Serving Multifamily Building Owners

A Full Service Comprehensive Approach for Improving Existing Buildings

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Agenda

- Who is Elevate Energy and why are we Interested in Low Income Multifamily Housing?
- Our Approach to Low Income Multifamily
- Impact, Case Studies
Our Mission

We promote smarter energy use for all.

We give people the resources they need to make informed energy choices.

We design and implement efficiency programs that lower costs, and protect the environment.

We ensure the benefits of energy efficiency reach those who need them most.
The Elevate Energy Team

Team members include:

- Energy analysts, engineers, and construction managers
- Quality assurance and quality control experts
- Bilingual CRM specialists
- Researchers and data analysts
- Energy law and policy experts
- Communication, marketing, and outreach professionals
- Project managers and program administrators
## Affordable Multifamily Market

**10.5 million units** of affordable multifamily housing in the US

$3,400,000,000

$3.4B could be saved through multifamily energy efficiency improvements

### Multifamily Energy Expenditure

- **13.5%** of monthly income spent on energy *(compared to median household: 7%)*
- **23%** energy cost increase from 2001 to 2009 *(compared to rent increase: 7.5%)*

### Multifamily Building Characteristics

- **2%** of MF 5+ units have received an energy audit
- **63%** of MF 5+ units are poorly or only adequately insulated
- **60%** of MF 5+ units have heating equipment not routinely maintained (in last year)

Our Approach to Multifamily Housing
Our Multifamily Energy Efficiency Program

A Flexible, Streamlined Process Grounded in Actual Data

- **Robust data** to baseline energy use, estimate savings and monitor post-retrofit results
- High quality customer service through a single point of contact
- Strong construction management with **100% QA** of jobs
Addressing Barriers

**Barriers**

- Limited awareness of applicable programs
- Lack of energy use data and comparison benchmarks
- Lack of knowledge of cost-effective efficiency upgrades
- Lack of access to low-cost capital
- Lack of time and knowledge to oversee construction and ensure high quality work
- Lack of mechanisms to track post-retrofit savings

**Key Program Design Elements**

- Single point of contact to support owners throughout the energy upgrade process
- Utility Benchmarking/Baselining
- Energy analysis, onsite building assessment, and cost-effective energy savings recommendations
- Access to low-cost energy efficiency financing products and any available state, local, or utility incentives or grants
- Contractor bid solicitation, construction oversight, and QA/QC provided
- Post-retrofit energy use monitoring and reports
Best Practice - Use Assessment Time Well

Use the on-site assessment to create momentum, collect data and address customer’s pain points
Best Practice: Provide Clear, Concise Deliverables

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Cost  ($)</th>
<th>Savings (therms/year)</th>
<th>Savings (kWh/year)</th>
<th>Savings ($/year)</th>
<th>Simple Payback (years)</th>
<th>Retrofit Lifetime (year)</th>
<th>SIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Insulate all accessible heating hot water pipe with all sleeve jacket fiberglass (R-6)</td>
<td>3,200</td>
<td>700</td>
<td>-</td>
<td>700</td>
<td>4.6</td>
<td>25</td>
<td>5.5</td>
</tr>
<tr>
<td>2. Roof cavity: Air seal roof cavity perimeter and all penetrations, gaps and bypasses with foam, and insulate with blown-in cellulose (R-49)</td>
<td>64,000</td>
<td>12,600</td>
<td>-</td>
<td>12,600</td>
<td>5.1</td>
<td>25</td>
<td>4.9</td>
</tr>
<tr>
<td>3. Insulate all accessible domestic hot water pipe with all sleeve jacket fiberglass (R-4.5)</td>
<td>800</td>
<td>150</td>
<td>-</td>
<td>150</td>
<td>5.3</td>
<td>25</td>
<td>4.7</td>
</tr>
<tr>
<td>4. Install low-flow shower heads (1.5 GPM) and faucet aerators (1.5 GPM kitchen, 1.0 GPM bathroom)</td>
<td>12,800</td>
<td>5,300</td>
<td>-</td>
<td>5,300</td>
<td>2.4</td>
<td>10</td>
<td>4.1</td>
</tr>
<tr>
<td>5. Install new high-efficiency (90%+ AFUE) heating hot water boiler with indoor averaging temperature sensors and outdoor cutoff</td>
<td>105,000</td>
<td>12,600</td>
<td>-</td>
<td>12,600</td>
<td>8.3</td>
<td>20</td>
<td>2.5</td>
</tr>
<tr>
<td>6. Convert incandescent exit sign bulbs to LEDs</td>
<td>4,900</td>
<td>-</td>
<td>8,750</td>
<td>875</td>
<td>5.6</td>
<td>10</td>
<td>1.8</td>
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<tr>
<td>7. Install new high efficiency (90%+ AFUE) domestic hot water heater</td>
<td>45,000</td>
<td>2,900</td>
<td>-</td>
<td>2,900</td>
<td>15.5</td>
<td>20</td>
<td>1.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$235,700</td>
<td>34,250</td>
<td>8,750</td>
<td>$35,125</td>
<td>6.7</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>
Best Practice: Speak “Building Owner”

Key Benefits

- Increased cash flow
- Average savings on gas, electricity and water
  - Energy Savers saves 30% on utility bills – ~ $10,000/ year for a typical 24-unit building
- Tenant comfort and retention
- Improved HVAC systems – higher efficiency, better maintenance, longer life
- Preserves and renews old and affordable building stock
**Best Practice: Coaxing the Deal**

- Proactively encourage customers to take small steps by suggest a few items that owner can explore further (e.g., requesting a few contractor price quotes)
- Enlist another owner who trusts you to advocate for you with the target customer
- Reiterate expertise and success in helping other owners with similar needs save money
Best Practice: High Rigor QA/QC

• Energy Analyst and the Construction Manager:
  – Develop an implementation plan with the customer
  – Solicit and review bids from contractors with customers
  – Confirm bids are aligned with current pricing and the scope of work

• Construction Manager:
  – Serves as an owner’s representative monitoring the installation to ensure high quality work
  – Remains available after the work is completed should the customer have questions

Best Practice: Bidding and construction oversight lead to high quality installations & energy savings
**Best Practice: Measure Performance**

- Analyze utility bill data at 1 and 2 year intervals after construction completed
- Calculate savings and post-upgrade EUI
- Report savings to building owners
- Check actual savings against initial projections
- Return to investigate underperforming buildings

<table>
<thead>
<tr>
<th>NATURAL GAS</th>
<th>Baseload EUI</th>
<th>Heating Load EUI</th>
<th>Total EUI</th>
<th>Cost* ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Upgrade (Jul 2007 - Jul 2009)</td>
<td>27</td>
<td>147</td>
<td>174</td>
<td>$23081</td>
</tr>
<tr>
<td>Post-Upgrade (Aug 2010 - Jul 2012)</td>
<td>19</td>
<td>78</td>
<td>98</td>
<td>$12905</td>
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<tr>
<td>% Savings</td>
<td>29%</td>
<td>47%</td>
<td>44%</td>
<td>44%</td>
</tr>
</tbody>
</table>

* Assumes $1.00 per therm of natural gas
Important Benefits from Retrofits

- Reduction in operations and maintenance costs*
- Less complaints regarding draftiness, enhanced tenant comfort
- Smaller utility bills

Building Owner Concerns

- Turnover costs
  - Could range from a few hundred dollars to a few thousand
- Vacancy rates lowered
Energy Efficiency Savings facilitated Capital Improvements

- “Two of the buildings that needed new parkways where I have parking, I ripped out all the concrete and put new parking pads. They’re parking for 5 cars, so it’s a big area that I had to do – around $10,000 at each building. Which let me have the money to do that, just with the increased savings.”
On not raising rents and the split-incentive

“'You’ll have less turnover, you’ll be able to keep certain tenants for longer, even though they’re paying less rent...I would say that’s your biggest asset, is that it provides you stability. I mean you can always rebuild your tenant base. But you have to have a core group of tenants, even in a troubled area. So I think it’s always important to be able to hold on to that, and make it a little more affordable for them, at least that’s how we view it.”
Impact, Case Studies
Where we are working...

We believe that to fully address this untapped and underserved market, new ways of thinking and working together are necessary.

Connecticut – Audits and pilot financing products
Indiana – Expand IL MF program
Maryland & Rhode Island – NEI expansion offices
Michigan – Pilot one-stop shop services for Consumers Energy
Missouri – Pilot MF program and benchmarking
Louisiana – Expand retrofit and remote monitoring services to southeast
Pennsylvania – Grow program pipeline
Wisconsin – Enhance program offering

* Elevate Energy currently operates a program in Illinois and Indiana
* NEI currently provides energy efficiency and green services in Massachusetts and Rhode Island.
## Impact

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<tr>
<th></th>
<th>Buildings</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications &amp; Units Received</td>
<td>1,679</td>
<td>71,801</td>
</tr>
<tr>
<td>Audits</td>
<td>1,340</td>
<td>58,355</td>
</tr>
<tr>
<td>Retrofits</td>
<td>592</td>
<td>24,930</td>
</tr>
<tr>
<td>Gas therms saved</td>
<td></td>
<td>5,983,200</td>
</tr>
<tr>
<td>kWh saved</td>
<td></td>
<td>16,204,500</td>
</tr>
<tr>
<td>Metric tons CO$_2$e from gas saved</td>
<td></td>
<td>46,456</td>
</tr>
<tr>
<td>Jobs created</td>
<td></td>
<td>536</td>
</tr>
<tr>
<td>Financing leveraged from Community Investment Corporation</td>
<td></td>
<td>$14,254,543</td>
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Case Studies

Jeffery Parkway, retrofitted by Elevate Energy, is one of the first 17 existing multifamily properties nationwide to become Energy Star certified.

“We were facing, just on the gas bill, a $60,000 bill a year. As of last year, our bill was $18,000. It was unbelievable savings...By putting more upfront funds [in our building], our tenant retention is much better... It's something to tell tenants, that we care about the building.”

Quote from Sandeep Sood, owner of Jeffery Parkway, in the November 24, 2014 Chicago Tribune article “South Side apartment building among 3 Chicago energy efficiency stars.”
Case Study: 4336-44 S Drexel Blvd, Chicago, IL

Building Overview

- Building Owner: Redel Rentals
- Building type: 4-story, 110-unit brick building
- Year of construction: 1926
- Heating system: natural gas-fired steam boiler
Case Study: 4336-44 S Drexel Blvd, Chicago, IL

Scope of Work

- Roof Cavity Air Sealing and Insulation
- Pipe Insulation

Further Project Information

- DCEO Incentive $58,400
- 25% annual natural gas savings
- $14,500 annual savings
Questions?

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