

Energy Efficiency and Weatherization: SC Initiatives

Ashlie Lancaster
South Carolina Energy Office

S.C. Energy Office

- Mission is to increase energy efficiency and diversity, enhance environmental quality and save energy dollars for South Carolina
- Established in 1973, significantly reconstituted with energy policy legislation in 1992



Why does affordability matter?

The U.S. Department of Energy estimates that low income families might spend up to 14% of their annual income on energy costs, as opposed to only 3.5% for other households

Over half a million people in South Carolina live at or below the federal poverty level.

Many times these families must make difficult choices between food, energy, and medicine.

The large need for LIHEAP assistance coupled with the current economic situation have focused the need for more energy efficient housing.

Electricity in S.C.

South Carolina:

- Is **5th** in nation in electricity consumption per capita
- Is **10th highest** nationally in average residential electricity bill
- Spent **\$5.5 billion** on electricity in 2007
- Is **16th lowest** in kWh cost nationally

SCEO Initiatives

■ Sustainability Institute

- Assist others to build, repair and renovate using "green" choices
- Focus on low income communities in and around North Charleston
- The South Carolina Energy Office partnered with Sustainability Institute to conduct an energy conservation and education program for the low and moderate income residents of the 3,000 acre North Charleston community

Sustainability Institute

■ Workshops included:

- Introductory lessons in low-cost conservation practices, resolution of energy problems in a real home setting
- Hands-on instruction in low-cost weatherization materials installation, seasonal conservation measures, no cost maintenance practices
- Behavioral practices which save energy

Sustainability Institute

- Take-home kits include:
 - water heater blanket
 - low-flow shower head
 - weather stripping for windows and doors
 - shrink plastic for windows
 - compact fluorescent bulbs



Sustainability Institute

- The Sustainability Institute has continued the program even after the grant was exhausted
- To date, trained approximately 1200 people
- Documented savings (through utility bills) of about \$500,000



Manufactured Housing

- In 2000 mobile homes made up 11.6 percent of the south's total housing inventory.
- The south had more than half of the nation's mobile homes at time of 2000 census.
- In SC, 18.8% of houses are mobile homes.
- Goal is to replace the most inefficient mobile homes while weatherizing the remainder.



Legislation – Manufactured Housing

- 1992 legislation created energy efficiency standards somewhat more stringent than HUD standards
- Manufacturers apply labels at the factory
- Sales tax is capped for purchasers of labeled homes--\$300 or less

	HUD	SC
Ceiling	R-14	R-30
Wall	R-11	R-11
Floor	R-14	R-19

Manufactured Housing

- In 2008, SC General Assembly passed legislation to encourage purchase of ENERGY STAR® manufactured homes
 - Eliminates all sales tax (marketing tool for retailer)
 - Provides a \$750 tax credit to purchaser
 - Manufacturer receives federal tax credit

Manufactured Housing

- An ENERGY STAR qualified home is significantly more energy efficient in its heating, cooling, and water heating than a comparable standard code home.
- Use a combination of:
 - tighter construction to control air infiltration
 - high performance windows
 - better insulation
 - upgraded HVAC systems
 - tight duct systems
 - upgraded water-heating equipment
 - sometimes programmable thermostats and high efficiency appliances

Weatherizing Manufactured Housing

- The South Carolina Energy Office issued an RFP and has contracted with Central Electric Power Cooperative using ARRA SEP funds to conduct a Manufactured Housing Retrofit and Evaluation project.
- 200 manufactured homes will receive standard weatherization assistance (Aiken, Berkeley, Black River, Little River)
 - 200 manufactured homes will receive energy-efficient roof retrofits (Broad River, Horry, Mid-Carolina)
 - 200 manufactured homes will receive heat pumps (Blue Ridge, Coastal, Lynches River, Palmetto, Santee)
 - 200 manufactured homes will receive ENERGY STAR appliance upgrades (Coastal, Marlboro, Palmetto, Tri-County, York)
 - 400 homes will receive a new in-home display power monitor (Edisto, Fairfield, Laurens, Pee Dee)

Weatherizing Manufactured Housing

- In 2010, legislation passed allowing utilities to engage in on-bill financing for weatherization.
- Legislation championed by electric cooperatives who intend to weatherize 750,000 mobile homes.
- The City of Charleston received a Retrofit Ramp up grant through the Southeast Energy Efficiency Alliance to create on-bill financing through water bills.
- The South Carolina Energy Office has applied for funding through USDOE to provide seed money for a pilot on-bill financing program through the electric cooperatives.
- Propose to work with the City of Charleston and the SEEA to standardize measurement and evaluation, marketing and education, and underwriting tools.

Energy Efficiency Training Centers

- The South Carolina Energy Office has allocated funding through the South Carolina Technical College System for 6 regional Energy Efficiency Training Centers.
- Offering BPI certifications for Building Analysts, Building Envelope Professionals, and Manufactured Housing.
- Partnering with WIA to train the unemployed and underemployed.

Weatherizing Manufactured Housing

