OPPORTUNITIES THROUGH THE USDA ENERGY EFFICIENCY AND CONSERVATION LOAN PROGRAM

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Policy Associate

Environmental and Energy Study Institute
• Founded in 1984 by a bipartisan Congressional caucus as an independent non-profit organization (but receives no Congressional funding)

• Source of non-partisan information on energy and environment policy development for Congress and other policymakers
USDA Energy Efficiency Conservation Loan Program (EECLP)
EECLP BASICS

- Operated by the USDA Rural Utilities Service (RUS)
- Program went into effect February 2014
- New opportunity RUS borrowers (rural utilities) to start up or expand EE activities, both up- and down-stream
- Rolling, non-competitive application process
- Interest rate is the direct Treasury rate plus 1/8
EECLP Eligibility

- Any electric utility is eligible for the EECLP provided that it serves a rural area.
- “Rural area” is defined as a town of less than 20,000 people.

- Wide range of eligible activities:
  - EE improvements along entire system
  - Distributed generation
  - Demand side management
**Loan Provisions**

- Loans $ given on reimbursement basis
- Up to 5% of the total loan can be accessed upfront for start-up costs
- Consumer outreach programs may not exceed 5% of the total loan

**Application Process**

- Similar to existing RUS loan programs
- Additional requirements:
  - Quality assurance plan
  - Business plan
- Utilities can contact their GFR to get started
EECLP Recipients

Roanoke Electric Cooperative (NC)
• 12,500 residential customers
• $6 million borrowed from EECLP at 3.5%
• Relending program for home energy retrofits
• Goal: 1,000 whole house retrofits in 5 years

North Arkansas Electric Cooperative
• 33,500 residential customers
• $4.5 million borrowed from EECLP at 3.5%
• Relending program for building retrofits across all sectors
USDA RESOURCES FOR EECLP

- Main USDA EECLP web page
- EECLP Final Rule
- EECLP Background Presentation
- EECLP Toolkit
- Toolkit Summary Presentation
- List of RUS Electric Program General Field Representatives
EECLP OPTION: ON-BILL FINANCING

- Loans that are repaid on the monthly utility bill
- Utilities can finance EE improvements to customers’ homes
- EE alternative to homeowners that can’t afford upfront costs
- Can be designed to be bill neutral (or better)
- Allows for alternative methods of underwriting (i.e. good bill payment history in lieu of credit check)
ON-BILL FINANCING BENEFITS EVERYONE

• Homeowner/Renter
  o Lower monthly energy bills
  o Increased comfort in the house

• Community
  o Increased local economic activity and job creation
  o Supply chain is developed

• Electric Utility
  o Lower demand costs
  o Increased member satisfaction
  o Increasing members' energy efficiency helps co-ops delay building expensive new power plants by helping decrease demand.
ON-BILL FINANCING IS NOT NEW

• 50 rural electric co-ops in 22 states offer on-bill financing to their members
• Typical interest rate is 5%
• Most programs target the efficiency upgrades for the residential sector
• As co-ops generally use their own funds for financing, these programs tend to be small in size
The Business Case for OBF

- **Short Term**
  - Participant and member satisfaction positive
  - Load factor impacts minimal
  - Lost revenue would be small, even for a long term aggressive program

- **Long Term**
  - EE targets in EPA’s proposed Clean Power Plan
  - Energy efficiency is cheaper than new generation - likely less than 2 cents/kWh
  - Broader economic benefits for local businesses and supply chain
States with On-Bill Financing Legislation

States where utilities have implemented or are developing On Bill Financing programs

Source: National Conference of State Legislatures
CASE STUDY: SOUTH CAROLINA CO-OPS

OBF Pilot
• 2011-2012
• 8 co-ops, 125 homes
• Main Purpose: test EE vs. building new generation
• RUS and G&T funding

Working OBF Programs
• 2012- Present
• 4 co-ops, 282 homes (so far)
• Purpose: Member service
• Mix of co-op and RUS dollars for lending capital
S.C. COOPERATIVE MEMBERS

• 24% live in manufactured housing (3X the national average)

• 50% more likely to live below the poverty line

• In some months, many may spend 60-80% of income on energy

• The state ranks 7th in cooling degree days per year

• 80% use electricity as primary form of heating
HMH PILOT PROGRAM FEATURES

• Co-ops provided low-interest loans to their members to finance ‘whole house’ energy retrofits
• Loans are repaid on monthly utility bills, typically over 10 years
• Tariff program: loan is tied to the meter, not the occupant
• When the person moves, the loan is transferred to the next occupant
• To qualify, households need to have good bill payment history (no credit checks)
KEY PARTNERS IN THE PILOT

1. 8 Participating Co-ops
2. Central Electric Power Cooperative
   • Purchases wholesale power and distributes it to the state’s co-ops
3. Electric Cooperatives of South Carolina
   • Co-ops’ state-wide trade association
4. Environmental and Energy Study Institute
   • Assisted with program design, outreach, evaluation
5. Ecova
   • Program planning, management
# The Help My House Process

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
<td>Participant Selection</td>
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<tr>
<td>2.</td>
<td>Visual Audit</td>
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<tr>
<td>3.</td>
<td>Comprehensive BPI Audit</td>
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<td>4.</td>
<td>Loan Approval &amp; Contractor Selection</td>
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<tr>
<td>5.</td>
<td>Measure Installation</td>
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<tr>
<td>6.</td>
<td>Final Inspection &amp; Project Approval</td>
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HMH PILOT RESULTS SUMMARY

- 125 homes across 8 co-ops in South Carolina
- 34% energy savings through “whole house” measures (Avg. participant cut 11,000 kWh per year)
- Average loan was $7,684 at 2.5% for 10 years
- Projected average total net savings is $8,600 after 15 years
- High satisfaction rate among participants
MEASURES INSTALLED IN THE PILOT

Percent of homes with each measure

<table>
<thead>
<tr>
<th>Measure</th>
<th>Percent of Homes</th>
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<tbody>
<tr>
<td>Air Sealing</td>
<td>99%</td>
</tr>
<tr>
<td>Duct Leakage Reduction</td>
<td>98%</td>
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<tr>
<td>Attic Insulation</td>
<td>91%</td>
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<tr>
<td>Electric Furnace to Heat Pump</td>
<td>47%</td>
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<tr>
<td>Heat Pump Replacement</td>
<td>42%</td>
</tr>
<tr>
<td>Floor Insulation</td>
<td>31%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>3%</td>
</tr>
<tr>
<td>HVAC Tune-up</td>
<td>3%</td>
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</tbody>
</table>

Percent of savings from each measure

- Electric Furnace to Heat Pump: 27%
- Attic Insulation: 15%
- Heat Pump Replacement: 17%
- Duct Leakage Reduction: 17%
- Floor Insulation: 11%
- Miscellaneous: 0%
- HVAC Tune-up: 1%

Percent of homes with each measure:

- Air Sealing: 99%
- Duct Leakage Reduction: 98%
- Attic Insulation: 91%
- Electric Furnace to Heat Pump: 47%
- Heat Pump Replacement: 42%
- Floor Insulation: 31%
- Miscellaneous: 3%
- HVAC Tune-up: 3%
**Annual Savings: Average HMH Home**

<table>
<thead>
<tr>
<th>$1,157</th>
<th>$288</th>
<th>$869</th>
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</thead>
<tbody>
<tr>
<td>Annual Energy Savings</td>
<td>Annual Net Savings</td>
<td>Annual Loan Repayment</td>
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All values are per home averages for a typical meteorological year.
PARTICIPANT SURVEY RESULTS

Satisfaction with co-op, one year later:
96% same or higher

Satisfaction with electric bills:
89% same or higher
Summerton, S.C.
Santee Electric

Site built home, 1979
Size: 2013 sq. ft.
3 bedrooms

Energy efficiency measures:
New heat pump,
duct sealing, air sealing,
attic insulation

Loan amount: $6,540

Monthly bills:
$150 to $200 lower
PILOT CONCLUSIONS

- The average home in the HMH Pilot
  - Electricity use dropped by 34% (about 11,000 kWh/yr)
  - Savings exceeded loan repayment by $288/yr
- Coincident peak savings also dropped about one-third
- Load factor unchanged, would have improved with load control switches
- Homes became more comfortable
- Participants were extremely satisfied with the program and their co-ops
- HMH has spawned ongoing OBF (4 active programs)
ON-BILL FINANCING PROJECT ASSISTANCE

EESI offers free assistance:

• Provide experience and lessons learned from South Carolina co-ops’ OBF pilot
• Assess whether OBF is a good fit
• Identify resources, help overcome barriers to get projects off the ground
• Help design the OBF program
• Help utilities and others access funding
• Advise on program implementation

For more information:
www.eesi.org/OBF

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