Multifamily Energy Efficiency: Getting Incentives and Resources into Alignment

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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

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

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