

Webinar Series:

Energy Efficiency and Conservation Loan Program

With Experts from Electric Cooperatives and
the U.S. Departments of Agriculture and Energy



U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

Webinar #5 of 6: **On-Bill Financing**

Gerard Moore, Acting Deputy Assistant Administrator of the Electric Program in USDA's Rural Utilities Service

Curtis Wynn, CEO of Roanoke Electric Cooperative

Sherry Jackson, Member Services Coordinator, North Arkansas Electric Cooperative

Greg Leventis, Lawrence Berkeley National Laboratory

Odette Mucha, Stakeholder Engagement, Office of Energy Efficiency and Renewable Energy, US Department of Energy



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Webinar Series sneak peek:

Solar Program Overview– Thursday, Jan 22nd 3:00 pm EST

Speakers include **Chad Tudenggongbu**, Resource Efficiency & Renewable Energy Division, ICLEI

Register now! <https://www1.gotomeeting.com/register/493276257>



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Energy Efficiency and Conservation Loan Program (EECLP)

Rural Utilities Service
Electric Program
US Department of Agriculture

For Additional Information

Please visit our website at: http://www.rurdev.usda.gov/UEP_EECLP.html

Or Gerard.moore@wdc.usda.gov 202-720-6285

- ▶ For more information on the Final Rule, you may download the following information here:
- ▶ [Press Release](#)
- ▶ [Final Rule](#)
- ▶ [Background PowerPoint Presentation](#)
- ▶ [Presentation](#)
- ▶ [Toolkit](#)
- ▶ Current Electric Program Borrowers should reach out to the Electric Program [General Field Representatives](#) for additional information and how to apply.



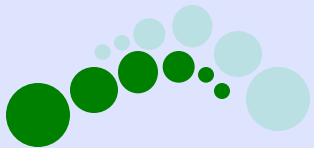
Roanoke EMC's Upgrade to \$ave Program

funded by USDA / RUS'
Energy Efficiency Conservation Loan Program

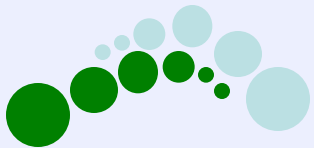
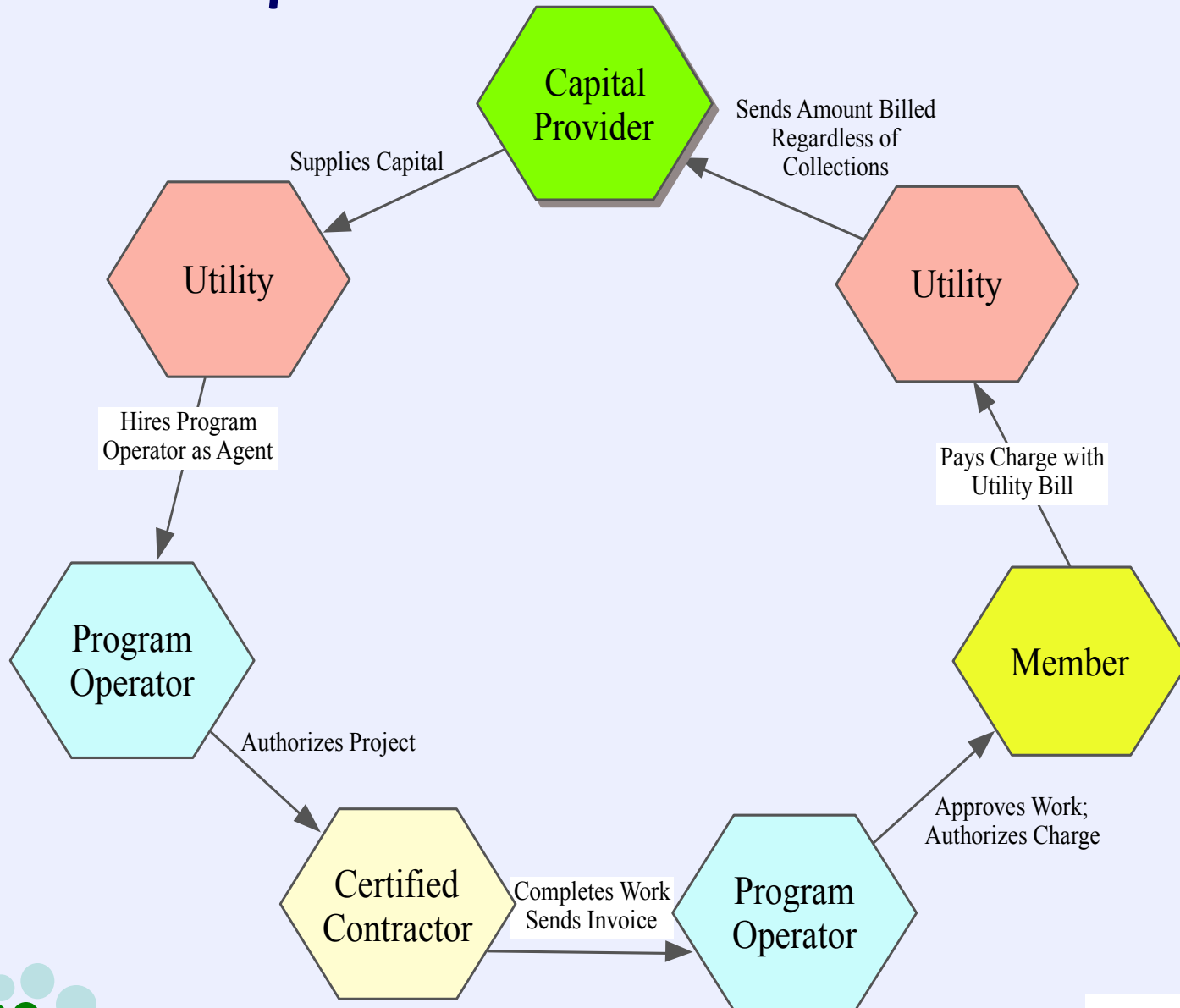


Based on EEI's Pay As You \$ave[®] System

Developed by EEI

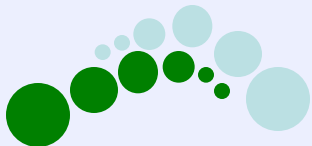


Upgrade to \$ave



Overview of Upgrade to \$ave Program

- Major Considerations:
 - The Upgrade to \$ave program’s “offer that works”
 - Targeted members and weatherization measures
 - Agreements
 - Purchase Agreement with Members
 - Contractor Agreement
 - Owner Agreement (Landlords)
 - Inspections
 - Clear communications
 - What staff can and cannot say to members
 - How to resolve questions before taking action



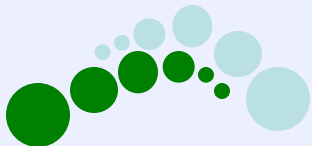
Getting 1,000 Members to “Yes”

- All targeted measures are cost effective for the highest-using Members
- That’s not been enough to get Members to “Yes”
- Previous offers have not worked for Members – because of Market Barriers – reasons to say “No”
- Barriers are like weak links of a chain; if any link remains weak and fails, the chain fails
- All barriers must be removed to get Members to say Yes to program offers



An Offer That Works

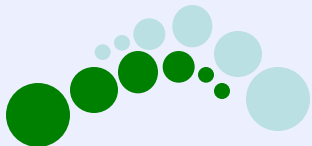
- Member pays nothing upfront
- Immediate improvement in cash flow
- If they move or measures fail and are not repaired their payment obligation ends – as long as they have fulfilled their responsibilities
- The Roanoke Center (TRC) oversees their project
- Members incur no debt and have no liens, no loan
- Renters don't need to ask landlords to pay for measures that benefit the renter



The Upgrade to \$ave Offer to Members

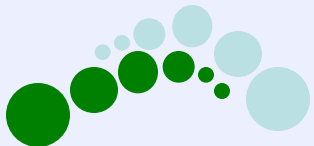
“Upgrade to \$ave reduces your energy bills and makes your home more comfortable with measures that effectively cost you nothing up front. Here’s how it works:

- Energy saving measures are installed in your building, and you pay nothing
- Once the work is completed, your Coop, Roanoke EMC, pays for the installation. They put a fixed charge on your electric bill that is significantly less than the estimated energy savings from these measures
- You have no loan, no lien, and no debt associated with this transaction; just lower utility bills
- If you follow your responsibilities, when you leave this home or if a measure fails and is not repaired, your obligation to pay ends.”



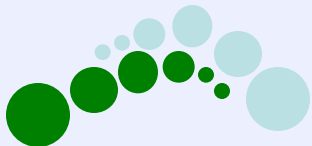
Targeted Measures

- Targeting measures most likely to produce savings and more comfort in Members' homes, but any cost effective measure may be proposed
- **Measure Assessors** will identify measure packages for Members
 - 2014 most efficient Energy Star heat pumps
 - Air and duct sealing
 - Capping attic insulation with proper ventilation
 - Floor insulation
 - LEDs (3 hrs. / 38 watts) and showerheads (8 min/day)
- Copayments or “Copays”



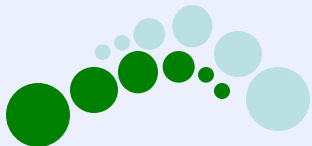
More Members Saying “Yes” Means:

- For contractors, few or no marketing transactions to get 1,000 Members to weatherize their homes with an estimated average job size of \$7,500
- Increased economic activity in Roanoke’s service territory
- Satisfied members with lower bills and more comfortable homes
- A successful program that meets it’s goals, if we keep our promises to our members



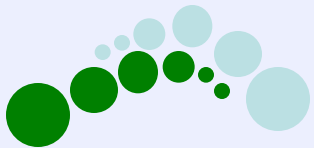
Summary of an “Offer That Works”

- “Offer that works” needs to solve **all** the barriers to member acceptance key to program’s success
- Each time “an offer that works” is compromised, by any program partner, the benefits to members and the other program partners is compromised
- Each program partner needs to know their essential role and to do their work well
- Via **required certifications and penalties**, contractors are aware of how their work affects the success of the program and have an incentive to do so

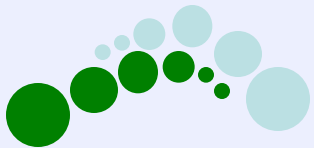


Roanoke EC Benefits

- Lower demand cost
- Displace Renewable Portfolio Standards (REPs) requirements
- Increased member satisfaction



Questions





Energy Efficiency Conservation Loans

North Arkansas Electric Cooperative
Sherry Jackson



Background of NAEC

- North Arkansas Electric Cooperative is located in the northern part of Arkansas in the Ozark mountain region. Incorporated in 1939, the cooperative energized its first line in 1940 and now serves more than 36,000 billed accounts. With over 4,800 miles of line, North Arkansas Electric Cooperative has a density of 7.41 members per mile of line and considers its service area quite rural. North Arkansas Electric Cooperative is one of seventeen distribution cooperatives in Arkansas and receives its power from Arkansas Electric Cooperative.
- North Arkansas Electric Cooperative has a lengthy background in promoting energy conservation and efficiency with its members. In the late 1980's North Arkansas Electric Cooperative was one of the first co-ops in the nation that took advantage of USDA/RUS funding for Energy Resource Conservation loans. To date the cooperative has loaned close to \$12 million in funds for energy efficiency upgrades to member homes.
- The new Energy Efficiency program is replacing our existing ERC loan program. As such, similar application and loan processes would continue. Several support staff of the cooperative would remain active in the application and approval process.



News Release

On October 23, 2014 NAEC was one of two electric cooperatives in the nation approved for USDA funding under the new Energy Efficiency and Conservation Loan Program. NAEC was approved for \$4.6 million dollars.



Application Requirements

- Loans will be available to qualifying members connected with the cooperative for a minimum of six months at a single location. Employees are also eligible for said loans; however, they must be employed with the cooperative for a minimum of six months.
- These loans will carry an interest rate of one half of a percent above the cooperative's interest rate. EEF loans are governed by the terms and conditions as set forth below and by all terms and conditions as set forth by the Rural Utilities Service as currently published.
- All applications for loans shall be for one or more of the following types: residential, commercial, industrial, public, community buildings/facilities, structures used in agricultural operations and any other location deemed suitable by North Arkansas Electric Cooperative. Potential savings will be considered in approving the loan in question.
- Loans will not be provided to refinance existing obligations or to finance the cost of energy conservation measures in structures to be built or that are under construction. Additionally, North Arkansas Electric Cooperative will not service any equipment financed; however, the cooperative will include the financing of heat pump service contracts by the licensed HVAC dealer installing the financed equipment.

Application Requirements Cont'd

- Application shall be documented with the following materials:
 - i. Application
 - ii. Copy of Warranty Deed
 - iii. Current Energy Audit
 - iv. Current Credit History
 - v. Completed Member Service Representative's Check Sheet
 - vi. Appraisal (if requested)
 - vii. Title Insurance (if requested)
 - viii. Verification of Insurance (if requested)
 - ix. Borrowing Resolution (if requested)
 - x. Guaranty (if requested)
 - xi. Note and Security Agreement

Types of Loans

- **Geothermal Installations**

- Maximum amortization schedule up to twelve years, board approval is required for loans exceeding \$20,000.
- If application is approved, said loan would require a blower door test and an energy audit recommending the appropriate size unit.
- Companies other than North Arkansas Electric Cooperative can perform the blower door test. The borrower may select the dealer of their choice, but said dealer must be licensed with the State of Arkansas. Additionally we strongly recommend that the dealer selected have valid liability and workers compensation insurance.

- **Air Source Installations**

- Air source heating and cooling with a minimum SEER rate of 14 and an HSPF of 8.2.
- Loans for air source heat pumps shall have a maximum amortization schedule up to eight years.
- Board approval is required for loans exceeding \$20,000.
- If application is approved, said loan would require a blower door test and an energy audit recommending the appropriate size unit.
- Companies other than North Arkansas Electric Cooperative can perform the blower door test. The borrower may select the dealer of their choice, but said dealer must be licensed with the State of Arkansas. Additionally we strongly recommend that the dealer selected have valid liability and workers compensation insurance.

- **Energy Efficient Lighting**

- The EEF program will make loans available for energy efficient lighting to include LED installations.
- Loans for lighting upgrades will have a maximum amortization schedule up to five years.
- The minimum loan amount is set at \$500 with no maximum amount set at this time.

Types of Loans Continued

- Weatherization
 - The EEF program will make loans available for various weatherization measures.
 - The term “weatherization measures” include, but not limited to, the following applications:
 - Energy Star windows
 - Energy Star doors
 - Insulation – ceiling, floor or wall
 - Water heaters with efficiency of 91 percent or greater
 - Roofing

Loan Requirements

- A blower door test will be required on all heat pump installations. The results of said tests should show that the installation of energy efficiency measures would be cost effective, and reduce the overall energy consumption of the structure. The borrower shall agree to a possible inspection of conservation measures installed, within six months of installation by the auditing Member Service Representative.
- Installation of equipment and energy efficiency measures may not begin until the loan is approved and funds are available. A notification of loan approval shall be in writing to the borrower and the contractor immediately following approval. Following loan approval notification, installation may proceed under the authority of the borrower and upon completion of job to be financed, all invoices must be submitted to North Arkansas Electric Cooperative for preparation of loan closure. Upon closing of the loan, a check shall be written. The borrower shall be responsible for the delivery of payment to the contractor. The cooperative shall not advance funds to the borrower or the contractor without assurance that the work has been properly completed. Any loan made through this program will adhere to all state and national regulations.



Other Terms & Conditions

- A lien shall be filed with the Secretary of State and in the county in which the property lies within seven to ten days of the document signing. A fee of \$50.00 will be charged to the borrower for filing the required liens and future releases listed above. Scheduled loan payments will be billed monthly and statements of principal and interest paid will be forwarded to the borrower in January of each year.
- In general, the cooperative shall not freely sign loan subordination agreements when requested to do so by other financial institutions. However, circumstances may arise where an agreement can be reached between the cooperative, a financial institution, and our joint borrower regarding subordination. At that point extenuating circumstances may be taken into consideration, which could allow us to sign such an agreement. These could include (1) the current balance on the loan; (2) loan to value ratio of the property; (3) income to debt ratio of the customer; (4) creditworthiness of the customer, and (5) character of the customer.
- Documentation shall consist of an application and promissory note. Credit reports are required unless the borrower has a minimum of 12 months delinquent free status with NAEC, and/or an equal or exceeding amount of capital credits/loan proceeds.
- Credit approval by the Member Services Manager or his designee is discretionary and may be immediate. The CEO is responsible for fulfilling the provisions of this policy and making changes as appropriate for continued business operations and to maintain legal compliance.

Loan/Budget Forecast

Code	Description	No. of Loans 1st year	Avg. Loan Amt.	Year 1 Budget	Year 2 Budget	Year 3 Budget	Year 4 Budget
1504	HVAC Systems	52	8,000	416,000	436,800	458,640	481,572
1505	GSHP Systems	24	20,000	480,000	504,000	529,200	555,660
1506	Appliance Replacements		0	0	0	0	0
1507	Building Envelope Improvements	24	4,000	96,000	100,800	105,840	111,132
1508	Load Modifiers	15	3,000	45,000	47,250	49,613	52,093
1509	Water Heaters	10	1,000	10,000	10,500	11,025	11,576
1510	Home Energy Networks and Devices	5	500	2,500	2,625	2,756	2,894
1511	Soft Costs			0	0	0	0
1512	Miscellaneous	4	6,000	24,000	25,200	26,460	27,783
				1,073,500	1,127,175	1,183,534	1,242,710



Contact Information

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Environmental Energy Technologies Division Lawrence Berkeley National Laboratory

Financing Energy Improvements on Utility Bills

for the Energy Efficiency and Conservation Loan Program
Webinar Series for Rural Cooperatives

Greg Leventis
Lawrence Berkeley National Laboratory

January 8, 2015

Today's Agenda

- Report Motivation, Approach & Objectives
- On-Bill Program Landscape
- 4 Key On-Bill Program Design Considerations



Motivation:

- Interest in on-bill programs increasing. Review of existing programs necessary to provide context & insight to new programs.

Objective:

- Provide updated review of current experience w/ on-bill and offer actionable insights on key program design considerations.

Approach:

- Review previous studies & literature
- Collect data on 30 programs with detailed case studies on 13 programs



Activity:

- As of January 2014, on-bill operating in at least 25 states
- Multiple on-bill programs operating for several decades
- The 30 on-bill programs in report delivered over \$1.8 billion to over 200,000 participating consumers

Performance:

- Lifetime default rates for residential programs in the study ranged from 0%-3% (median 0.08%)
- Lifetime default rates for non-residential programs in the study ranged from 0.6%-2.9% (median 0.9%)

Concentration:

- Approximately 90% of historic on-bill activity accounted for by just 5 initiatives

4 Key Program Design Considerations

**Where Does the \$\$
Come From?**

Who is Eligible?

**How is the Product
Structured?**

**What Can
Participants
Finance?**

4 Key Program Design Considerations

Where Does the \$\$
Come From?

Who is Eligible?

How is the Product
Structured?

What Can
Participants
Finance?

Where Does the \$\$ Come From?

On-Bill Financing (OBF).

Taxpayer, Utility or Ratepayer Capital

On-Bill Repayment (OBR)

Non-Utility Investor Capital

Several OBR Variations;

1. Warehousing Model
2. Up-Front Capital Raise Model
3. Open-Market Model

4 Key Program Design Considerations

Where Does the \$\$
Come From?

Who is Eligible?

How is the Product
Structured?

What Can
Participants
Finance?

How is the Product Structured?

Line Item Billing

No threat of disconnection, not attached to the utility meter

Loan with Disconnection

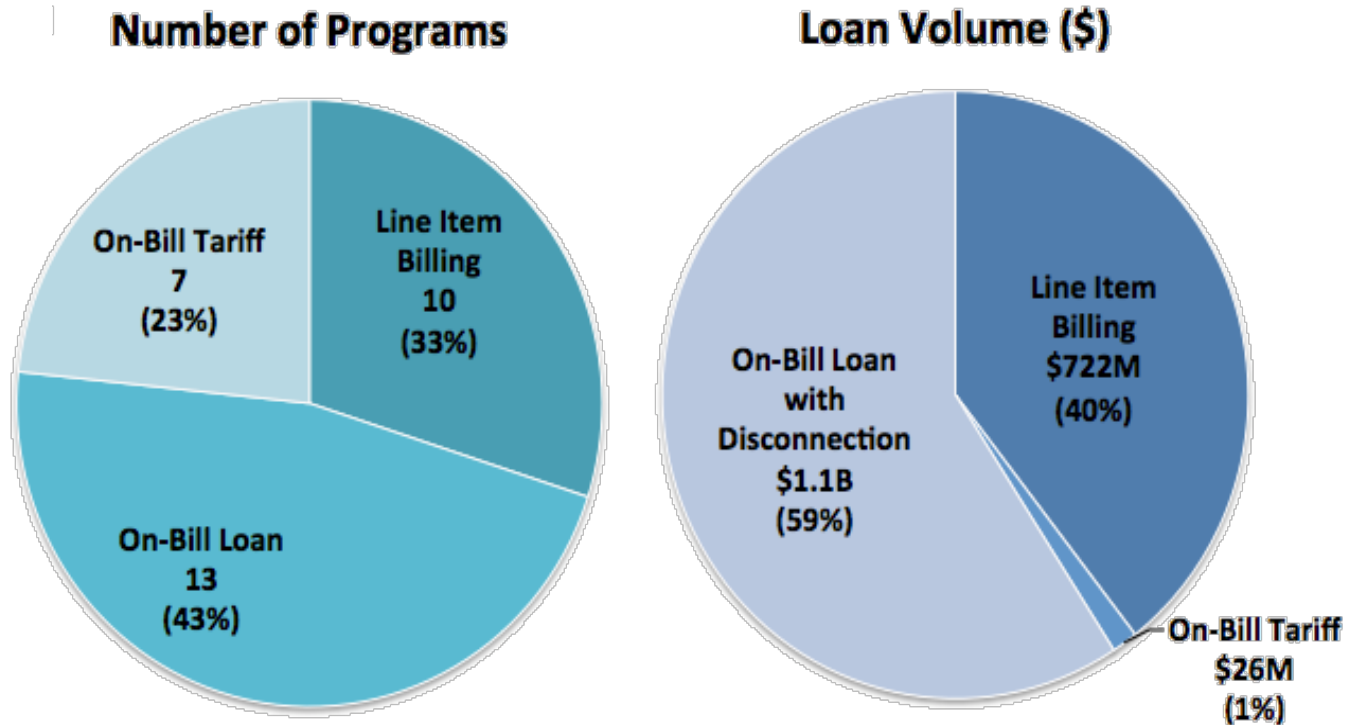
Disconnection permitted, not attached to the utility meter

On-Bill Tariff

Disconnection permitted, attached to the utility meter.

How is the Product Structured?

- Among the 30 on-bill programs, ten offer line-item billing, 13 offer on-bill loans and seven offer on-bill tariffs (left)
- Nearly all on-bill volume (99 percent by dollar volume) has taken place through programs using on-bill loans or line item billing (right)



4 Key Program Design Considerations

Where Does the \$\$
Come From?

Who is Eligible?

How is the Product
Structured?

What Can
Participants
Finance?

Who is Eligible?

Traditional Underwriting Standards

- Example: Min 640 FICO, Max 50% DTI

Expanded Underwriting Standards

- Example: Min 600 FICO, Max 70% DTI

Alternative Underwriting Standards

- Example: Strong Utility Bill Payment History

Hybrid Underwriting Standards

- Example: Min 600 FICO, Strong Utility Bill Repayment History

Who is Eligible?

Residential On-Bill Programs

Underwriting Criteria (n=21)	Median and Range of Application Decline Rates (n=15)	Median and Range of Participant Default Rates (n=15)
Traditional Underwriting (n=1)	49%	0%
Expanded Underwriting (n=3)	25% (n=1)	3% (n=1)
Hybrid Underwriting (n=8)	4%-33% (median 10%)	0%-0.9% (n=7)
Alternative Underwriting (n=9)	2%-25% (median 6%) (n=5)	0%-0.9% (n=6)

4 Key Program Design Considerations

How is the Product Structured?

Who is Eligible?

Where Does the \$\$ Come From?

What Can Participants Finance?

What Can Participants Finance?

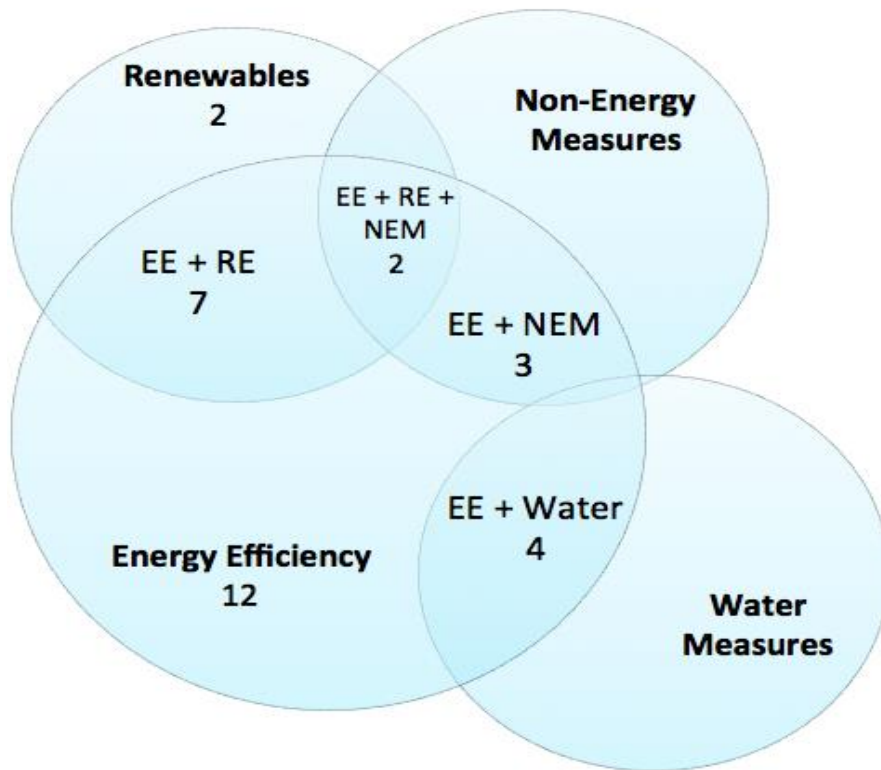
Types of Measures (e.g., EE/RE)

Single Measure v Comprehensive Upgrades

Utility Bill Impacts (e.g., bill neutrality)

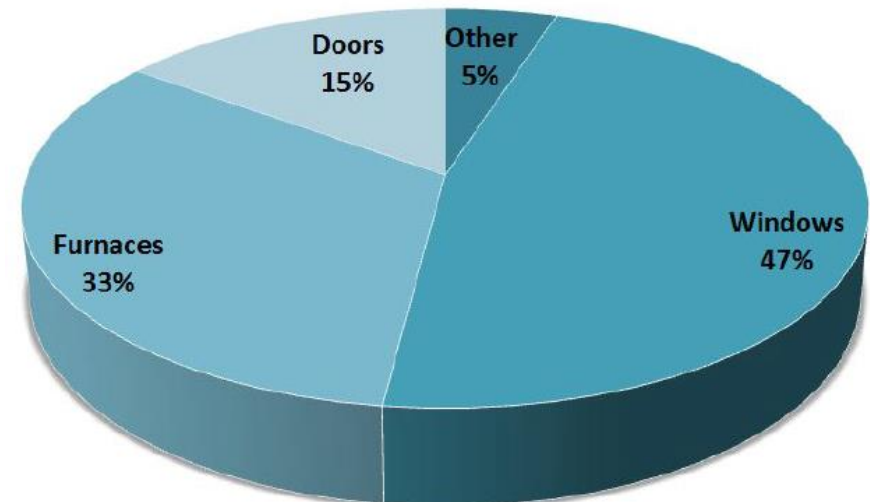
Program Trends & Key Findings

Types of Measures



Single Measure v. Comprehensive

Measures Financed in Manitoba Hydro's Power Smart Residential Loan Program



Note: "Other" includes multi-measure improvements. All other improvements involve only a single measure

Summary of Key Program Design Considerations

**Where Does the \$\$
Come From?**

Who is Eligible?

**How is the Product
Structured?**

**What Can
Participants
Finance?**

Download the Report Here:

<https://www4.eere.energy.gov/seeaction/publication/financing-energy-improvements-utility-bills-market-updates-and-key-program-design>

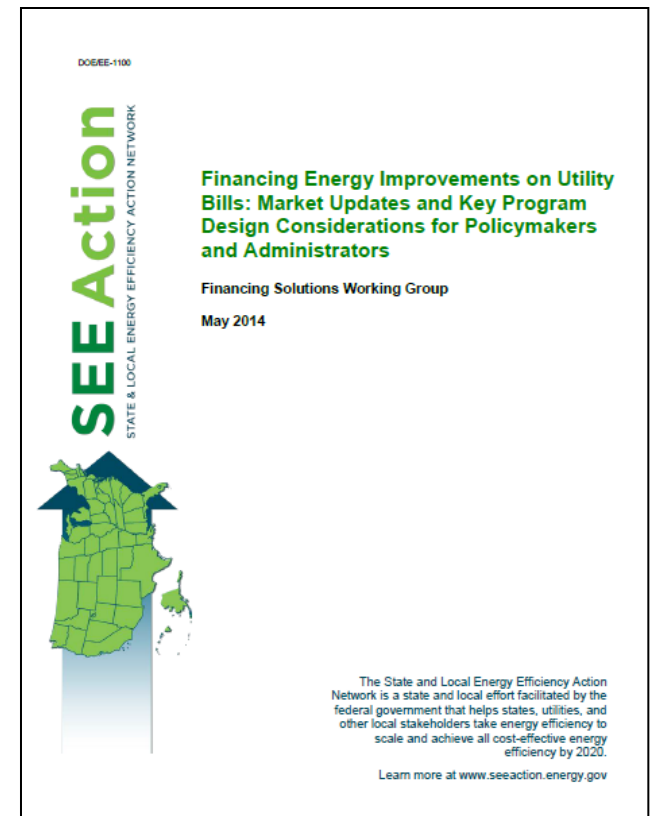
Separate Downloads Available For:

- 16 Page Executive Summary
- 13 Detailed Case Studies, including on the UK's Green Deal

DOE State and Local Solution Center:

<http://energy.gov/eere/wipo/financing-solutions>

Sign up for SEE Action alerts and explore other guidance documents at: www.seeaction.energy.gov



Thank you



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Find the report at:
<https://www4.eere.energy.gov/seeaction/publication/financing-energy-improvements-utility-bills-market-updates-and-key-program-design>



EESI

Environmental and
Energy Study Institute

For more
information:

www.eesi.org/OBF

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Cross

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202-662-1883

On-Bill Financing Project Assistance

EESI is a nonprofit organization providing free assistance to co-ops and public utilities looking to implement on-bill financing (OBF) projects

EESI's project team can:

- Share firsthand experience and lessons learned from South Carolina co-ops' OBF pilot
- Conduct a needs assessment to determine if OBF is a good fit for the utility and its member-customers
- Identify additional resources and coordinate with stakeholders overcome barriers to help get projects off the ground
- Assist utilities to design a project that fits their needs
- Help utilities navigate the EECLP application process
- Assist utilities to implement and troubleshoot their projects

Questions?

Thank you!

- Email us at SE@ee.doe.gov
- Copies of the presentations may be found here www.energy.gov/rpsc
- Recordings of the webinars will soon be posted here:
<https://www.youtube.com/user/USdepartmentofenergy>

Join us for the final webinar:

- **Solar Program Overview** – Thursday, Jan 22nd 3:00pmET
Register here: <https://www1.gotomeeting.com/register/493276257>



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