Energy Efficiency Financing 101

• Finance is always a Risk/Reward equation
• Market is very risk averse right now
• Tax credits and rebates are incentives, not financing
# Elements of Energy Efficiency Finance

<table>
<thead>
<tr>
<th>Sources of Capital</th>
<th>Financing Mechanisms</th>
<th>Loan Security</th>
<th>Credit Enhancements</th>
<th>Underwriting Criteria</th>
<th>Means of Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratepayer funds</td>
<td>Personal loan (unsecured)</td>
<td>Unsecured</td>
<td>Interest rate buydowns</td>
<td>Debt-to-income ratio</td>
<td>Revolving or installment loan repayment</td>
</tr>
<tr>
<td>Special state funds (RGGI)</td>
<td>Home equity loan or mortgage (secured)</td>
<td>Utility disconnection</td>
<td>Loan guarantees</td>
<td>Loan-to-value ratio</td>
<td>Lease payment</td>
</tr>
<tr>
<td>State or local govt general revenues</td>
<td>Line of credit (secured/unsecured)</td>
<td>Uniform commercial code fixture filing</td>
<td>Traditional lien on property</td>
<td>Debt service coverage ratio</td>
<td>Property tax bill</td>
</tr>
<tr>
<td>Municipal bonds</td>
<td>Lease</td>
<td>Mechanics lien</td>
<td>Loan loss reserve funds</td>
<td>FICO credit score</td>
<td>Utility bill repayment</td>
</tr>
<tr>
<td>State pension or other investment funds</td>
<td></td>
<td></td>
<td>Tax credits/rebates</td>
<td>Payment history (taxes, utility bills,</td>
<td>Specialized billing (e.g., Energy</td>
</tr>
<tr>
<td>State housing or economic development agency</td>
<td></td>
<td></td>
<td></td>
<td>mortgage, etc.)</td>
<td>Service Agreement bill)</td>
</tr>
<tr>
<td>ARRA (stimulus funding)</td>
<td></td>
<td></td>
<td></td>
<td>Higher borrowing limits for energy</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>efficiency (e.g., EEMs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Energy Efficiency Financing Models

- Energy Savings Performance Contracting (ESPC)
- Energy Services Agreements
- State/Municipal Loan Programs
- Sustainable Energy Utilities
- Carbon Market Funding
- Mortgage-Backed EE Financing
- Preferential Terms for Green/EE Buildings
- Utility On-bill Financing
- Property Assessed Clean Energy (PACE) – Commercial
- Property Assessed Clean Energy (PACE) – Residential
- Unsecured Consumer Loans

Not a uniform market for energy efficiency financing

Varied programs

Different solutions for different situations
Why is commercial financing hard?

• Credit risk
• Unsecured loans
• Transaction costs
• No secondary markets
• Lack of real data / Uncertainty
• Doesn’t fit into existing underwriting criteria
• High upfront capital costs with long payback periods
What makes a project financeable?

- Strong borrower credit
- Understood technology
- Willing partner
- Collateral
- Loan guarantees