CDFIs and Utility Company Partnerships

How$martKY™ partners with rural electric co-ops for On-bill financing of residential retrofits

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Executive Vice President
MACED
Berea, KY
What is How$martKY?

On-bill financing program

Energy savings
pay for retrofits
What is How$martKY?

Investment in the electric meter
Not a personal loan
Does not affect the participating customer’s credit
Usually starts with a high bill complaint

Co-op determines the customer is eligible

Audit is performed on the house
Blower Door Test
Create the Conservation Plan

- Determine if the house is suitable
- Identify measures
- Estimate costs
Conservation Plan

The retrofit payment cannot exceed 90% of the projected savings.

Payback in 15 years or less.
#### Example 1

**Single-story home with improperly sized Heat Pump receiving additional insulation & air sealing**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Improvements</td>
<td>$12,067</td>
</tr>
<tr>
<td>Rebates &amp; Incentives</td>
<td>$10,067</td>
</tr>
<tr>
<td>Rebates &amp; Incentives minus $2,000</td>
<td>$10,067</td>
</tr>
<tr>
<td>Rebates &amp; Incentives plus 5%</td>
<td>$10,570</td>
</tr>
<tr>
<td>@ 3% over 15 yrs</td>
<td>$73/mo</td>
</tr>
<tr>
<td>Avg. reduction</td>
<td>$103/mo</td>
</tr>
<tr>
<td>Fixed charge</td>
<td>$73/mo</td>
</tr>
<tr>
<td>Immediate savings</td>
<td>$30/mo</td>
</tr>
</tbody>
</table>

*Fixed charge*: $73/mo

*Immediate savings*: $30/mo

*Avg. reduction*: $103/mo
Example 2

**Double Wide Mobile Home with Electric Furnace**

Replaced with an Energy Efficient Heat Pump

<table>
<thead>
<tr>
<th>Cost of Improvements</th>
<th>Rebates &amp; Incentives</th>
<th>Total Savings @ 3% over 15 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>$7,350</td>
<td>$5,380</td>
<td>$5,649</td>
</tr>
<tr>
<td>-1,970</td>
<td>+ 5%</td>
<td></td>
</tr>
<tr>
<td>$5,380</td>
<td></td>
<td>= $39/mo</td>
</tr>
</tbody>
</table>

- $51/mo Avg. reduction
- $39/mo Fixed charge
- $12/mo Immediate savings
Retrofit completed

Test out

Monitor actual savings
Comparison Results - Single Family Home

Estimated Savings: $44
Actual Average Monthly Savings: $52
On-bill Financing Charge: $22
Weather Normalized Savings of: 31%
Comparison Results - Double Wide Home

Estimated Savings: $55
Actual Average Monthly Savings: $146
On-bill Financing Charge: $30
Weather Normalized Savings: 69%
kWh Savings & Behavioral Change

Estimated Savings: $25
Actual Average Monthly Savings: $35
On-bill Financing Charge: $18
Weather Normalized Savings: 28%
1. MACED lends money to the co-op

2. Co-op pays the contractor

3. Customer saves money on their bill

4. Customer pays charge on bill

5. Co-op repays MACED
The Four Rural Electric Co-Ops Involved in the Pilot

Electric Distribution Service Areas

- PSC Regulated Rural Electric Utilities
  - Big Sandy RECC
  - Blue Grass Energy Cooperative
  - Clark Energy Cooperative
  - Cumberland Valley Electric
  - Farmers RECC
  - Fleming-Mason Energy Cooperative
  - Grayson RECC
  - Inter-County Energy Cooperative
  - Jackson Energy Cooperative
  - Jackson Purchase Energy Corporation
  - Kenergy Corporation
  - Licking Valley RECC
  - Meade County RECC
  - Nolin RECC
  - Owen Electric Cooperative
  - Salt River Electric Cooperative
  - Shelby Energy Cooperative
  - Todd Kentucky RECC
  - Taylor County RECC

- PSC Regulated Investor Owned Utilities
  - American Electric Power (AEP)
  - Duke Energy Kentucky, Inc.
  - Kentucky Utilities Company (KU)
  - Louisville Gas and Electric Company (LG&E)

- Multi-Service Areas
  - Jackson Energy Cooperative & KU
  - Meade County RECC & LG&E
  - Municipal Utilities
  - County Boundaries

TVA Regulated Utilities

- Holman-Fulton Counties RECC
- Pennyville RECC
- Tri-County REMC
- Warren RECC
- TVA West Kentucky RECC

Kentucky has 15 municipal systems serving over 300,000 customers. Twelve of these are provided wholesale power by the Tennessee Valley Authority (TVA) and are regulated by them. The others are self-regulated by the municipality. The boundaries for the municipal systems are either derived from the Public Service Commission’s certified territory maps, or from boundaries submitted for informational purposes to the PSC from the municipalities. If the municipal service area boundaries were unknown, a circle was placed around the uncharted areas.

The electric service areas are compiled from certified territory maps on file with the Public Service Commission. These are legal documents which define the legal service area of electric suppliers regulated by the Commission (Kentucky statute 278:2-27). The legal certified territory boundaries are drafted on 1:24,000 USGS topographic maps, and can be assumed to have an accuracy of 100 feet. This map, which was compiled from the data, is for informational purposes only, and the boundaries are approximate.
Challenges in the Pilot Program

- Developing partnerships with the Rural Electric Co-ops
- Public Service Commission approval for the Pilot took 18 months
- Co-ops were slow to start
- Concerns about risk and loss
- Establishing systems
Beyond the Pilot Program

• Problem solving for 2.0:
  Risk mitigation (system improvements and RMF)
  Program revenue
  Ongoing co-op participation

• Permanent tariff approval by PSC took 10 months

• PSC application template for new co-ops to use
Risk Mitigation Fund

- $50,000 from DEDi
- 4% from each retrofit
- Co-ops recover losses

Risks Mitigation Fund
House becomes vacant, Co-op pays interest only

Customer moves in, resumes payments

House remains vacant for 24 months

Co-op recovers interest paid from RMF

Co-op pays balance due to MACED, recovers loss from RMF
Program Stats

- Average cost per retrofit: $8000
- Average annual savings: 5500 kWh
- Average monthly savings: $40
- Average monthly charge: $52
### Status Report: August 31, 2014

<table>
<thead>
<tr>
<th>Status To Date</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>In Process</td>
<td>21</td>
</tr>
<tr>
<td>Completed Retrofits</td>
<td>166</td>
</tr>
</tbody>
</table>

324 Energy Assessments have been completed.

More than $1.2 million invested in retrofits.
The Next Phase of How$martKY

- Permanent tariff approved in August 2013
- Recruiting additional co-ops
- Expanding the program to scale
Challenges Going Forward

• Expanding participation of the distribution co-ops and uptake by the members to get to scale

• Reducing transaction costs

• Developing the pool of contractors who can take on a bigger share of the work

• Establishing revenue structures to sustain the program as it grows (fixed and variable costs)
Sources of Funding: Pilot

- Philanthropic Resources
- Government Grants
- Interest and Fees Paid by Customers
Sources of Funding: Current Program

- Philanthropic Resources
- Government Grants
- Interest and Fees paid by Customers
- Distribution Co-ops (Including DEDI subsidies)
For more information contact: www.maced.org
CDFIs and Utility Company Partnerships

Kevin Porter
VP of Lending
Connecticut Housing Investment Fund, Inc.

October 15, 2014

About CHIF – History

- 501 (c) 3 organization founded in 1968 to address housing segregation issues in Hartford, Connecticut, have since grown to provide many housing-related programs
- Treasury-certified CDFI (1993)
- Statewide lender and loan servicer
- Technical Assistance provided in a number of ways to borrowers, developers, municipalities and state agencies
- Provided over $170MM in financing, leveraging $320MM+
- 27,000+ loans closed
- Currently service 15,000+ loans ($240 million in balances)
- 33,500+ units created, preserved, purchased or renovated
About CHIF – Products/Services

Energy Efficiency Lending
- State of CT Energy Conservation Loan (ECL) and Multi-family Energy Conservation Loan (MEL)
  - Income-targeted loan programs started by Utilities in 1979
  - Shifted to state bonding with companies paying net bond interest bond
  - $12M last five years, $2.5M/year; volume limited to bonding approvals

- Home Energy Solutions (HES) Residential Financing
  - As of June 2011, CHIF was selected to administer this program, an energy efficiency program offered by Connecticut Light & Power (CL&P) and United Illuminating (UI), state’s two largest electric utilities, in partnership with their three natural gas subs.
  - CHIF originates these loans for both utilities and services CL&P’s loans.

- Low-Income Multi-family Energy (LIME) Loan
  - Launched in 2013 with OFN/BoFA, CDFI Fund and state funding support

Other Housing Lending
- Pre-dev, bridge, construction and permanent financing to facilitate neighborhood stabilization and the development/operation of affordable/workforce housing

Loan Servicing
- Servicing for municipalities, non-profits, state agencies

Utility/Energy Environment in Connecticut
- ~3.6MM people in ~1.6MM housing units; urban poverty (mostly renters)/suburban wealth (mostly homeowners)
- Densely populated, but relatively low nat gas penetration rates
- Robust public policy goals and efforts around energy efficiency and renewables
Utility/Energy Environment in Connecticut (cont.)

- **2007 ruling:** IOUs required to establish a residential revolving loan fund with on-bill repayment feature
  - 2010: Rolled out as a pilot
  - 2011: Cost effectiveness standards; program “self-funded” with $6MM of CL&P ratepayer funds, then another $5.5MM (granted to CHIF’s affiliate, CT Energy Efficiency Finance Co. “CEEFCo”)

- **PA 11-80:** established DEEP, CT Green Bank (f/k/a CEFIA), goal of weatherizing 80% of the state’s housing stock by 2020; EnergizeCT; gas conversion, distribution expansion goals; move from subsidy to private capital

Home Energy Solutions (HES) Residential Financing

Transitioned from a pilot to program (another lender) to CHIF in June, 2011. CHIF granted $11.5MM in ratepayer funds (CL&P) for program admin, IRB, LLR and servicing; loans bought on a flow basis with shareholder and ratepayer capital (UI)

- Proof of concept: Residential energy efficiency lending and on-bill repayment
- Build capacity (both internally and externally - statewide data collection, program management, contractor network, marketing, etc.)
- CHIF goal of segmenting market to focus on LMI/credit challenged homeowners
  - Launched 0% micro loan based on utility pay history underwrite
  - Leveraging relationships with utility companies to bring in other resources
Great Needs/Opportunities in Connecticut’s Multi-family Market

- Leverage and build off of existing HES-IE resources – rebates and processes are available to assist lower-income households; financing can stretch these resources to have greater impact and reach more people
- Provide financing to property owners who lack capital to make energy improvements
- “Low-hanging fruit” – affordable multi-family properties are often less efficient than market-rate and high-end rental housing
- Health and Safety – financing can include other home improvements funded by net energy savings
- Economic development impact – It is estimated that CT residents spend $1.6 billion a year on fuel oil, of which about 78% leaves the state; reducing this amount through energy efficiency can leave more $ to circulate in the local economy, create jobs and pay local taxes
- Higher economic impact for vulnerable households – lower-income households have less disposable income and savings; every dollar reduction in energy expenses more impactful to these households (who are more likely to spend in the local economy than higher-income households, who are more likely to save)

Great Needs/Opportunities in Connecticut’s Multi-family Market (cont.)

- High access to natural gas infrastructure - high concentration in urban areas, high energy savings potential
- Frequently older properties needing improvements - blends well with general renovation projects, leverages other project financing
- Cash flow benefits - Permanent financing - shares net energy savings with property owners; bridging requisitions - assures contractor payments are timely, allowing smaller contracting firms to compete, helps scale production, cost can be financed.
- Provides critical project capital – Especially for Housing Authorities (HAs) due to their legal structure and regulatory requirements, typical debt financing frequently not possible for HAs, HAs lack capital for non-rebated costs,
- Mitigate air quality issues in low-income communities – low-income communities are often disproportionately affected by air pollution; energy efficiency is one step in working for environmental justice
- Deeper and broader measures - Financing can include non-rebated improvements fundable under net energy savings (e.g. health safety)
CHIF Responded to These Needs with Two Multi-family Loan Products

- Short-term **bridge loan/line of credit** to CAP agencies serving as the GC for large-scale energy retrofits
  - Specifically targeted at low-income, multi-family properties
  - Gap the time between project start and receipt of rebates
    - More projects, happier contractors
  - CHIF received permission to set aside $1MM of ratepayer funding previously received for this loan product

- **Permanent financing** – LIME (Low-Income Multi-family Energy) loan to owner/operators of affordable properties
  - Can be unsecured (HUD, CHFA, other multi-family lenders do not want additional liens)
  - Underwritten around projected energy savings
  - Up to 12 year term
  - TA is key – project vetting, energy calculations, M&V
Capitalizing the LIME Loan

- **$4.4MM in total** debt and grants raised
- **$1MM OFN/BofA** debt first in, goal of leveraging other sources
- **CT Green Bank (f/k/a Clean Energy Finance and Investment Authority)** loan of **$1MM plus $300K** in LLR
  - Utility companies pledged support if CT Green Bank funding did not materialize
- **$2.1MM** of state tax credits and CDFI Fund funding

**LIME Loan Sources of Capital**

- OFN/BofA - $1MM
- CT Green Bank - $1.3MM
- CDFI Fund - $1.6MM
- State Housing Tax Credits - $500K
LIME Loan Process

- Property owner/manager completes energy audit with utility-approved vendor
  - Blower door test, unit sampling, etc.

- CHIF/New Ecology/property manager gets buildings uploaded into WegoWise

LIME Loan Process (cont.)

- Utility rebates calculated and shared with CHIF

- New Ecology projects energy savings to be achieved

- CHIF shapes loan based on term, amortization and size that the projected savings can support (1.30X “Energy Savings Coverage Ratio”)
LIME Loan Process (cont.)

- CHIF presents energy savings calculations along with standard underwriting to its Loan Committee
- New Ecology retained for commissioning, optimization once work is underway

LIME Loan Example

- Elderly apartments in Waterbury, owned by local, for-profit investor; long-term financing requested to implement boiler and insulation upgrades and window replacements ($195,000, closed September, 2014).
  - WegoWise identified other areas that could benefit from energy improvements (lighting and water measures); provided additional savings so that loan could be sized to meet the borrower’s needs