On-Bill Financing and Beneficial Electrification for Rural Electric Cooperatives

NAACP RURAL ELECTRIC CO-OP CONVENING

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ENVIRONMENTAL AND ENERGY STUDY INSTITUTE

ABOUT US

01 NON-PROFIT
Founded in 1984 by a bipartisan Congressional caucus as an independent non-profit organization (but receives no federal funding)

02 NON-PARTISAN
Source of non-partisan information on energy and environment policy development

03 DIRECT ASSISTANCE
In addition to policy work, EESI provides direct assistance to utilities to develop “on-bill financing” programs
ON-BILL INFORMATION
FINANCING, REPAYMENT, TARIFF

USDA RURAL ENERGY SAVINGS PROGRAM
(RESP)

BENEFICIAL ELECTRIFICATION
ON-BILL FINANCING

01 Utilities finance energy/water improvements to customers’ homes (or facilitate 3rd party financing)

02 Loans (or tariff charges) are repaid on the customer’s monthly utility bill

03 Payments are partially/completely offset by savings from the financed improvements

04 At least 75 Co-ops in 21 states offer OBF in some form, with many variations
ON-BILL FINANCING
SIMPLE OBF MODEL

UTILITY
PAYS CONTRACTOR

CONTRACTOR
MAKES ENERGY
IMPROVEMENTS TO HOME

UTILITY
CUSTOMER

REPAY OVER TIME AS PART OF UTILITY BILL

*Utility may partner with a bank or other lender to directly pay for the energy updates. The utility then “passes on” the payments to the lender.
ON-BILL FINANCING
EXPANDING ACCESS WITH OBF

01 OBF PROGRAMS FEATURE
- No upfront costs to participants
- Alternative loan underwriting
  (i.e. good bill payment history in lieu of credit check)

02 LOW DEFAULT RATES
Loan default rates are typically low, even with alternative underwriting

03 GIVING OPPORTUNITY
Gives cash-strapped and credit-poor households a better opportunity to access energy savings

04 BENEFITS
Provides a wide range of benefits
ON-BILL FINANCING
OPPORTUNITIES + CHALLENGES

01 ON-BILL OPPORTUNITIES

- Reduce barriers to clean energy programs
- Deeper energy savings
- Low risk defaults
- Improved utility-customer relationships

02 ON-BILL CHALLENGES

- Where does capital come from?
- Utility capacity
- Contractors
- “We don’t want to be a bank”
ON-BILL FINANCING

SOUTH CAROLINA CO-OPS

ON-GOING OBF PROGRAM

- 2012-Present
- 5 Co-ops, around 750 homes
- Loan pool from additional USDA REDLG and RESP loans

OBF PILOT

- 2011-2012
- 8 Co-ops, 125 homes
- Loan pool from USDA REDLG loans
- 34% energy savings

- Tariff program: loan is tied to the meter, not the occupant
- Participants need good bill payment history (no credit checks)
### ON-BILL FINANCING

#### AVERAGE HELP MY HOUSE HOME

<table>
<thead>
<tr>
<th>ANNUAL ENERGY SAVINGS</th>
<th>ANNUAL LOAN REPAYMENT</th>
<th>ANNUAL NET SAVINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,157</td>
<td>$869</td>
<td>$288</td>
</tr>
</tbody>
</table>

All values are per home averages for a typical meteorological year.
ON-BILL TARIFF PROGRAM
OPALCO (WA) SWITCH UP

01 BENEFICIAL ELECTRIFICATION FINANCING
- Air-source heat pumps: ducted and ductless
- Heat pump water heaters
- EV charging stations

02 REPAYMENT ATTACHED TO THE METER

03 BILL PAYMENT HISTORY

04 CAPITAL: $5.7M RESP NO-INTEREST LOAN

05 80 PROJECTS PER YEAR;
LAUNCH: EARLY 2Q 2019
ON-BILL TARIFF PROGRAM
HOLY CROSS ENERGY (CO)

01 BENEFICIAL ELECTRIFICATION FINANCING
- Space and water heating conversions
- Whole-house energy efficient retrofits
- Solar PV and battery storage devices
- EV charging stations

02 REPAYMENT TIED TO THE METER

03 BILL PAYMENT HISTORY

04 CAPITAL: $11M RESP ZERO-INTEREST LOAN

05 100 PROJECTS PER YEAR;
LAUNCH: LATE 3Q 2019
ON-BILL FINANCING
WHERE’S THE CAPITAL

01 USDA LOAN PROGRAMS FOR RURAL UTILITIES

- Energy Efficient + Conservation Loan Programs (EECLP)
- Rural Energy Savings Programs (RESP)
- Rural Economic development Loan + Grant (REDLG) Program

02 COOPERATIVE BANKS

03 CREDIT UNIONS

04 COMMUNITY DEVELOPMENT FINANCE INSTITUTE (CDFIs)

05 UTILITY INTERNAL FUNDS

06 LARGE PRIVATE LENDERS?
EESI OFFERS NO-COST ASSISTANCE

- Assistance to utilities to design OBF programs and access funding
- Details, case studies, and lessons learned from other working OBF programs
- Resource identification, help overcoming barriers to launching projects
- Advice on program implementation
- OBF Primer and OBF How-to-Guide
ABOUT RESP

- Authorized by Congress in 2010; introduced by Rep. James Clyburn (D-SC)
- Passed as part of 2014 Farm Bill; reauthorized in 2018 Farm Bill
- Up to $75 million authority for credit subsidy leverages millions in loans
- $100M in zero-interest loans available to rural utilities to support EE financing programs
- Additional funding available in FY’19
USDA RESP
RESP ELIGIBLE MEASURES

- **WHOLE-HOUSE** ENERGY EFFICIENCY RETROITS
- **HVAC** SYSTEMS
- **WATER** HEATERS
- **PROPERTY-ATTACHED** APPLIANCES
- **WATER + WASTE EFFICIENCY** IMPROVEMENTS
- **FUEL SWITCHING** PROJECTS
- **PERMANENTLY-INSTALLED** ENERGY STORAGE DEVICES
- **ON- AND OFF-GRID** RENEWABLE ENERGY SYSTEMS
- **ELECTRIC CHARGING** STATIONS
- **REPLACED MANUFACTURED HOUSING**
<table>
<thead>
<tr>
<th><strong>Total Funding</strong></th>
<th>~ $100M per year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eligibility</strong></td>
<td>Entities that provide electric service to rural areas</td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td>To help rural families &amp; rural small businesses reduce energy costs or consumption</td>
</tr>
<tr>
<td><strong>Interest Rate</strong></td>
<td>0%</td>
</tr>
<tr>
<td><strong>Maximum Loan size</strong></td>
<td>Not specified: largest to-date to single utility is $11M</td>
</tr>
<tr>
<td><strong>Mark-up to end user</strong></td>
<td>Capped at 5%</td>
</tr>
<tr>
<td><strong>Loan term</strong></td>
<td>Up to 20 years</td>
</tr>
<tr>
<td><strong>Acceptable financial structures/ investments</strong></td>
<td>Re-lending such as on-bill financing, tariff charge, PACE programs, traditional consumer loans</td>
</tr>
</tbody>
</table>

Application window currently open for $100M!

*Source: USDA Rural Utilities Service*
<table>
<thead>
<tr>
<th>State</th>
<th>Borrower</th>
<th>Amount</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohio</td>
<td>Northeast Ohio Public Energy Council</td>
<td>$1 million</td>
<td>Energy Efficiency</td>
</tr>
<tr>
<td>South Carolina</td>
<td>KW Savings (7 co-ops)</td>
<td>$13 million</td>
<td>Energy Efficiency</td>
</tr>
<tr>
<td>Washington</td>
<td>Orcas Power &amp; Light Cooperative</td>
<td>$5.8 million</td>
<td>All</td>
</tr>
<tr>
<td>Virginia</td>
<td>BARC Electric</td>
<td>$1.77 million</td>
<td>Solar</td>
</tr>
<tr>
<td>Arkansas</td>
<td>Ouachita Electric Cooperative</td>
<td>$8 million</td>
<td>All</td>
</tr>
<tr>
<td>Arkansas</td>
<td>Woodruff Electric Cooperative</td>
<td>$1 million</td>
<td>Energy Efficiency</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>Adams-Columbia Electric Cooperative</td>
<td>$1 million</td>
<td>Energy Efficiency</td>
</tr>
<tr>
<td>North Carolina</td>
<td>Pee Dee Electric Membership Corporation</td>
<td>$.2 million</td>
<td>Energy Efficiency</td>
</tr>
<tr>
<td>Colorado</td>
<td>Holy Cross Energy</td>
<td>$11 million</td>
<td>All</td>
</tr>
<tr>
<td>Colorado</td>
<td>Highline Electric Association</td>
<td>$.5 million</td>
<td>Solar &amp; Energy Efficiency</td>
</tr>
<tr>
<td>Arkansas</td>
<td>Southwest Arkansas Electric Cooperative</td>
<td>$1 million</td>
<td>Energy Efficiency</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Appalachian Electric Cooperative</td>
<td>$5 million</td>
<td>Energy Efficiency</td>
</tr>
<tr>
<td>Oregon</td>
<td>Umatilla Electric Cooperative</td>
<td>$1.5 million</td>
<td>Energy Efficiency</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$51 million</strong></td>
<td></td>
</tr>
</tbody>
</table>

*All: Energy Efficiency, solar PV, energy storage, EV charging stations*
Beneficial Electrification is the process of switching from another fuel source to electricity in order to benefit:

- The energy user
- The co-op/utility
- The environment

**EXAMPLES**

- Propane or oil heated homes to electric heat pumps
- Gasoline or diesel vehicles to electric vehicles
- Community storage with electric water heaters
SPECIFIC ACTIONS

- Electrify as much as possible while cleaning the grid
- Focus first on measures that save people money
- More electricity use is okay. It reduces overall carbon emissions – let’s strike a grand bargain with electric utilities
David Ranallo: We believe electricity is a smart choice- Beneficial electrification. We’re making history w/ this #ElectricSchoolBus

BENEFICIAL ELECTRIFICATION
WHY NOW

- Grid is becoming greener
- Many electric utilities are seeing flat growth and thinking towards the future
- Need to avoid sunk investments in carbon infrastructure
- Technical innovations in end-use electric equipment
BENEFICIAL ELECTRIFICATION STRATEGIES

01 Air-source heat pumps
02 Ductless heat pumps or mini split heat pumps
03 Grid-connected water heaters
04 Financing electric vehicle charging stations
BENEFICIAL ELECTRIFICATION

QUALIFYING THE BENEFITS IN ONE HOME

A $14,000 Home Retrofit
Propane heat and hot water converted to electric (plus some insulation and air sealing)

Source: Collaborative Efficiency analysis (funded by EESI)
EESI OFFERS NO-COST ASSISTANCE

- Provide utilities as assessment on potential for beneficial electrification program
- Assistance in program design
- Can help blend on-bill financing into a beneficial electrification program
The U.S. Department of Agriculture has recently announced an additional $100 million in funding available nationally for the [RESP]. I hope cooperatives and other utilities across the country will look to the model here in South Carolina for lowering energy costs for consumers, reducing electricity consumption to help the environment, and creating jobs in rural communities.”

REP. JIM CLYBURN
(D-SC) OCTOBER 2018
THANK YOU