

Energy Provider Involvement in Mobilizing Deep Building Renovations:

*Benefits, Complexities, and Consumer Protection
Concerns*

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Electric Cooperatives of South Carolina

Who We Are



Our members are:

- More than 3 times more likely to live in manufactured housing
- Impacted by housing stock
 - 24% of electric cooperative-served homes in S.C. are manufactured housing

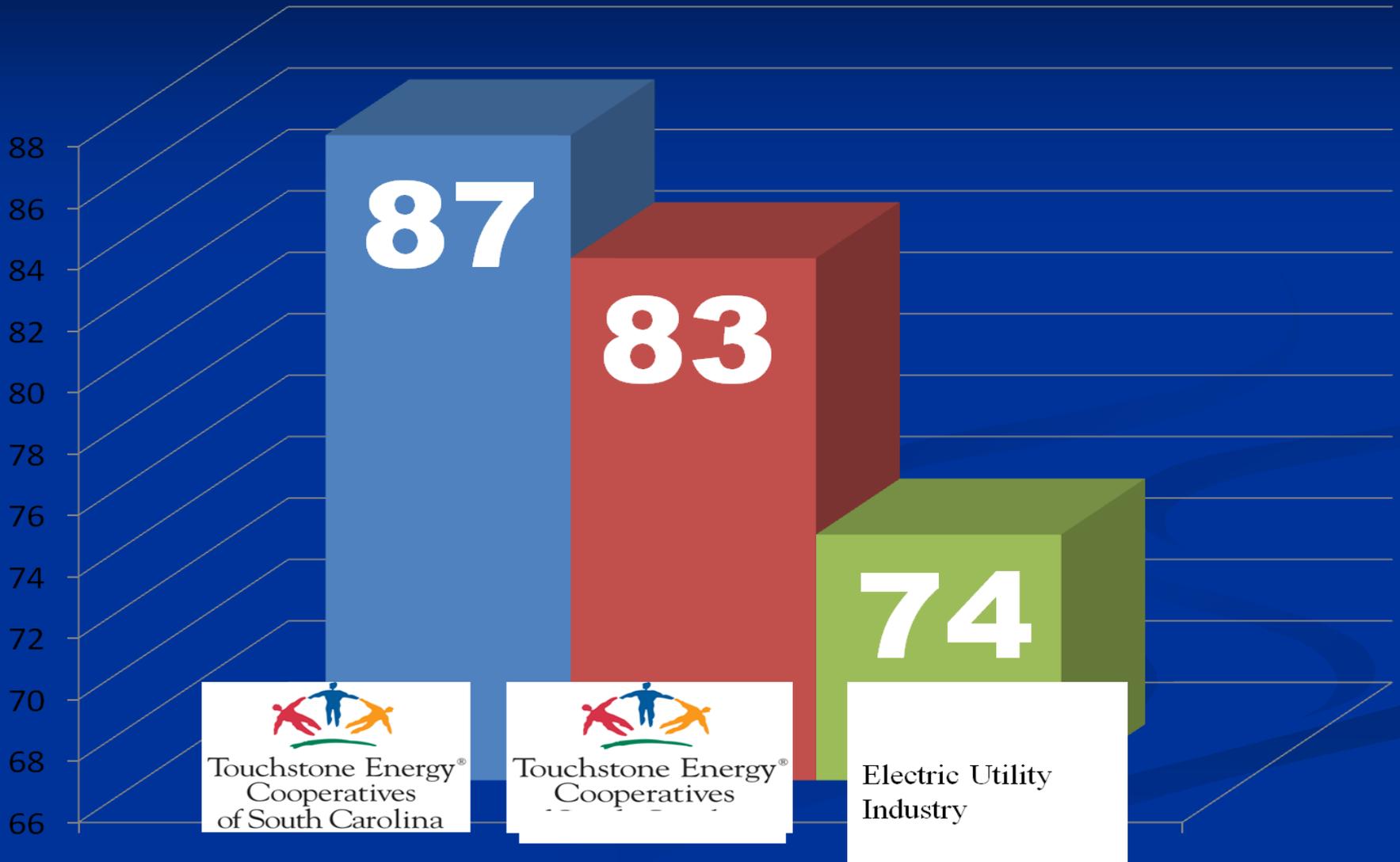
*three times higher than the national average

S.C. cooperative members

- 50% more likely to live below the poverty line
 - 15% statewide
- In some months, many may spend 60-80% of income on energy
- 26% of SC counties (12 out of 46) qualify as Persistent Poverty Counties*

*(Defined as any county with a poverty rate of 20% or higher in every census 1970-2010)

Customer Satisfaction: Co-ops vs. IOUs



Source: American Customer Satisfaction Index, Q1 2011. For S.C., most recent.

New Generation Presents Challenges

Cost to Build

Current Generation: \$ 753 / kW

New Natural Gas: \$ 2,599 / kW

New Nuclear: \$ 5,000 / kW

A Better Alternative: Energy Efficiency

Top SC Energy-Saving Steps

- Weatherize homes
- Replace resistance heating
- Replace old heat pumps



Three targets for lending

	Homes	Megawatt-hours saved per year
Weatherization	160,000	290,000
Replace resistance heating	60,000	550,000
Replace old heat pumps	32,000	183,000
		1,023,000

10% Reduction in Residential Use



A huge payoff: Energy efficiency retrofits & other residential programs

Energy and Consumer Forecast for 2020	Residential total
Energy (megawatt-hours)	13,344,000
Goal -- save 20%	<u>X 0.20</u>
Energy efficiency savings (megawatt-hours)	2,668,800

**20% Reduction in
Residential Use**



S.C. Projections

- Energy savings
 - 2,700,000 megawatt-hours per year.
- Consumer savings
 - \$270 million per year.
- Reduced CO₂ emissions
 - up to 2.4 million metric tons per year.
- Thousands of jobs
- Avoid paying for 1/2 of a nuclear unit (\$4 billion)

One Member's Story



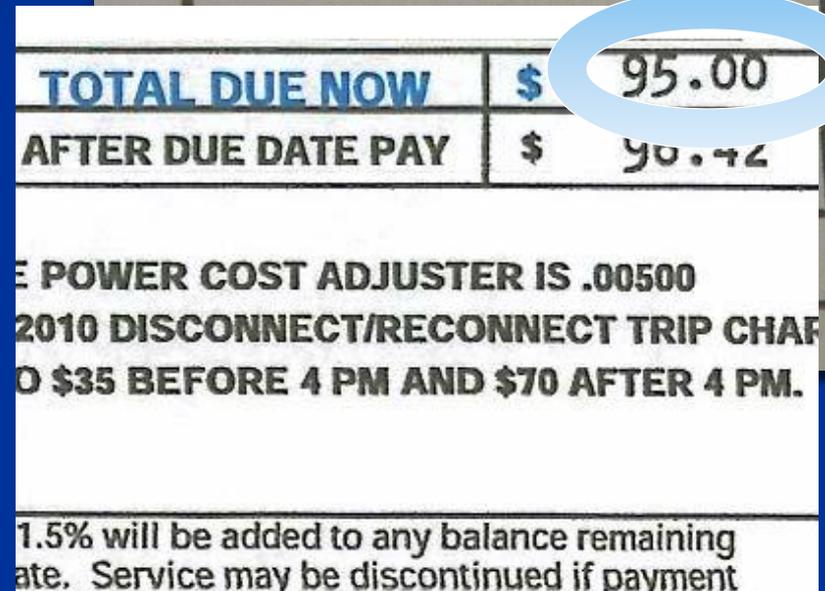
Linda Butler

One Month Savings Year-to-Year

\$518 Dec. 2008

\$ 95 Dec. 2009

\$ 423 Saved



TOTAL DUE NOW	\$ 95.00
AFTER DUE DATE PAY	\$ 90.42

THE POWER COST ADJUSTER IS .00500
2010 DISCONNECT/RECONNECT TRIP CHARGE
\$35 BEFORE 4 PM AND \$70 AFTER 4 PM.

1.5% will be added to any balance remaining
late. Service may be discontinued if payment

29,638

kWh savings



9,329

■ 2009

■ 2010



10 Month Savings

20,309 kWh

\$1,882 total savings

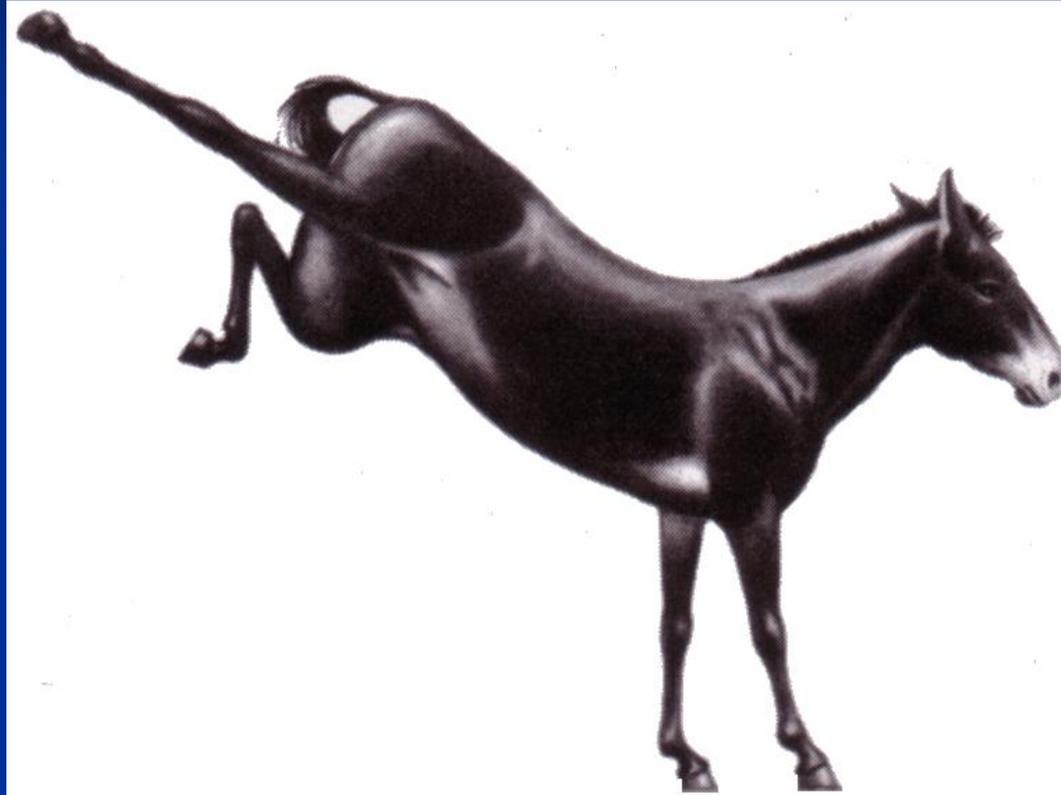
\$188 monthly average



Rural Electric Savings Plan (RESP)

- Low-interest loans from RUS for upgrades
- Money saved repays loans
- Low-risk lending, repaid through power bill

After 40 years of energy audits...



...Co-ops don't need a second kick of the mule!

Help
My
HOUSE!



Shape Up Your Home for Energy Savings

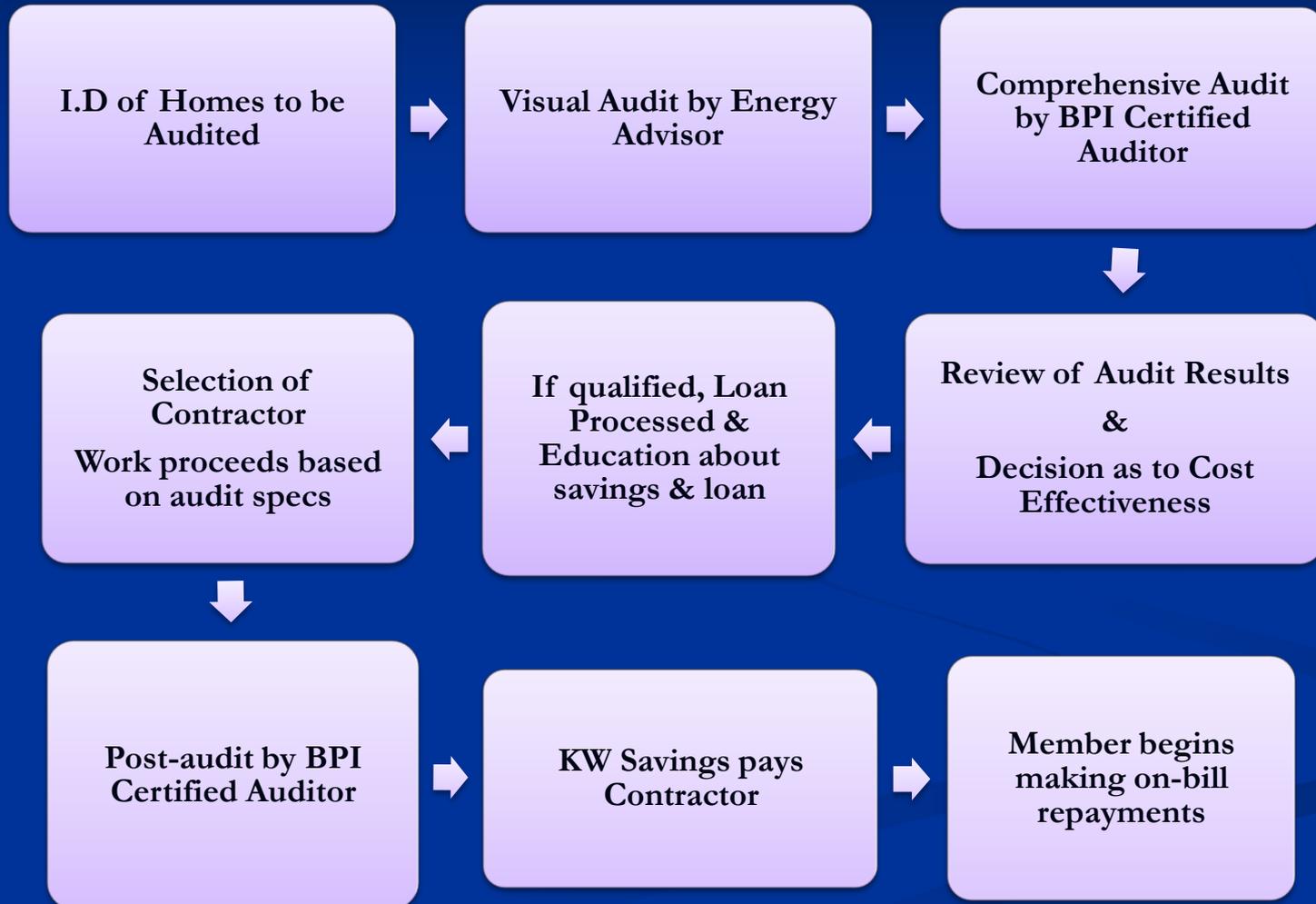
Loan Program Pilot

How the Process Works

The Pilot(s)

- Doris Duke Foundation (DDF)
/Environmental & Energy Study
Institute (EESI) Residential Retrofit
- DDF/University of California at Davis
Commercial Retrofit

Core Transaction Process



The Visual Audit



- A walk-through inspection by a co-op “Energy Advisor” (EA)
- Helps determine if home qualifies for pilot
- If home is eligible, EA asks member to complete a loan app, orders initial (BPI) audit.

Processing the Loan Application



- Application sent to 1st Cooperative Federal Credit Union
- Comprehensive audit (BPI) scheduled in the home

The Initial Audit (“Test In”)

- Confirms (or not) that home qualifies for pilot and loan
- Defines measurable efficiency targets for the home and contractor
- Prescribes the work needed



Member gets estimate(s)

- Homeowner calls qualified contractor(s) for bids
- Member notifies the EA when a bid has been accepted
- EA collects bid info, forwards to credit union so final loan documents can be created and sent back to the co-op



Finalizing the Loan



- Member signs loan documents
- After three-day waiting period, work can begin on the home

The Home is Weatherized!



The Exit Audit (“Test Out”)



- EA orders second BPI audit to check home’s performance after work is completed
- If targets are met, co-op notifies KW Savings and contractor gets paid
- If targets are not met, contractor must return, correct problems, await follow up audit
- **Important quality assurance for members!**

Loan Payments Begin



- Member begins paying back the loan on monthly electric bill
- Co-ops monitor and record impact of efficiency upgrades on energy use and bills vs. historical use in each home

Now that the site work is done



Early Results and Projections

- Avg. act. project costs per home \$7,262
- Avg. est. annual savings per home \$1,240
- Average est. payback (in years) 5.86

Member Survey Results



Shape Up Your Home for Energy Savings



CARTON DONOFRIO PARTNERS

■ $1/2$ Participant

■ $1/2$ Non-participant

Satisfaction (vs. one year ago)

(Participants and Non-Participants)

- 87% same or higher
- 92% same or higher as a result of being contacted about the pilot

Pilot structure

More than 90% liked how the pilot was put together

(i.e. 2.5% loan from the co-ops, on-bill financing, contractors pre-qualified, improved comfort and energy savings, etc.)

Understood Loans

- 96% of participants were satisfied with how the loan was explained to them
- 78% of non-participants were satisfied

*Both groups chose the following words to describe staff:
“courteous,” “patient,” “complete” and “easy to
understand”*

Quality of Work

- 96% satisfied
- 83% very satisfied

Improved Comfort

- 96% more comfortable
- More than three-quarters (77%) feel they are a lot more comfortable

Member Comments

“(They) seem to care more about the people they service.”

“My house is warmer than it was.”

“They are helping me save money. I like that.”

“I can save electricity for the co-op.”



YOUR
Electric
Cooperatives