Multifamily Energy Efficiency: Getting Incentives and Resources into Alignment

Presented to NRDC
New York, NY
April 15, 2015

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A multifamily energy efficiency gap?

• Studies estimate yearly possible $9 billion savings from multifamily energy efficiency--$2 billion from electricity savings alone

• Multifamily residents tend to be poorer than single family residents, and poor households spend a large portion of their income on energy, and pay more per square foot in energy costs (in part because of greater resident density).

• Does multifamily housing get its share of energy efficiency investment?
“Hardware” and “Software” for energy efficiency

• Energy efficiency hardware: things like efficient light bulbs, insulation, efficient appliances...

• Energy efficiency “software”—getting incentives right to encourage investments in energy efficiency and reduction of waste. This is the focus of the paper.
Obstacles to multifamily energy efficiency

- Misaligned incentives
- Poor price signals
- Financing problems
Misaligned incentives cut both ways

Tenants pay utility bills
• About 80% of cases
• Landlords don’t have full incentives to invest in energy efficiency, or even to encourage/allow tenants to do so.
• How big is the impact? Range of findings—1/2 of 1% up to 10%?

Landlords pay utility bills
• About 20% of cases
• Tenants don’t have incentives to invest in energy efficiency, or to conserve
• How big is the impact? Big range of findings—2% all the way up to 50%
Poor price signals

• Most residential utilities charge a flat rate for electricity use—electricity costs the same, no matter when you use it;
• This does not reflect reality—Electricity costs much more when it’s scarce, and also likely has worse environmental impacts (need to run your least-efficient plants)
• So not all energy efficiency is equal—best conserves at peak times.
• To encourage this: smart meters and smart pricing
Financing Problems—Access to Capital

• Lenders want: a revenue stream to fund repayment and security against default
• But there is a lack of data on energy savings adequate to predict repayment revenue stream. Confidentiality may make it difficult to access tenant energy consumption data
Possible solutions

- Building and appliance codes
- Data collection, benchmarking, and disclosure around building energy efficiency
- Individual metering
- On-bill financing
- Energy Service Companies
- Direct funding/service provision
Individual metering

• Transition to individual metering in master metered buildings allows utilities to work directly with tenants

• This is not the same as third-party submetering/billing intermediaries, where additional charges can often be added without additional provision of services
## Financing

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<thead>
<tr>
<th>Approach</th>
<th>Notes</th>
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<tr>
<td>On-bill financing</td>
<td>Can help tenants; may be resisted by owners who don’t want disruption or added rent obligations for new tenants</td>
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<td>ESCOs</td>
<td>Most used by public housing—to expand, must address issues of scale and financial security</td>
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<td>Weatherization Assistance Program</td>
<td>Landlords must somehow prove that 2/3 of residents are at or below 200% of poverty</td>
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<td>Utility Programs: Public benefit funds, Energy Efficiency Requirement Standards; Integrated Resource Plans</td>
<td>Energy efficiency programs must meet cost-benefit tests. How these tests are structured may determine what can qualify.</td>
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Key Recommendations for Re-aligning Incentives

• Replace master meters with individual meters
• Deploy smart meters and dynamic/time-sensitive pricing
• ENERGY STAR ratings for multifamily buildings
• Utility efficiency programs based on customer-utility relationships, and aligned with the interest of the beneficiary (work with landlords on common spaces and with tenants on apartment-level improvements)
• Regulate third-party submetering