

# **South Carolina Rural Electric Co-ops On-Bill Financing Pilot Program**

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Environmental and Energy Study Institute

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# Help My HOUSE!

A stylized house with a red roof, yellow walls, and a blue section, integrated into the text 'Help My HOUSE!'. The house has a brown door and a white window.

Shape Up Your Home for Energy Savings

# On-Bill Financing for Home Energy Loans

- Provides low-interest loans for residential energy improvements, eliminating upfront costs for the homeowner
- Loan repayment added to homeowner's monthly utility bill
- Payment history used in lieu of credit checks
- Positive cash flow for the homeowner: Payments structured to be smaller than the projected energy savings

# Early Results and Projections

- Improvements made to 125 all-electric homes
- Avg. act. project costs per home : **\$7,684**
- Avg. est. annual savings per home: **\$1,285**
- Projected positive cash flow on 10-yr term at 2.5% interest rate
- Average est. payback: **6.0 years**
- Pilot demonstrated “deep impact” savings that averaged an estimated **36.9%** per home
- Collected data through Feb 2013

# Early Results and Projections

## Projected Energy Savings from the Average Home Participating in the Pilot

	MONTHLY	ANNUAL
Projected Electric Savings (kWh)	966	11,593
Projected \$ Savings	\$107	\$1,285
Loan Repayment	\$73	\$879
Net (Savings – Loan)	\$34	\$406

# Pilot Partners

- EESI, with support from the Doris Duke Charitable Foundation
- Electric Cooperatives of South Carolina
- Central Electric Power Cooperative
- Ecova
- Carton Donofrio Partners



Shape Up Your Home for Energy Savings



# Environmental and Energy Study Institute

*Carol Werner,  
Executive Director*

- Founded in 1984 by a bipartisan Congressional caucus
- Independent non-profit organization that receives no Congressional funding.
- Source of non-partisan information on energy and environment policy development for Congress and other policymakers.
- Visit our website: [www.eesi.org](http://www.eesi.org) to find out more!

# South Carolina Electric Cooperatives

- 20 electric distribution cooperatives
- Serve more than 1.5 million individuals in all 46 counties
- Contribute \$1.4 billion per year to the state economy



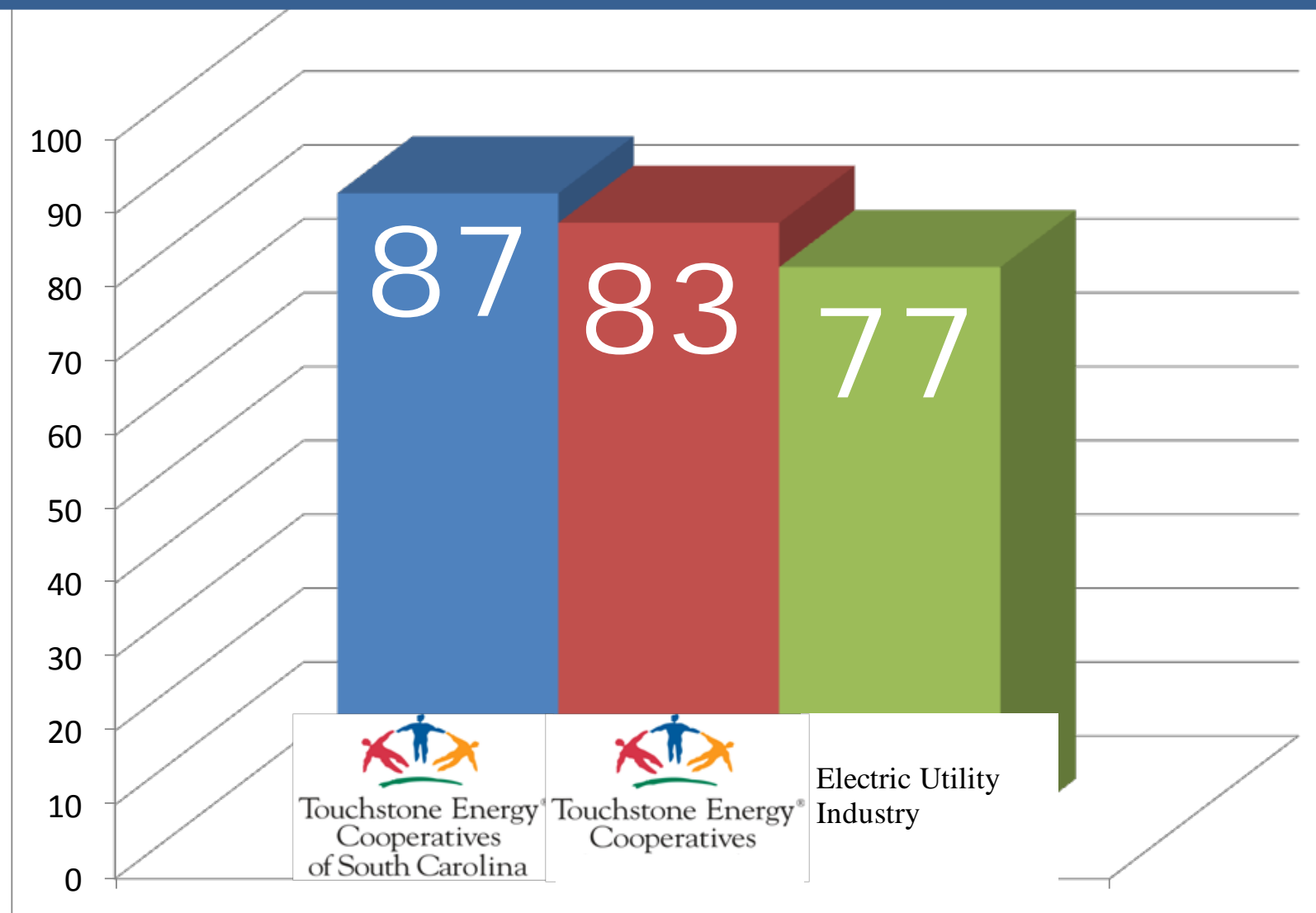


# South Carolina Cooperative Members

- 24% live in manufactured housing (three times the national average)
- 50% more likely to live below the poverty line
- 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 2013. For S.C., most recent.

# SC Cooperatives' Overall Goals

- Improve residential energy efficiency (10% by 2020)
- Reduce residential use and per-unit wholesale power costs (demand controls)
- Improve consumer's relationship with local co-op (both participant & non-participants)

# Projected Impacts of Full-Scale Program

- Energy savings
  - 2,700,000 megawatt-hours per year.
- Consumer savings
  - \$270 million per year.
- Reduced CO<sub>2</sub> emissions
  - up to 2.4 million metric tons per year.
- Thousands of jobs
- Avoid paying for ½ of a nuclear unit (\$4 billion)

# One Member's Story

**\$518 Dec. 2008**

**\$ 95 Dec. 2009**

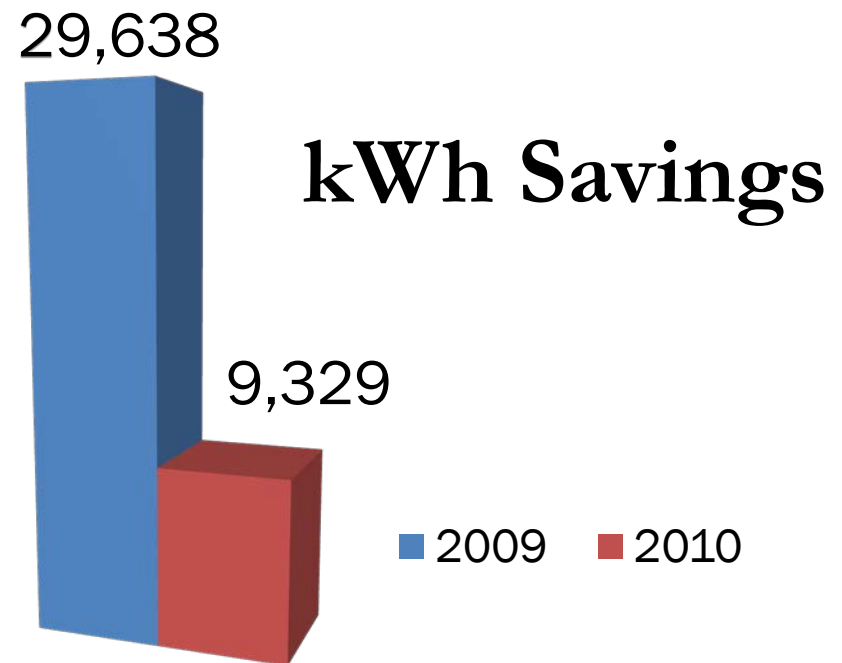
**\$ 423 Saved**



**Linda Butler**

## 10 Month Savings

- 20,309 kWh
- \$1,882 total savings
- \$188 monthly average





Shape Up Your Home for Energy Savings

## **Loan Program Pilot**

How the Process Works

# Core Transaction Process



# The Visual Audit



- A walk-through inspection by a co-op “Energy Advisor” (EA)
- If home is eligible, EA asks member to complete a loan app
- Initial BPI audit ordered



# Processing the Loan Application



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

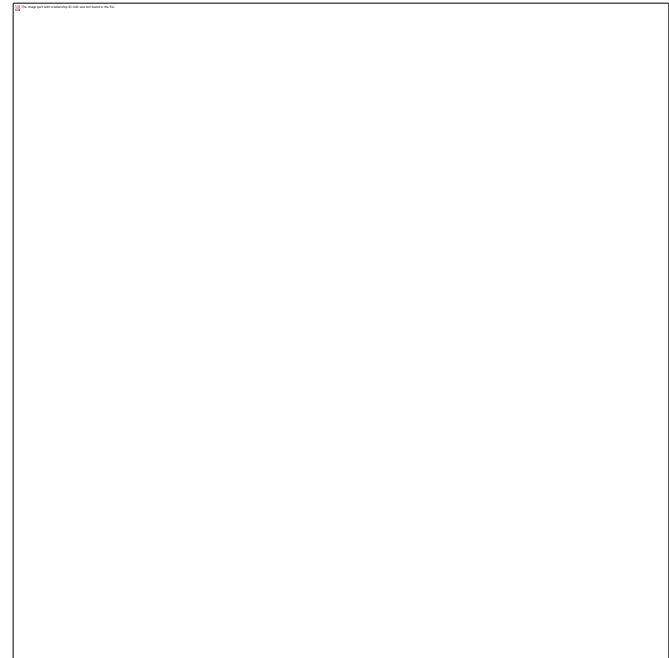
# The Initial Audit (“Test In”)

- Confirms (or not) that home qualifies for pilot and loan
- Defines measurable efficiency targets
- 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 forwards bid info to credit union to create final loan documents



# Finalizing the Loan



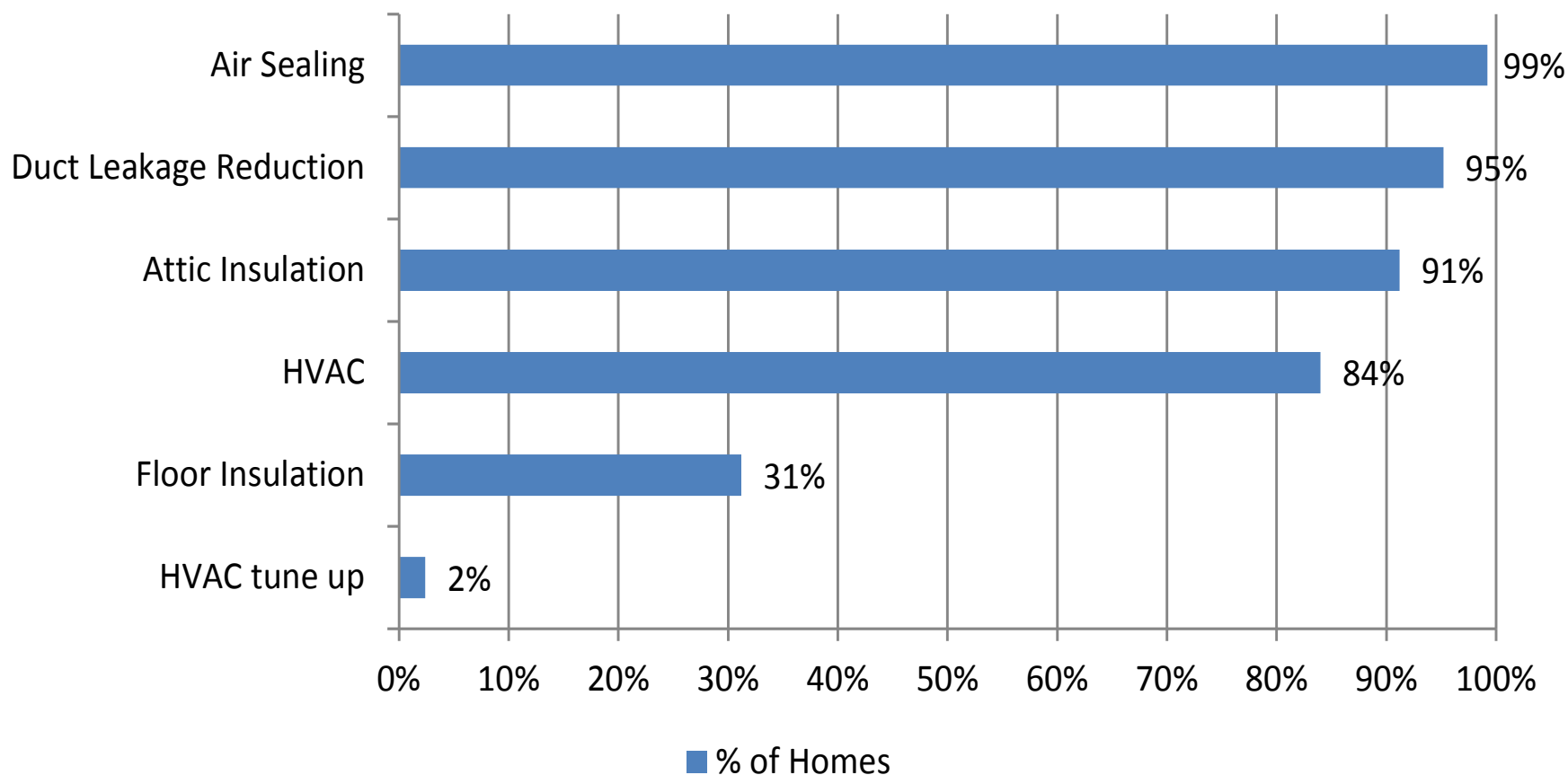
- Member signs loan documents
- 2.5% loan, most often over a 10-year period
- Work can begin after three-day waiting period

# The Home is Weatherized



# Home Improvement Measures

## Measure Installation





# 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 approves payment to contractor
- If targets are not met, contractor must return
- 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



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# Early Results and Projections

## Average Projected Savings by Measure

	Annual Savings (\$)	Simple Payback (Yrs)
Attic Insulation	\$212	5.80
Floor Insulation	\$468	1.56
HVAC	\$616	7.88
Duct Sealing	\$228	2.96
Air Sealing	\$155	6.26

# Early Results and Projections

## Average Projected Savings by House Type

House Type	#	Avg. Est. Annual kWh Savings	Average Annual kWh	% Annual kWh Savings
Single Family Detached	53	10,685	31,511	33.9%
Mobile Home (DW)	68	12,383	31,463	39.4%
Mobile Home (SW)	4	10,176	28,486	35.7%
Total	125	11,593	31,388	36.9%

# Measured Results



# Member Survey Results

- 96% satisfied with quality of work
  - 83% very satisfied
- 96% more comfortable in their homes
  - 77% are a lot more comfortable
- 92% liked how the pilot was put together



# Federal Policy



# Rural Energy Savings Program (RESP)

- Proposed federal loan program to support on-bill financing projects
- To be managed by USDA's Rural Utility Service
- Would provide 0% loans to co-ops and public utilities for up to 20 years
- Passed by House in Sept 2010 with bipartisan vote (\$993 million over five years)
- Passed by Senate in June 2012 as part of the farm bill (funding levels not specified)
- Supported by National Rural Electric Cooperatives Association (NRECA)



# RUS Proposed Rule

- Proposed \$250 million per year loan program to rural electric utilities for energy efficiency projects
- Co-ops would be charged the direct Treasury rate plus one-eighth
- SC pilot encouraged USDA to move forward
- Awaiting announcement of final rule

# For More Information

- EESI fact sheets at [www.eesi.org](http://www.eesi.org)
  - [“Help My House” On-Bill Financing Pilot in South Carolina](#)
  - [Rural Energy Savings Program](#)
  - [On-Bill Financing, Helping Homeowners Implement Energy Efficiency Improvements](#)
- [RUS Proposed Rule for EE Loan Program](#)
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