Multifamily Affordable Financing Roundtable: Financing Affordable Housing Retrofits

JUNE 8-11
2020 SUMMIT
A Virtual Leadership Symposium

Learn more: betterbuildingssolutioncenter.energy.gov/summit
Agenda

1. Introduction
2. Speaker Presentations and Q & A
3. Breakout Sessions
4. Report out from Breakout Sessions
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Today’s Presenters

Caitlin Rood
Mercy Housing

Jeff Greenberger
Affordable Community Energy Services Company

Karyn Sper
Fannie Mae

Thomas Deyo
Montgomery County Green Bank
Mercy Housing

- One of largest Affordable Housing Nonprofits in US
- Developer, owner, manager
- ~320 owned properties
- ~23,000 units
- ~21 M sf (owned)
- 22 States
- Mostly LIHTC, HUD (Section 202, Section 8), USDA RD
- 2020 BBC Goal Achiever
Barriers

• Objectives
  • Reduce operating expenses
  • 20% energy and water reduction portfolio wide

Financial Barriers

- Capital
- Non-fungible
- Loan Adversity
- Others
- Payback Period
- Split Incentives
- No reinvestment
Breaking Barriers

• No capital investment

ACE
Affordable Community Energy Services
Breaking Barriers

• No capital investment
• Pay from actual savings – performance incentive
Breaking Barriers

- No capital investment
- Pay from actual savings
- Shared savings
Breaking Barriers

- No capital investment
- Pay from actual savings
- Shared savings
- No property loan, lien
Breaking Barriers

• No capital investment
• Pay from actual savings
• Shared savings
• No property loan, lien
• No O&M costs during contract
• Reduced O&M burden on staff
Breaking Barriers

• No capital investment
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• Substantial state & utility subsidies
Breaking Barriers

- No capital investment
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- Reduced O&M burden on staff
- Substantial state & utility subsidies
- Experienced implementation team
Breaking Barriers

- No capital investment
- Pay from actual savings
- Shared savings
- No property loan, lien
- No O&M costs during contract
- Reduced O&M burden on staff
- Substantial state & utility subsidies
- Experienced implementation team
- Proven techniques and technologies
Transparent ESCO

- No capital investment
- Pay from actual savings
- Shared savings
- No property loan, lien
- No O&M costs during contract
- Reduced O&M burden on Mercy staff
- Substantial state & utility subsidies
- Experienced implementation team
- Proven techniques and technologies
- 10-year agreement
- UA adjustments
The Environmental Impact

- Overall energy consumption: 20,500 mmBTU
- 16% reduction
- 2 million pounds of coal burned
- 3 Phases
- 2017 – 2019 Implementation
- 50 properties
- California
- 2 NAA Awards
Q & A
Submit Questions
Zoom Chat
Jeff Greenberger
Affordable Community Energy Services Company

Submit Questions
Zoom Chat
DISCUSSION OUTLINE

1. ACE Overview
2. ACE Model
3. Our Financing Challenges
4. What Are Your Barriers?
Our Value Proposition

• Provide resources, expertise and capital to install:
  • Energy and water retrofits
  • Renewable energy systems
• Use a portfolio-strategy
• Customers receive:
  • Utility and O&M savings
  • New equipment
  • Ongoing maintenance
The Relationship

• Shared savings

• Aligned Interests
  • Open book
  • Constant communication

• No
  • Real estate lien
  • Parental guarantee

THE ACE MODEL
THE FINANCING ROLE ACE PLAYS

ACE stands between its customers and all loan obligations and requirements
WHAT LENDERS TYPICALLY REQUIRE

- Reliable Cash Flow
- Physical Security
- Reliable Customer ("Off-taker")
- Borrower Credit
LENDER’S SOLUTION: REINVESTMENT FUND

- **Cash Flow**
  - Guaranteed reductions (BP)
  - Floor rates (Mercy)

- **Credit**
  - Mercy’s reputation
  - Quality of installer (BP)

- **Security**
  - Waived
We thought that we had solved the financing challenge.

What did we miss?
Q & A

Submit Questions

Zoom Chat
Fannie Mae Green Rewards

Financing energy and water efficiency improvements

June 10, 2020
# The Triple Bottom Line

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Financial</th>
<th>Social</th>
<th>Environmental</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Lower credit risk</td>
<td>• Greater affordability for tenants</td>
<td>• Lower energy use</td>
</tr>
<tr>
<td></td>
<td>• Higher cash flows</td>
<td>• Higher quality, more durable housing</td>
<td>• Lower water use</td>
</tr>
<tr>
<td></td>
<td>• Higher property value</td>
<td>• Healthier housing</td>
<td>• Generate clean energy</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Greater resiliency to natural disasters</td>
</tr>
<tr>
<td>Impact</td>
<td>• Reduce utility bills by $180 million across Green portfolio</td>
<td>• Provide more than 700,000 improved, more comfortable units</td>
<td>• Save 7.8 trillion BTU of energy</td>
</tr>
<tr>
<td></td>
<td>• Save an average of $53,000 in utility costs annually per property</td>
<td>• Save an average of $178 annually on energy and water cost reduction per family</td>
<td>• Reduce CO2eq emissions by more than 525,000 metric tons</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Save 7.7 billion gallons of water</td>
</tr>
</tbody>
</table>

As a result of financing more than $50 billion in Green Mortgage Loans through 2018, Fannie Mae’s portfolio is projected to:
Growth of Fannie Mae Green Financing

Fannie Mae Green Financing has grown to a total of $75 billion in Green MBS Issuance

*Includes one cash loan

Source: Fannie Mae, as of Q4 2019.
Two Paths to Green Financing

Already Green?
Green Building Certification

Benefits:
Preferential Green Pricing

To Qualify:
Property has one of the recognized Green Building Certifications in place by Rate Lock

Making Improvements?
Green Rewards

Benefits:
Preferential Green Pricing
Free Energy and Water Audit
Increased Loan Proceeds

To Qualify:
Choose to implement Green improvements projected to reduce at least 30% combined energy and water, of which a minimum of 15% must be attributable to savings in energy consumption

Execution
Green Mortgage Backed Security
Green Rewards

For properties planning to make energy and water saving improvements at refinance, acquisition or supplemental financing

- Financial Benefits:
  - Preferential pricing reduces the interest rate of most loans
  - Fannie Mae reimburses 100% of cost of High Performance Building (HPB) Report
  - Up to 5% additional loan proceeds available, subject to normal LTV constraints

- No minimum property age or improvement budget
- Cost of improvements escrowed at 100%; must be completed within 12 months

Eligibility

30% Energy + Water savings combined, including a minimum whole-property energy savings of 15%.
High Performance Building (HPB) Report

HPB Report identifies and quantifies energy and water saving opportunities

- Borrower selects final scope of work from list of energy- and water-saving opportunities in HPB Report
- Report is ordered by Lender, completed by an energy auditor, and requires a site visit
- Report can be completed up to 6 months prior to rate lock
- 100% of HPB Report cost is reimbursed by Fannie Mae

<table>
<thead>
<tr>
<th>Sample Improvement Opportunities</th>
<th>Estimated Project Cost</th>
<th>Energy Savings</th>
<th>Water Savings</th>
<th>Projected Owner Annual Cost Savings</th>
<th>Projected Tenant Annual Cost Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Efficiency Lighting in Units and Common Areas</td>
<td>$65,000</td>
<td>6%</td>
<td>-</td>
<td>$6,000</td>
<td>$3,000</td>
</tr>
<tr>
<td>WaterSense Low-flow Bathroom Faucets &amp; Showerheads</td>
<td>$15,000</td>
<td>4%</td>
<td>14%</td>
<td>$18,000</td>
<td></td>
</tr>
<tr>
<td>ENERGY STAR® Smart Thermostats</td>
<td>$50,000</td>
<td>4%</td>
<td>-</td>
<td>$2,000</td>
<td>$4,000</td>
</tr>
<tr>
<td>ENERGY STAR® rated dishwashers</td>
<td>$144,000</td>
<td>3%</td>
<td>2%</td>
<td>$2,000</td>
<td>$3,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$274,000</strong></td>
<td><strong>17%</strong></td>
<td><strong>16%</strong></td>
<td><strong>$26,000</strong></td>
<td><strong>$10,000</strong></td>
</tr>
</tbody>
</table>

- Escrow at 100%
- Save at least 30% energy and water combined, with at least 15% energy savings to be eligible
- Underwrite a portion of projected savings
Extra Loan Proceeds with Green Rewards

Underwrite a portion of projected energy and water cost savings to increase loan amount

• Net Cash Flow may be increased by underwriting a portion of projected cost savings
  • 75% of Owner projected savings
  • 25% of Tenant projected savings, if based on actual (not modeled) tenant data
• Up to 5% additional loan proceeds available, subject to normal LTV constraints

<table>
<thead>
<tr>
<th></th>
<th>Standard Loan</th>
<th>Green Loan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Cash Flow</td>
<td>$805,000</td>
<td>$805,000</td>
</tr>
<tr>
<td>75% of Projected Owner Energy and Water Cost Savings + 25% of Projected Tenant Energy and Water Cost Savings</td>
<td>-</td>
<td>$22,000</td>
</tr>
<tr>
<td>Underwritten Net Cash Flow</td>
<td>$805,000</td>
<td>$827,000</td>
</tr>
<tr>
<td>Maximum Loan Amount</td>
<td>$10,000,000</td>
<td>$10,275,000</td>
</tr>
<tr>
<td>LTV</td>
<td>71%</td>
<td>73%</td>
</tr>
<tr>
<td>DSCR</td>
<td>1.25</td>
<td>1.25</td>
</tr>
<tr>
<td>Green Rewards Additional Loan Proceeds</td>
<td></td>
<td>$275,000</td>
</tr>
</tbody>
</table>
Green Rewards Profile

Property Type
- Market Rate or Affordable properties

Property Age
- 80% of properties with Green Rewards mortgage loans built 1970-2010

Improvement cost
- Median installation cost per unit of $463

Most popular improvements
- High efficiency interior and exterior lighting
- ENERGY STAR® certified learning thermostats
- Green Rewards can be used to support installation of solar photovoltaic systems
- Water Sense certified faucets and showerheads
- Hot water pipe insulation
Q & A

Submit Questions
Zoom Chat
Thomas Deyo
Montgomery County Green Bank

Submit Questions
Zoom Chat
Multifamily Affordable Financing Roundtable:
Financing Affordable Housing Retrofits

Presented at:
Better Buildings Summit
June 10, 2020

Tom Deyo, CEO, Montgomery County Green Bank
Nonprofit Mission-Driven Organization:

- **Chartered By Montgomery County, MD**: Independent, 501(c)3 Corporation.
- **Purpose**: To Accelerate Investment In Energy Efficiency And Renewable Energy In Montgomery County for residents and businesses.
- **Approach**: Partner with lenders to create affordable financing products.
- **Equity**: Includes Focus on Multifamily and Low-Moderate Income Households
Affordable Rental Housing Retrofit Technical Assistance Pilot

**Concept:** Provide technical assistance capacity to support from diagnosis through implementation

- Built on prior work: Connecticut Green Bank, Maryland Dept of Housing and Community Development, and NY City Retrofit Accelerator programs
- Used knowledgeable consultant to perform – New Ecology

**Target Properties:**

- Not LIHTC to reduce capital considerations
- Mid-stream in period before recapitalization
- Utility bills indicated benefit compared to benchmarks
- Limited recent utility-related upgrades
- Interest of owners to participate

Solicited by RFP – 8 submissions from 7 owners; 6 nonprofits
Approach

- ASHRAE LEVEL 1+ - Identified condition and report of possible responses.
- Identified target set of measures that could be undertaken.
- Calculated energy savings.
- Identified utility incentives.
- Crafted a financing strategy supported by energy savings.

Table 3 – Estimated Water and Energy Savings

<table>
<thead>
<tr>
<th>Savings Summary</th>
<th>Estimated Annual Consumption Savings</th>
<th>Estimated Annual Cost Savings ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water: toilet replacement, showerheads</td>
<td>14-19%</td>
<td>$16,600-23,400</td>
</tr>
<tr>
<td>Electricity: exterior &amp; garage lighting, interior common area lighting, apartment lighting, apartment appliances, variable speed drive upgrades to pumps and fans</td>
<td>9-12%</td>
<td>$19,900-$27,300</td>
</tr>
<tr>
<td>Natural Gas: apartment air sealing, monitoring &amp; optimization for heating system, water heaters</td>
<td>8-13%</td>
<td>$6,900-$15,300</td>
</tr>
<tr>
<td>Fuel Oil: monitoring &amp; optimization for heating system</td>
<td>1-5%</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Notes:**
- Electricity savings do not include the Solar PV or Cogeneration recommendations.
- Gas savings do not account for the Ventilation recommendation.
- Per building maintenance staff the boilers operate with fuel oil for approximately one week per year.
Results

1. Prepared plans on various options to undertake
   - Some immediate items that needed attention
   - Longer term implementation, resource and financing plan

2. Presented to owners

3. Decisions to implement in future and build into new plans to refinance or into bigger renovation plans

<table>
<thead>
<tr>
<th>ECM #</th>
<th>Description of Upgrade</th>
<th>Baseline Annual Utility Usage</th>
<th>Site utility cost</th>
<th>Upfront Cost (Excluding Incentive)</th>
<th>Estimated Incentive</th>
<th>Upfront Cost (Including Incentive)</th>
<th>Est. Annual Cost Savings</th>
<th>% Costs Savings</th>
<th>Simple Payback (Including Incentive)</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>Include CHP, remove water heaters</td>
<td>Water Usage 10,561,614 gallons</td>
<td>Water $0.0114/gallon</td>
<td>$5,325 $5,325</td>
<td>$3,812</td>
<td>1%</td>
<td>1.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Replace showerheads</td>
<td>Electric Usage 3,401,664 kWh</td>
<td>Electric $0.135/kWh</td>
<td>$11,165 $11,165</td>
<td>$6,099</td>
<td>1%</td>
<td>1.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Upgrade exterior garage lighting</td>
<td>Gas Usage 100,547 therms</td>
<td>Gas $0.71/therm</td>
<td>$17,468 $17,468</td>
<td>$5,536</td>
<td>1%</td>
<td>3.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Cooling tower fan VFD</td>
<td>Site Energy 16,626 MMBtu</td>
<td>Oil $2.90/gallon</td>
<td>$43,432 $43,432</td>
<td>$14,144</td>
<td>2%</td>
<td>9.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Building loop pump VFD</td>
<td>Total Utility Cost 422,565</td>
<td>Sewer $0.0100</td>
<td>$90,000</td>
<td>$53,000</td>
<td>$9,364</td>
<td>2%</td>
<td>5.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Upgrade common lighting</td>
<td>Total Utility Cost 422,565</td>
<td>Syst.$</td>
<td>$43,603 $43,603</td>
<td>$34,124</td>
<td>1%</td>
<td>11.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Domestic booster pump replacements</td>
<td>Total Utility Cost 422,565</td>
<td>Oil $2.90</td>
<td>$63,900 $63,900</td>
<td>$3,724</td>
<td>1%</td>
<td>17.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Upgrade apt lighting</td>
<td>Total Utility Cost 422,565</td>
<td>Oil $2.90</td>
<td>$63,900 $63,900</td>
<td>$3,724</td>
<td>1%</td>
<td>17.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Replace toilets</td>
<td>Total Utility Cost 422,565</td>
<td>Oil $2.90</td>
<td>$63,900 $63,900</td>
<td>$3,724</td>
<td>1%</td>
<td>17.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>M&amp;O (Heating &amp; DHW)</td>
<td>Total Utility Cost 422,565</td>
<td>Oil $2.90</td>
<td>$63,900 $63,900</td>
<td>$3,724</td>
<td>1%</td>
<td>17.2</td>
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</table>

| Upfront Measures Cost | $613,682 |
| Annual Energy Savings | $82,413 |

Option A - Finance Entire Costs and supplement annual debt service shortfall, if any, from operating budget

Annual Debt Service PMT if financing full cost at terms above ($89,764)

Annual Amount (above) / below Project Savings Needed to cover Debt Service ($7,351)

Option B - Finance ONLY Costs that the Energy Savings Can Cover and Fund Balance of Costs from Reserves

Total Potential Financed Amount at Financing Terms and using Energy Cost Savings ($563,428)

Unfunded Amount of Project Costs to be paid from reserves ($50,254)
Learnings

Owner Value:

- Owners found effort valuable – not something they would undertake independently
- Information offered new insights into property operations and opportunities
- Low/no cost green technical assistance is a good way to get developers to the table and discussing energy efficiency upgrades.

<table>
<thead>
<tr>
<th>Annual Figures</th>
<th>Project Cost</th>
<th>Incentives</th>
<th>Energy Savings</th>
<th>Debt service</th>
<th>Out of pocket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Rise</td>
<td>$209,000</td>
<td>included</td>
<td>$34,000</td>
<td>$30,000</td>
<td>None</td>
</tr>
<tr>
<td>High Rise</td>
<td>$725,000</td>
<td>$111,000</td>
<td>$82,000</td>
<td>$91,000</td>
<td>($9,000)</td>
</tr>
</tbody>
</table>

Ability to Proceed Impediments

- *Tight schedule* – too short of time to decide
- *Not just a financing decision* – property management and system complexity issues
- *Savings not enough to make decision* – needed more free dollars
- *Capacity* - Entity still needs to offer some staff to assignment

Next Stage Considerations

- Perform 18 months prior to recapitalization
- Use to push/support for deeper green features
- Larger set of properties needed for retrofit approach
Contacts:
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tdeyo@mcgreenbank.org

www.mcgreenbank.org

240-453-9000
Q & A

Submit Questions

Zoom Chat
Breakout Session

• Unmute yourself in the breakout room
• Quick round of introductions (name/organization)
• Assign a note taker
Breakout Session Questions

1. a) Which (if any) of the speakers’ financing solutions would potentially work for your organization, or organizations you work with?  
   b) What challenges do you think might stand in their way (state your challenge in the form of a “how to” question, as in, “How do we overcome [the specific challenge]?”

2. a) What could financial institutions and ESCOs do to make it easier for you (or organizations you work with) to do more and deeper retrofits?  
   b) What kinds of financial solutions would you like to see more of?

3. If these kinds of solutions were available, what could you see you and your organization achieving?
<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 8</td>
<td>BEHIND THE METER DISTRIBUTED ENERGY RESOURCES: BEST PRACTICES FOR INTEGRATING DERS INTO COMMERCIAL BUILDINGS</td>
</tr>
<tr>
<td>July 9</td>
<td>PROGRAM DESIGN WITH EVERYONE IN MIND: LOW-INCOME SOLAR PROGRAM STRATEGIES</td>
</tr>
<tr>
<td>July 14</td>
<td>THE DYNAMIC DUO: UNLEASH PUBLIC SECTOR ENERGY SAVINGS WITH FINANCING AND TECHNICAL ASSISTANCE</td>
</tr>
<tr>
<td>July 16</td>
<td>NEXT-GENERATION BUILDING PERFORMANCE POLICIES: MAXIMIZING ENERGY SAVINGS AND ENVIRONMENTAL IMPACTS</td>
</tr>
<tr>
<td>July 21</td>
<td>STRATEGIES TO COMBINE ENERGY + HEALTH UPGRADES IN MULTIFAMILY HOUSING</td>
</tr>
<tr>
<td>July 22</td>
<td>CASE IN POINT: OREGON’S RECENT EFFORTS TO REDUCE PLUG LOAD ENERGY CONSUMPTION</td>
</tr>
<tr>
<td>July 28</td>
<td>EVERYONE HAS A DATA CENTER: HOW TO BE AN ENERGY CHAMPION FOR YOURS</td>
</tr>
<tr>
<td>August 4</td>
<td>SUCCEED WITH SUBMETERING: HOW TO MAKE THE BUSINESS CASE</td>
</tr>
</tbody>
</table>
Additional Questions?

Please Contact Us

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