"> \$600 rebate Smart Energy Low Interest Loans – Low interest loans to homeowners for certain energy efficiency measures. Current interest rate (11/01/2010) is 1.25%. Equipment Offer Refrigerator <ul style="list-style-type: none"> \$35 rebate towards the recycling of a working pre-1993 refrigerator (maximum 2 per premise) 15 SEER Heat Pump – 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. Water Heater – Residential customers are offered a \$35 rebate for purchase of a 0.93 EF (Energy Factor) electric water heater. CFL – Massive distribution and installation of CFL lamps prior to the adoption of federal measures requiring discontinued use of incandescent lighting to be replaced by high efficiency CFL lamps. Each new customer gets 12 CFL Bulbs. 	<ul style="list-style-type: none"> Equipment Offer Refrigerator <ul style="list-style-type: none"> \$35 rebate towards the recycling of a working pre-1993 refrigerator (maximum 2 per premise) \$40 rebate towards the purchase of a new ENERGY STAR refrigerator CFL <ul style="list-style-type: none"> Massive distribution and installation of CFL lamps prior to the adoption of federal measures requiring discontinued use of incandescent lighting to be replaced by high efficiency CFL lamps. Planned <ul style="list-style-type: none"> Prescriptive Lighting <ul style="list-style-type: none"> \$0.25 per watt saved or avoided Primary target T-12 to T-8. Generally save 20% to 40% of energy used HVAC <ul style="list-style-type: none"> Rooflops, Commercial Split & Unitary, Chillers, VFDs \$10 to \$50 per ton plus adder for additional increased efficiency Building Envelope <ul style="list-style-type: none"> ENERGY STAR windows and other building envelope measures: insulation, cool roof window film \$0.10/sq ft (cool roof) to \$1.50 /sq ft. (roof insulation) Commercial Refrigeration <ul style="list-style-type: none"> ENERGY STAR commercial ice machines, refrigeration, various durable upgrades for existing refrigeration equipment (restaurants, hotels, convenience stores, grocery stores, etc.)
Residential	1986 1982 1990 2002 1986 2006 2005	<ul style="list-style-type: none"> Smart Energy Existing Homes Program offers a comprehensive, whole-house approach to improving the energy efficiency and comfort of existing homes. <ul style="list-style-type: none"> \$600 rebate Smart Energy Low Interest Loans – Low interest loans to homeowners for certain energy efficiency measures. Current interest rate (11/01/2010) is 1.25%. Equipment Offer Refrigerator <ul style="list-style-type: none"> \$35 rebate towards the recycling of a working pre-1993 refrigerator (maximum 2 per premise) 15 SEER Heat Pump – 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. Water Heater – Residential customers are offered a \$35 rebate for purchase of a 0.93 EF (Energy Factor) electric water heater. CFL – Massive distribution and installation of CFL lamps prior to the adoption of federal measures requiring discontinued use of incandescent lighting to be replaced by high efficiency CFL lamps. Each new customer gets 12 CFL Bulbs. 	<ul style="list-style-type: none"> Commercial Refrigeration <ul style="list-style-type: none"> ENERGY STAR commercial ice machines, refrigeration, various durable upgrades for existing refrigeration equipment (restaurants, hotels, convenience stores, grocery stores, etc.) Custom – The Custom Program provides a comprehensive platform for cost-effective energy efficiency measures in commercial facilities not addressed by the Commercial Prescriptive Program. Retrocommissioning – Rebate for systematically investigating and improving or optimizing a building's electricity – using equipment with the goal of reducing energy waste.
	1994 1987 1981 1994 1989	<ul style="list-style-type: none"> Planned <ul style="list-style-type: none"> Duct Seal – Rebate for repairing leaky HVAC duct work HVAC Tune-Up – Rebate for having HVAC unit cleaned and refrigerant checked and corrected as needed. 	

Progress Energy Carolinas, Inc.'s Initial Comments to the PURC EAC Regarding Energy Efficiency

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 cost effective 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 offers an array of DSM and EE programs to its residential, commercial and industrial customers in the Carolinas. The energy savings and peak demand reductions forecasted to result from these programs are included in PEC's annual Integrated Resource Plan (IRP). PEC conducted a DSM and EE potential study for its Carolinas service area in 2009 and updated that assessment this year. The results of the DSM and EE potential study are used as inputs to PEC's planning and evaluation of potential DSM and EE programs.

PEC conducts an economic evaluation of potential DSM and EE programs and selects those programs that are expected to be cost effective. PEC also plans to conduct comprehensive Measurement and Verification (M&V) studies and evaluations of implemented programs once sufficient experience with the program is available. The M&V results will be used to revise programs as needed to enhance customer acceptance and cost effectiveness.

South Carolina already has in place laws and regulations to encourage active pursuit of DSM and EE programs by regulated utilities. For example, SC Code Section 58-37-20 empowers the PSC to adopt procedures that encourage utilities to invest in cost-effective energy efficient technologies and energy conservation programs. Further, the law states that if the PSC adopts procedures to encourage DSM and EE, the procedures must provide for cost recovery and incentives.

Consistent with the law, the PSC has adopted, by Order No. 2009-373 on June 26, 2009¹, a Procedure and Mechanism for the recovery of costs and incentives for DSM and EE programs for PEC². It is PEC's understanding that the PSC has also adopted similar procedures for other regulated utilities. The procedure adopted by the PSC relative to PEC was jointly proposed by PEC, the Office of Regulatory Staff, Wal-Mart Stores East, LP, and Nucor Steel – South Carolina, A Division of Nucor Corporation.

A more detailed discussion of the programs and their impacts is included at Appendix E of PEC's 2010 IRP.³

¹ Available at <http://dms.psc.sc.gov/pdf/orders/2D9C1728-ADDF-5E43-F1104639939333DD.pdf>

² Available at <http://dms.psc.sc.gov/pdf/matters/0540862C-CEF3-65A0-AD4B20951EC7D473.pdf>, Exhibit 1

³ Available at <http://dms.psc.sc.gov/pdf/matters/0C817E1B-DAE3-3E6C-02B57E42EECA7021.pdf>

Energy Efficiency and Solar Energy Programs and Services

Helping our customers save energy and money.

Energy Efficiency Programs

Progress Energy is committed to helping our customers use energy as efficiently as possible. We offer a variety of programs designed to fit the needs of both residential and commercial customers.

Residential

Home Energy Improvement Program

Learn more about our Home Energy Improvement Program at [progress-energy.com/energyefficiency](#)

Home Advantage

Learn more about our Home Advantage program at [progress-energy.com/homeadvantage](#)

EnergyWise Home™

Learn more about our EnergyWise Home program at [progress-energy.com/energywisehome](#)

Customized Home Energy Report

Learn more about our Customized Home Energy Report at [progress-energy.com/energyreport](#)

Residential Lighting Program

Learn more about our Residential Lighting Program at [progress-energy.com/lighting](#)

Appliance Recycling Program

Learn more about our Appliance Recycling Program at [progress-energy.com/appliancerecycling](#)

Low Income

Neighborhood Energy Saver Program

Learn more about our Neighborhood Energy Saver Program at [progress-energy.com/neighborhoodenergysaver](#)

Commercial

Energy Efficiency for Business

Learn more about our Energy Efficiency for Business program at [progress-energy.com/energyefficiencyforbusiness](#)

Commercial, Industrial, Government (CIG) Demand Response

Learn more about our Commercial, Industrial, Government (CIG) Demand Response program at [progress-energy.com/cigdemandresponse](#)

Additional

Distribution System Demand Response

Learn more about our Distribution System Demand Response program at [progress-energy.com/dsdr](#)

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