

Electric Cooperatives' Commitment to Energy Efficiency & Innovation

South Carolina

*The Electric Cooperatives of South Carolina, Inc.
Cayce, SC*

"One of the fastest, cheapest and easiest ways to make our economy stronger and cleaner is to make our economy energy efficient."

*President Barack Obama
2012 State of the Union address*

Background

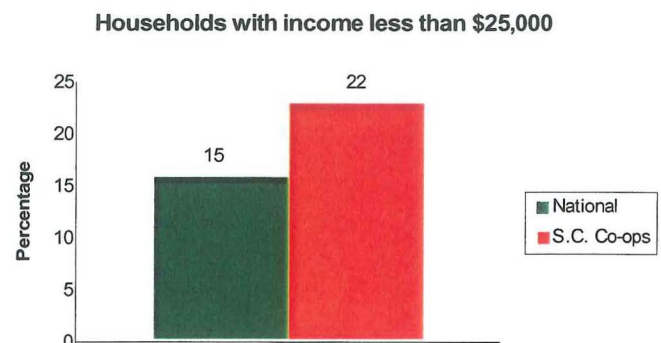
- South Carolina's electric cooperatives serve 1.5 million meters, more than other utility in the state.
- We are obligated to meet these three conditions, and we judge our actions through these:
 - Affordability
 - Reliability
 - Responsibility
- Central Electric Power Cooperative, the power supply aggregator for the 20 independent, consumer-owned electric cooperatives in South Carolina, commissioned a study to assess the amount of energy co-op members (specifically) can save through energy efficiency measures.
 - The study of energy efficiency potential provided some encouraging results:
 - Energy efficiency measures have the potential of reducing total projected energy sales one percent a year for ten years
 - Some of the top steps toward efficiency for single-family homes included replacement of incandescent light bulbs with compact fluorescent lights (CFLs), more efficient appliances, weatherization (insulating, sealing and duct work), tuning up heating, ventilation and air conditioning (HVAC) units, etc.
- 84% of our electricity (measured as energy) is generated by coal. While South Carolina cooperatives do not own generation facilities, the average age of the coal fleet serving our 20 cooperatives is about 12 years.

Challenges

We agree with US Secretary of Energy Steven Chu that there are several major hurdles to overcome to advance energy efficiency and expand use of renewable resources. For SC coops, these hurdles include:

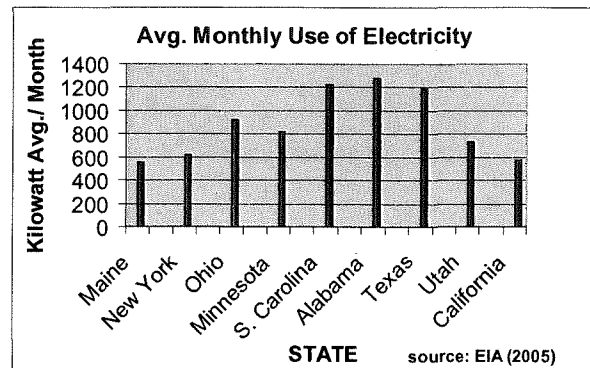
- **The challenge to low-income families**
 - 19% of co-op families make less than \$25,000 annually, a higher percentage than the U.S. rate.

Worth Noting: Twelve of South Carolina's 46 counties are classified as persistent poverty counties by the Economic Research Service of the USDA, meaning that they have experienced poverty rates of 20 percent or higher in each census



from 1970 through the most recent census. Since 2008, many of these areas have experienced employer closings and jobs loss causing significant drops in employment rates and sustained unemployment rates higher than 15 percent.

Worth Noting: Because of South Carolina's climate (high heat, humidity) and greater reliance on electricity for heating, the average South Carolinian's use of electricity is 100% higher than average in California or New York, and 50% higher than average in Ohio and Minnesota.



The average annual per capita consumption of electricity by residential customers in South Carolina is the 5th highest in the nation. We have a lot of heat pumps (inefficient) and resistance heaters (very efficient), and very little fuel oil as is used in the North.

Worth Noting: With conservation goals, one size does not fit all.

- **The challenge of our growth**

- South Carolina is a magnet for residential and industrial growth
- The electric cooperative power system in S.C. has grown at an average annual rate of 4.74%, twice the national average of 1.87%
- 1985 - co-ops served 363,000 consumers
- 2010 - co-ops served 700,000+ consumers

Worth Noting: We cannot close our doors and say "no" to growth.

- **The challenge to keep jobs**

- Over the past 10 years, S.C. has lost manufacturing jobs at a rate 50% higher than the nation as a whole — 27% in S.C. versus 18% in U.S.

Worth Noting: Higher energy costs will cause manufacturers to flee South Carolina for locations in India and China where environmental compliance is not a priority. Also, rising energy costs can disproportionately disadvantage lower income ratepayers.

Our plan-in-progress

South Carolina's electric cooperatives are committed to a wide range of programs to save energy, create jobs and help the environment.

2009

- **Help My House state-wide consumer awareness program**

- Home energy makeover effort, with up to \$10,000 in energy efficiency upgrades applied to seven South Carolina homes, one in each of the state's media markets.
- Media partnerships with the #1 or #2 TV station in each market and agreements to air reports on the energy makeovers during November sweeps to help spread our message.
- Impressive short-term energy savings for consumers

- **Presentation to White House Council on Environmental Quality**
 - SC co-ops invited to share their idea for a large-scale home energy efficiency initiative for cooperative-served consumers, featuring zero-down, low-interest microloans, cost-effective upgrades and extensive quality control protections for homeowners.

2010

- **Help My House II: One-year research project on 1,200 site-built and manufactured homes** funded in part by a grant from the SC Energy Office (ARRA, 2009)
 - Designed to test individual cost-effective efficiency changes to determine the most effective for SC. A second S.C. Energy Office grant allowed SC co-ops to test the effectiveness and efficiency of solar-thermal water heaters, which use solar power to heat water with electricity back-up.
 - 24 percent of South Carolina cooperative members live in manufactured housing. Seventy percent of this housing has electric strip (like a bread toaster) resistance heating. Thirty five percent of the housing was built prior to 1990, and 54 percent prior to 1995.
- **Invited to and Participation in Vice President Biden’s “Recovery through Retrofit” initiatives**
 - Pilot of USDOE’s Home Energy Performance Label — SC co-ops selected with a handful of other utilities across the country to help advise USDOE on how to develop an accurate and successful Energy Star-like energy efficiency scoring and labeling system for new and existing American homes.
 - Rural Economic Development Energy Efficiency Effort (REDEEE) — Based in part on SC co-ops’ ongoing efforts to help consumers improve home energy efficiency, the USDA retooled its existing Rural Economic Development Loans and Grants program (REDLG) to allow funds to be used for home energy efficiency retrofits.

2011

- **Help My House Loan Pilot: Small-scale research into on-bill financing and low-interest microloans to consumers for home energy efficiency upgrades.**
 - Out of some 400 grant applications, the Doris Duke Charitable Foundation (DDCF) chose a pair of SC co-op programs — the Help My House Loan Pilot and our potential partnership with the University of California, Davis on an initiative that improves energy efficiency in strip malls — for two of nine grants awarded in 2010.
 - The Environmental and Energy Study Institute (EESI) — a leading bipartisan energy policy group established by Congress — is using its DDCF grant to advise the co-ops on the Help My House Loan Pilot and generate a comprehensive public report on the effort.
 - Loans funded by SC co-ops and a first-of-its-kind Rural Economic Development Loan (REDL) from the US Department of Agriculture’s Rural Utility Service (see above).
 - Usage data is still being collected and analyzed on the weatherized homes, and consumers can pay back the loans over 10 years on their monthly power bills.
 - Long-term goal is to increase the efficient use of electricity by applying more than 200,000 cost-effective upgrades, offsetting the need for investment in the equivalent of one-half of a nuclear power plant — \$4 billion.
 - Initial projections indicate that a massive, multi-year version of the effort would create more than 3,500 new jobs within three years.

2012

- **Local Distribution Systems’ rollouts of working Help My House loan programs**
 - Many of the state’s local distribution co-ops are launching home energy efficiency loan programs for their consumer-owners using the Help My House model.
 - These co-ops are building a plan for large-scale deployment that hinges on the ability of energy efficiency and demand-side management to be viewed as an alternative to the building of new generation. Their innovative business plans focus on Negawatts and not Megawatts.