Financing Energy Efficiency Improvements Through the Utility Bill

Eleni Pelican
U.S. DOE
New York On-Bill Recovery Financing
Implementation and Scope

• Legislation signed 8/4/2011; Launched early 1/30/11
• Expanded existing Green Jobs-Green New York Financing Program launched Dec 2010
  • Residential unsecured direct-pay Smart Energy consumer loan
  • Small business/NFP and multifamily building participation loans

On-Bill Recovery Financing Borrower Eligibility
  – Residential - limited to property owners – max loan $25,000
  – Small business/not-for-profit - max loan $50,000
  – Borrower must be named on utility account
Program Features

• Statewide program (through 6 IOUs and Long Island Power Authority)
  – Not utility-funded or utility obligation; funded ultimately through capital markets

• Tariff obligation – installment charge treated like utility charges
  – Subject to termination of service and deferred payment arrangements
  – Installment charge subordinated to utility collection of its charges

• Transferrable
  – Prior to sale, seller must provide written notice to purchaser
  – Unless satisfied prior to sale, charge survives changes in ownership
  – Requires filing of a Program Declaration in county/city clerk – not a lien, provides notice

• Eligible Measures
  – Energy efficiency measures (and PV and net-metered technologies effective Mar 2014)
  – Cost effectiveness: Loan installment charge may not exceed 1/12th of energy savings (from all energy fuels)
    – Cost effectiveness for unsecured Smart Energy loan less restrictive – .8 SIR
Program Features (Continued)

• Charge placed on electric utility bill
  • Unless the majority of savings result from gas measures, in which case on gas utility bill

• Fees paid to utilities to fund billing system modifications & costs
  − Allocated $900,000 in federal grant funding
  − $100 per loan to the applicable utility within 30 days of closing
  − 1% of loan amount to the applicable utility within 30 days of closing

• Requires consumer notices
  − Notice prior to closing - states financial and legal obligations of loan and NYSERDA complaint handling procedures
  − Annual utility billing notice - provides amount and duration of remaining installment charges and NYSERDA complaint handling procedures

• Regulatory oversight
  • PSC approval of utility tariffs
  • Participation initially limited to .5% of each utility’s customers
  • PSC can suspend if finding of significant increase in arrears/disconnections directly related to on-bill
Roles and Responsibilities

- **NYSERDA** — program administrator and capital provider
- **Loan Originator (Energy Finance Solutions)** — qualifies applicants for financing based on NYSERDA standards; issues Note to consumers, disburses loan to contractor upon project completion
- **Utility** - billing and collection of on-bill loan installment charges; performs follow up collections in accordance with normal procedures
- **Master Loan Servicer (Concord Servicing Corporation)** — reviews loan origination; weekly data exchange with utilities to initiate loan installment charges and changes; accepts monthly remittances from utilities and tracks loan status
- **Title Company** — performs last owner search and records Program declaration and satisfaction
Residential Loan Terms

- **Loan term** — 5/10/15 yrs – can’t exceed useful life
- **Interest rate** — 3.49% (subject to change)
- **Borrower fees**
  - EFS Lender processing fee $150 (can be financed)
  - NYSERDA also pays loan originator $175 fee funded form interest
## Loan Underwriting Standards

<table>
<thead>
<tr>
<th>Standard</th>
<th>“Tier 1” Loans</th>
<th>“Tier 2” Loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum FICO</td>
<td>640 (680 if self-employed for 2yrs+) (720 if self-employed &lt; 2yrs)</td>
<td>540</td>
</tr>
<tr>
<td>Mortgage payment history</td>
<td>None</td>
<td>Current on all mortgage payments, if any (as reported on credit report), for the past 12 months. No payments more than 60 days late during the past 24 months.</td>
</tr>
<tr>
<td>Max Debt-to-Income Ratio</td>
<td>Up to 50%</td>
<td>Up to 80% for FICO 680+ Up to 75% for FICO 600-679 Up to 70% for FICO 540-599 Up to 100% for LMI consumers (&lt;80%AMI) who received up to 50% subsidy</td>
</tr>
<tr>
<td>Bankruptcy</td>
<td>No bankruptcy, foreclosure, or repossession within last 7 years</td>
<td>No bankruptcy, foreclosure, or repossession within last 2 years</td>
</tr>
<tr>
<td>Judgments</td>
<td>No combined outstanding collections, judgments, charge-offs, or tax liens &gt; $2,500</td>
<td></td>
</tr>
</tbody>
</table>

**Revision history:**

- **1/26/11**: Increased Tier2 DTI to 55%
- **7/21/11**: Increased Tier2 DTI to 70% if FICO 680+; Revised Tier2 bankruptcy history to 5 years
- **10/18/11**: Allowed Tier2 DTI up to 100% for Assisted
- **9/25/12**: If no mortgage history was available, requirement satisfied if current for 9 months on utility payment
- **7/18/14**: Revised min FICO score to 540, eliminated utility payment history, revised DTI limits (up to 80%/75%/70% based on FICO), and shortened bankruptcy history to 2 yrs.
## Loan Underwriting Performance

![Bar chart showing loan underwriting performance over FY 12-13, FY 13-14, and FY 14-15]"}

<table>
<thead>
<tr>
<th>Loan Status</th>
<th>FY 12-13</th>
<th>FY 13-14</th>
<th>FY 14-15</th>
<th>Cumulative%</th>
<th>Cumulative#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved</td>
<td>72.7%</td>
<td>73.1%</td>
<td>82.7%</td>
<td>74.9%</td>
<td>15,045</td>
</tr>
<tr>
<td>Denied</td>
<td>21.0%</td>
<td>20.0%</td>
<td>14.5%</td>
<td>19.6%</td>
<td>3,938</td>
</tr>
<tr>
<td>Denied Tier1, but didn’t pursue Tier2</td>
<td>6.3%</td>
<td>6.9%</td>
<td>2.8%</td>
<td>5.5%</td>
<td>1,102</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>20,085</strong></td>
</tr>
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</table>

### Reason for Denial:

<table>
<thead>
<tr>
<th>Reason</th>
<th>FY 12-13</th>
<th>FY 13-14</th>
<th>FY 14-15</th>
<th>Cumulative%</th>
<th>Cumulative#</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTI</td>
<td>30.9%</td>
<td>38.5%</td>
<td>27.9%</td>
<td>34.7%</td>
<td>1,750</td>
</tr>
<tr>
<td>FICO</td>
<td>37.2%</td>
<td>28.0%</td>
<td>29.4%</td>
<td>29.9%</td>
<td>1,505</td>
</tr>
<tr>
<td>Bankruptcy history</td>
<td>13.0%</td>
<td>12.0%</td>
<td>6.7%</td>
<td>11.9%</td>
<td>601</td>
</tr>
<tr>
<td>Judgments/collections</td>
<td>17.7%</td>
<td>20.7%</td>
<td>33.5%</td>
<td>21.8%</td>
<td>1,098</td>
</tr>
<tr>
<td>Other</td>
<td>1.2%</td>
<td>0.8%</td>
<td>2.4%</td>
<td>1.7%</td>
<td>86</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>5,040</strong></td>
</tr>
</tbody>
</table>
Portfolio Status – Loans Issued through 3/31/2015

<table>
<thead>
<tr>
<th>Loan Type</th>
<th>FY 10-11</th>
<th>FY 11-12</th>
<th>FY 12-13</th>
<th>FY 13-14</th>
<th>FY 14-15</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Bill Recovery</td>
<td>$1,155,23</td>
<td>$10,834,07</td>
<td>$11,348,30</td>
<td>$21,602,31</td>
<td>$30,908,20</td>
<td>$54,748,53</td>
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<tr>
<td>Smart Energy</td>
<td>1</td>
<td>9</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Grand Total</td>
<td>$1,155,23</td>
<td>$10,834,07</td>
<td>$17,451,73</td>
<td>$36,634,65</td>
<td>$85,656,73</td>
<td></td>
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<tr>
<td>Underwriting</td>
<td>Avg FICO</td>
<td>Avg DTI</td>
<td>Loans Issued</td>
<td>Avg Term</td>
<td>Avg Age</td>
<td>Avg Remaining Balance</td>
</tr>
<tr>
<td>--------------</td>
<td>----------</td>
<td>---------</td>
<td>--------------</td>
<td>----------</td>
<td>--------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Tier 1</td>
<td>752</td>
<td>29%</td>
<td>2</td>
<td>160.4</td>
<td>25.3</td>
<td>$75,910,99</td>
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<tr>
<td>Tier 2</td>
<td>709</td>
<td>64%</td>
<td>$9,745,747</td>
<td>168.4</td>
<td>19.8</td>
<td>$85,656,73</td>
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<tr>
<td>Grand Total</td>
<td>747</td>
<td>33%</td>
<td>9</td>
<td>161.3</td>
<td>24.6</td>
<td>$85,656,73</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Loan Type</th>
<th>Avg FICO</th>
<th>Avg DTI</th>
<th>Loans Issued</th>
<th>Avg Term</th>
<th>Avg Age</th>
<th>Avg Remaining Balance</th>
<th>Delinquent Loans</th>
<th>Annual % of Loan Default</th>
<th>% of Loans Charged Off</th>
<th>Annual Chargeoff %</th>
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</thead>
<tbody>
<tr>
<td>On-Bill Recovery</td>
<td>751</td>
<td>33%</td>
<td>3</td>
<td>174.8</td>
<td>18.3</td>
<td>$30,908,20</td>
<td>$28,178,9</td>
<td>8.6%</td>
<td>$372,484</td>
<td>1.2%</td>
</tr>
<tr>
<td>Smart Energy</td>
<td>745</td>
<td>34%</td>
<td>6</td>
<td>154.9</td>
<td>27.6</td>
<td>$85,656,73</td>
<td>$73,496,7</td>
<td>1.6%</td>
<td>$582,665</td>
<td>1.1%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>747</td>
<td>33%</td>
<td>9</td>
<td>161.3</td>
<td>24.6</td>
<td>$85,656,73</td>
<td>$73,496,7</td>
<td>4.3%</td>
<td>$955,149</td>
<td>1.1%</td>
</tr>
</tbody>
</table>
Lessons Learned

- Subordination problematic for secondary markets financing
- Utility deferred payment arrangement and subordination lengthening repayment term
  - 1.4% of loans issued on DPA
- Ownership verification (required to file declaration) results in slower approval process
- Transferability moderately successful
  - 133 loans (5.1%) pre-paid prior to maturity vs. 21 loans (.9%) transferred
- Current cost effectiveness rules slow down approval and limit project eligibility
- Speed of loan and project approval critical
  - Working to improve contractor portal for project/financing approval integration
  - EFS improving loan underwriting – auto decisioning; third-party income estimator for DTI calculation
Contact

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Jeff.Pitkin@nyserda.ny.gov
“No one cares how much you know, until they know how much you care”.

- Theodore Roosevelt
[need]

a condition requiring supply or relief:

Rural Electric Cooperatives serve in 93% of what the USDA defines as “persistent poverty counties.”
to provide what is necessary to accomplish a task; to relieve someone in need, sickness, pain or distress:

Energy cost savings through On bill finance or On bill recovery EE programs HELP enables low income households pay for things like food, medicine, clothing and other basic needs.
- Created/Piloted for Ouachita Electric Coop in 2013
- Has many customizable features
- Leverages 10% Loan Loss Reserve admin by AEO
- Pre/post smart meter data is part of EM&V tool kit
- Trained Coop staff provide 100% on site QC
- Supports a network of trained Service Providers
- HELP Service Providers are certified by RESNET
- RESNET certification provided thru JobWerks
- Designed to scale Nationally
- Turn Key program that is EASY for Coop to offer;
  EASY for Coop member to participate
- HELP’s the families who need EE the most!!

H.E.L.P.
Home Energy Lending Program
Utility Co. Eligibility

- Created for Electric Cooperatives
- Smart Meters in use and/or will be included in program
- Willingness to Share / Monitor *actual* Post HELP “Intervention” Results

Member Eligibility

- Home Owner (loans are not tied to meter- homeowner signs promissory note)
- Renters (renter pays monthly loan amount but landlord must sign promissory note – 6 month “freeze” of loan payment portion when property is vacant
- Good Payment History (as determined by Co-op)
- Pre screened and qualified using cost vs. sq ft analysis (need based)

- Coops are independent!!
- Customizable Features = Participation!
- Boards make the decisions = Participation!
- Pace program growth per budget = Participation!
HELP Features

- Arkansas energy office provides 10% LLR for OBF/OBR
- “Unsecured” low interest loans ranging from 2.5% to 4%
- No disconnect for failure to pay loan
- Length of loan estimated on front end, BUT is recalibrated after 100% QC performed by trained Coop staff
- Ensures that the savings pay for the work being done

Key

- Contractors rewarded for quantifiable results
- Ensures quality work that lasts
- Establishes trust in the market
- Paves the way for word-of-mouth marketing
- Creates demand for program
- HELP’s the demographic of families who need energy efficiency interventions the most
In the southern region, “Core” measures financed include:

- Attic Insulation
- Air Sealing
- Duct Sealing
- Lighting

- Avg. HELP Core Loans are $3,000
- Homes are typically 1500-1700 sq ft
- Avg. estimated payback is 5.5 Years

- Loan amortization is finalized after work is complete. This ensures cash flow is neutral or positive for member going forward
- Each COOP can determine max loan amt and length. HVAC is allowable if Coop desires
Performance

- 75% - 80% Conversion Rates are typical
- 311 Loans as of 5/1
- ZERO Loan Defaults as of 5/1
- 5 AR Coops Offering HELP By End of 2015
- 2 additional AR Coops will offer HELP in 2016

SCALABILITY

- more LLR and/or other loan default risk mitigation
- Expanding HELP Certified Service Provider Network ✓✓
- Smart meter informed EMV Tools further developed ✓✓
- Software Co-Developed with RESNET, EEtility and others ✓✓
Questions?

Thank You!
Tammy Agard
tagard@eetility.com
Better Buildings Summit, May 28, 2015
Energy Efficiency Financing
Frank Spasaro
CALIFORNIA Electric and Gas Utility Service Territories
Energy Efficiency Financing Products: Market Characteristics and Potential

Matthew H. Brown
Harcourt Brown Energy & Finance
November 2010

Matthew.Brown@HarcourtBrown.com
720 246 8847
“Current” EE Finance Programs, CA

» Existing Programs:
  ▪ OBF, since 2006
  ▪ American Recovery and Reinvestment Act (ARRA)
  ▪ California Energy Commission (CEC)
  ▪ Regional Energy Networks (RENS)
  ▪ Property Assessed Clean Energy (PACE)
  ▪ Other EE finance programs (e.g. PowerSaver)

» New Pilots
OBF Program Design: 2013-2014 Program Overview

» Businesses only; easy credit (billing history)
» Customers receive both an OBF loan and a rebate/incentive from an energy efficiency program
» Energy savings covers the loan installment
» **Zero-percent interest, unsecured, non-transferable**
» Minimum loan $5,000
  Maximum $100,000 / $250,000 / $1,000,000
» Monthly loan payment is included on the utility bill
» Loan Default = Meter shut-off
OBF Process (basic steps)

» Customer contacts Utility
» Utility performs credit check / project review
» Loan Agreement issued / signed / release to install
» Project is installed
» Final documents submitted to Utility
» Post-inspection performed
» Adjustment Letter
» Loan Issued
» Billing begins
## OBF Program Data

### California Statewide On Bill Financing Activities by Market Segments

As of December 31, 2014

<table>
<thead>
<tr>
<th></th>
<th>PG&amp;E</th>
<th>SoCal Edison</th>
<th>SDG&amp;E</th>
<th>SoCal Gas</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of Loans</td>
<td>Loan Amt Issued</td>
<td># of Loans</td>
<td>Loan Amt Issued</td>
<td># of Loans</td>
</tr>
<tr>
<td>Agricultural</td>
<td>22</td>
<td>$1,567,769</td>
<td>5</td>
<td>$73,683</td>
<td>10</td>
</tr>
<tr>
<td>Commercial</td>
<td>778</td>
<td>$25,042,003</td>
<td>1,168</td>
<td>$22,042,084</td>
<td>1,128</td>
</tr>
<tr>
<td>Industrial</td>
<td>18</td>
<td>$577,390</td>
<td>54</td>
<td>$1,903,509</td>
<td>77</td>
</tr>
<tr>
<td>Institutional</td>
<td>152</td>
<td>$14,091,433</td>
<td>181</td>
<td>$12,224,863</td>
<td>201</td>
</tr>
<tr>
<td>Multi-Family</td>
<td>1</td>
<td>$48,053</td>
<td>0</td>
<td>$0</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>971</td>
<td>$41,326,648</td>
<td>1,408</td>
<td>$36,244,139</td>
<td>1,418</td>
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</tbody>
</table>
On-Bill Financing (OBF): Lessons Learned

- OBF works! Encourages EE and defaults are low
- Internal support need
- Communication and understanding what OBF is and isn’t
- Working with vendors/contractors
- The up-front funding “gap”
- Comprehensiveness of projects
- Natural gas-only projects
- Government (State and local)
- Credit / risk management
- IT/Billing systems upgrades
- Understanding applicable laws/regulations
On-Bill Financing (OBF): Lessons Learned

» **Advantages**: straightforward; easy to fit with other utility EE programs; inexpensive capital typically; convenience and comfort for borrower; low default rate

» **Disadvantages**: doesn’t leverage ratepayer funds with private funds; ratepayers/utility own the risk; utilities serve as “banks”; utilities may be regulated as banks
EE Financing Pilots

- Regulatory Guidance/Background
- Key Differences: OBF vs. OBR
- Description of Pilots
- Timeline
- Lessons Learned
Regulatory Guidance/Background

» CPUC issued May 2012 “Guidance Decision”:
  • Finance a “resource” program
  • OBF (to go away, or be limited)
  • Established Finance Pilots:
    – “on-bill repayment” programs
    – Allows for Credit Enhancements
    – Funded at $75 million for two years
  • Funded continuation of certain ARRA finance programs

» CPUC Finance Decision (Sept 2013)

» Plus several other Rulings and Resolutions
Finance Pilots – Goals

» Attract private capital to support energy efficiency investments, by leveraging the additional security created through use of the utility bill to service energy efficiency financing

» Improve interest rates and other terms under which financial institutions offer energy efficiency financing to customers

» Enable more customers to qualify for energy efficiency financing than would otherwise be possible, and explore if OBR reduces delinquency/defaults.

“The primary goal of the OBR pilots is to test whether the combined single bill payment can overcome lending barriers in the non-residential sector, and attract large pools of accessible private [i.e. non-governmental, non-utility] capital to the markets.” (CPUC Decision 13-09-044)
## The Pilots – Overview

<table>
<thead>
<tr>
<th>Sector</th>
<th>Pilot Type</th>
<th>Credit Enhancements</th>
<th>On-Bill Repayment</th>
<th>Disconnection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>Single Family</td>
<td>$21 million Loan Loss Reserve</td>
<td>Optional in PG&amp;E territory</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Master Metered Multifamily</td>
<td>$2 million Loan Loss Reserve, Debt Service Reserve</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Non-Residential</td>
<td>Small Business Loan/Lease</td>
<td>$10 million Loan/Lease Loss Reserve</td>
<td>Loans – Yes Leases – Optional</td>
<td>Loans -- Yes OBR Leases -- Yes Off-Bill Leases -- No</td>
</tr>
<tr>
<td></td>
<td>Non-Residential On-Bill Repayment</td>
<td>None</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
California Hub for Energy Efficiency Financing

Data Manager

Master Servicer

Loan/Lease Info and Periodic Reports

Anonymized Data

OBR/EFLIC Billing Information

Account Info and OBR/EFLIC Payment Remittance

IOUs

Energy (and OBR/EFLIC) Payments

Customer

IOUs

Energy (and OBR/EFLIC) Payments

Customer Info

Participating Lenders

Repayment (Non-OBR/Non-EFLIC)

Customer

Project Info

Contractors

Contractors

Trustee

CAEATFA

Loss Reserve Allocation and Claim Instructions

Loss Reserve and DSRF Payments

Participating Lenders

Loan/Lease Enrollment Applications

OBR/EFLIC Payments

Master Servicer

Loan/Lease Info and Periodic Reports

Anonymized Data

OBR/EFLIC Billing Information

Account Info and OBR/EFLIC Payment Remittance

IOUs

Energy (and OBR/EFLIC) Payments

Customer

IOUs

Energy (and OBR/EFLIC) Payments

Customer Info

Participating Lenders

Repayment (Non-OBR/Non-EFLIC)

Customer

Project Info

Utilities
Single Family Loan Program

- Residential Energy Efficiency Lending ("REEL") Program
- Goal: help customers access lower-cost financing for energy efficiency projects by reducing risk to participating lenders
- Available to lenders such as banks, credit unions, CDFIs, and other finance companies
- Provides a loan loss reserve to cover loans for residential (1-4 units) energy efficiency projects such as:
  - Simple appliance or HVAC replacements
  - Comprehensive home energy improvements
- Customers are not required to participate in an IOU efficiency rebate or incentive program
REEL: Key Features

- Loan Loss Reserve:
  - Contribute 11% of principal value to reserve for each enrollment
  - Contribute 20% for low-to-moderate income (LMI) borrowers
  - Reimbursement of up to 90% of charged-off principal, based on lender’s reserve balance
  - $10,000 initial contribution upon first loan enrollment to reduce early stage risk
  - Reserves capped at percentage of the outstanding portfolio

- **No fees** to lenders for participation or access to credit enhancement

- Contractor management system for high-quality projects and customer satisfaction

- Launch in **Q2 2015**
REEL: Eligible Loans and Minimum Underwriting Criteria

- Eligible properties include:
  - Single family homes (1-4 unit properties)
  - Located in the service territory of a California IOU
  - Rental properties allowed with landlord consent
- Loans must be term loans and may not include prepayment penalties
  - No lines of credit or refinancing of existing debt
- Retail installment contracts/dealer loans are eligible
- Maximum loan amount: $50,000 per unit; 35,000* for borrowers with no FICO score, regardless of number of units
- Maximum loan interest rate: 10-year Treasury + 750 bps, as of the first business day of the applicable calendar quarter. The maximum interest rate for the first quarter of 2015 is 9.62%.
- Minimum FICO: 580
- Income verification required for FICOs between 580 and 640
- Maximum debt-to-income: 55%
Loans enrolled with the Program may finance energy efficiency and demand response measures as well as other, related measures as follows:

- Up to 30% of Loan
- At least 70% of Loan
Other Considerations

» Data Requirements
  ▪ Borrower / Loan / Project
» Loan-Loss Reserve structure
» Contractor Management
» Timeline
Finance Pilots: “Lessons Learned”

- The Financial Community is Interested
- OBR is COMPLICATED! Many delays
- “Jury” hasn’t convened:
  - Billing System modifications, $/time/timing
  - Savings potential, still TBD
  - Determining eligible measures, 70-30 rule
  - Marketing, Education & Outreach
  - Contractor Management
  - Program results
  - Data

- Stay tuned!
THANK YOU!

Frank Spasaro (fspasaro@semprautilities.com)