Energy Efficiency for All

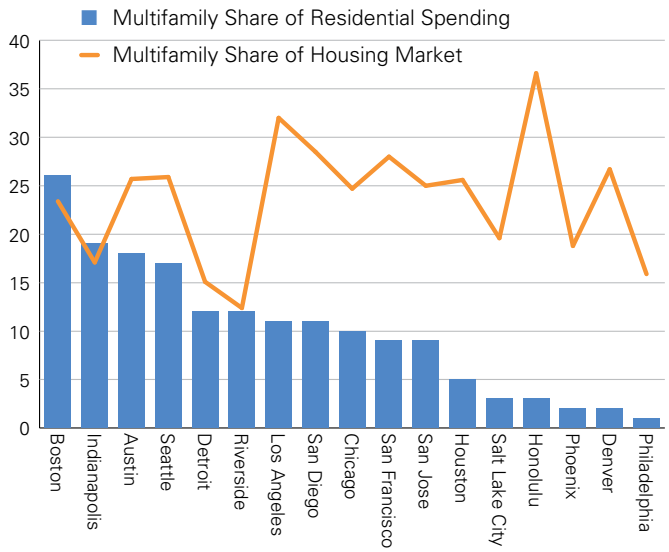
Multifamily affordable housing is full of untapped energy efficiency potential. This overview provides context and best practices for creating effective programs to capture this potential. With a better understanding of these considerations, we can start to build a more robust network of leaders and practitioners in affordable multifamily housing and realize the vast environmental, economic, and social potential of delivering energy efficiency for all.

SIGNIFICANT POTENTIAL FOR ENERGY SAVINGS IN MULTIFAMILY AFFORDABLE HOUSING

Nationwide, multifamily renters spend $30 billion on energy expenses each year—this amounts to 13 percent of nationwide spending on home energy needs.[1]

Energy expenditures per square foot in rented multifamily apartments are 38 percent higher than in owner-occupied single-family detached homes. Despite this, energy efficiency measures are far less likely to be found in multifamily apartments compared to other housing types.[2] These numbers demonstrate a need for programs and an opportunity for significant energy savings.

Figure 1: Comparison of 2011 spending on targeted multifamily programs to the multifamily share of the housing market



Source: Johnson, Kate and Eric Mackres, American Council for an Energy Efficiency Economy, *Scaling Up Multifamily Energy Efficiency Programs: A Metropolitan Area Assessment*. 2013.

And, the benefits extend beyond energy savings. Cost-effective building upgrades to improve energy efficiency translate into a reduction of carbon emissions and a reduction in expenses for tenants, building owners, and utilities.

HOUSING CONSIDERATIONS

BENEFITS OF ENERGY EFFICIENCY IN MULTIFAMILY AFFORDABLE HOUSING

Building owners:

- Reduces operating costs
- Frees up funds for maintenance, repairs, and other improvements
- Reduces tenant turnover

Tenants:

- Lowers tenant utility bills
- Provides more comfortable, affordable, and pleasant living space
- Healthier living environments can lower the incidence of illnesses such as asthma
- Helps maintain affordable housing

DESIGNING PROGRAMS TO MEET A DISTINCT SET OF CHALLENGES

Have an Integrated, One-Stop Shop

- There should be one organization to coordinate among various participants (building owners, managers, maintenance) and programs.
- This single organization should market benefits to building owners and provide them with information, incentives, and key services.

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Serve Multiple Needs

- Energy efficiency programs are often divided between residential opportunities in the tenant units or commercial opportunities in the common areas making it difficult to meet a building's needs. Similarly, they are often divided between electric, natural gas, and water programs. Programs should be tailored to address all aspects at once.

Address the Whole Building

- The deepest savings come from a whole-building approach including heating, water heating, air sealing, insulation, lighting, appliances, and ventilation. Savings, however, do not need to be limited to energy. Water savings can equal or even surpass those for energy and have a quick payback period.

Support Data Access

- Programs should benchmark buildings' energy use and make whole building usage information available by integrating benchmarking tools.
- Access to building data allows building owners to find opportunities, measure improvements, and ensure investments are delivering anticipated benefits.

Manage Financing

- Affordable housing is diverse and includes both properties with subsidies/contracts to keep rents affordable and properties affordable for market reasons.
- Financing is particularly important for affordable housing and the best programs will include features that help building owners access low-cost financing options.
- Long-term financing should be emphasized to assist affordable housing owners in finding capital that has a similar timetable to the pay-back from energy savings.
- Housing subsidies come from a variety of sources, such as Low Income Housing Tax Credits or mortgages through the Department of Housing and Development. Financing must coordinate with the unique requirements of each source and the mix of upgrades at each property.
- On-Bill Repayment, an increasingly popular form of financing, effectively provides a loan to a utility customer with regular monthly loan payments collected on the utility bill. These monthly payments are often less than the savings from efficiency measures.

UTILITY CONSIDERATIONS

Affordable housing stakeholders should be aware of key strategic entry points and milestones that provide an opportunity to advance utility-funded energy efficiency services for multifamily affordable housing. Examples include utility plan filing deadlines, utility stakeholder collaboratives, and regulator rulemaking proceedings.

UTILITY BENEFITS OF A WELL-DESIGNED ENERGY EFFICIENCY PROGRAMS

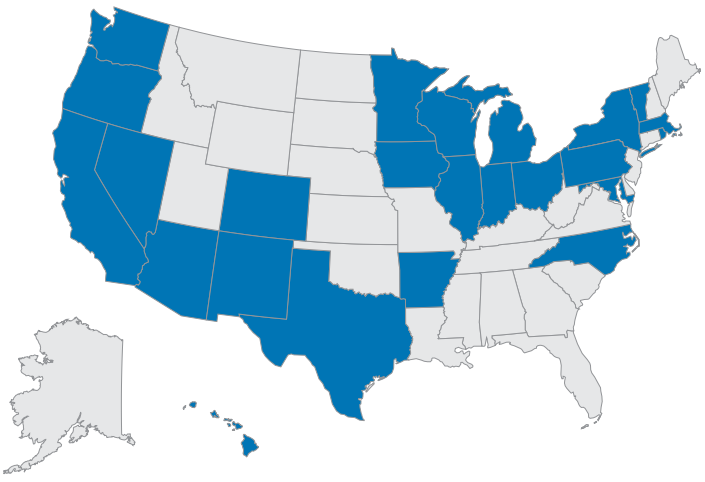
- Reduction in energy consumption helps meet mandated energy savings goals
- Energy efficiency reduces the need to invest in expensive new infrastructure which would otherwise be needed to meet higher demand
- Utility program implementers can achieve economies of scale by hiring contractors to perform multiple types of work at once
- A well designed program will assist utilities in targeted outreach to owners through housing authorities and other multifamily industry players.

OPPORTUNITIES TO ASSIST AND ENGAGE UTILITIES

Energy Efficiency Resource Standards

- States across the country have goals and/or requirements for energy savings. Every few years (frequency depends on the state) utilities have to file a plan showing what programs they will administer to reach the goal.
- Utilities can reach a significant portion of their state energy efficiency goals through achieving deeper savings in more multifamily affordable housing programs.

Figure 2: States with Energy Efficiency Resource Standards



Source: Foster, Ben, et al., *The 2012 State Energy Efficiency Scorecard* (washington, DC: American Council for an Energy Efficient Economy, 2012)

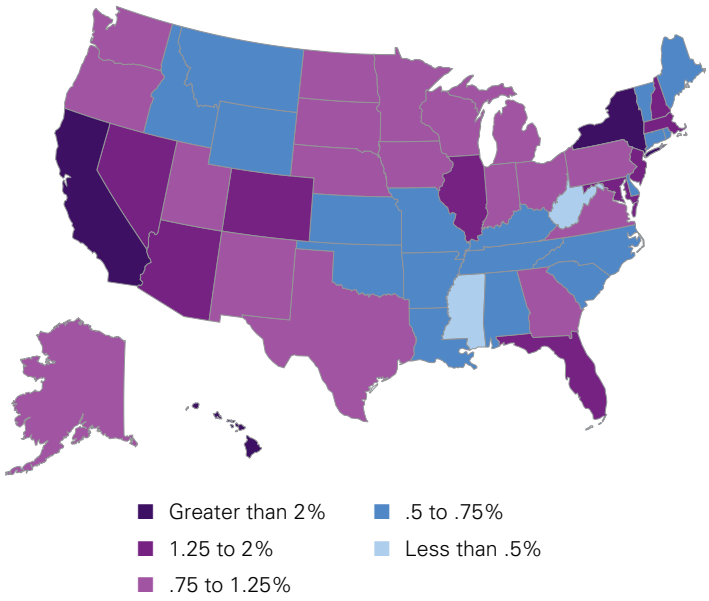
Gas and Electric Utilities

- In places with separate electric and gas utilities, programs can look into projects that receive incentives based on the value of total energy savings across fuels.
- For example, an electric utility might operate a program to get "credit" for electricity, oil, and gas savings produced by all measures.

Funding Share

- Traditionally, energy efficiency resource standards leave out specifications on funding allocation among the different sectors, but it is important that affordable multifamily housing is funded reasonably in relation to other building sectors.
- For example, funding allocations could reflect the size of the cost effective efficiency potential in the market, or be tied to the portion of affected customers.

Figure 3: Annual Potential Savings from Multifamily Buildings by State



Source: McKibbin Et al. American Council for an Energy Efficiency Economy, Center for Neighborhood Technology, *Engaging Partners in Energy Efficiency: Multifamily Housing and Utilities.* 2014.

Cost-Effectiveness Test

- Utility efficiency programs are often mandated to be cost-effective.
- Cost-effectiveness tests compare how much a program costs versus how many benefits the program brings. Tests vary in terms of which costs and benefits, whose costs or benefits are included (just the utility versus the utility and customer for example), and at what point they are used (for each measure versus all measures together in a portfolio).
- In affordable housing in particular, many non-energy benefits become increasingly meaningful to tenants and building owners. These benefits are any positive consequence of energy efficiency improvements outside of saving energy such as comfort or health benefits.
- Non-energy benefits are often left off cost-effectiveness tests due to difficulty in measuring.
- To more accurately account for all the benefits in affordable multifamily housing, cost-effectiveness tests should include non-energy benefits and be applied to the entire portfolio. When a whole portfolio, and not simply an individual measure, is judged on cost-effectiveness, a more comprehensive mix of options becomes viable.

NETWORK OF KNOWLEDGE

With a better understanding of these considerations, we can start to realize the vast environmental, economic, and social potential of energy equity.

1 U.S. Energy Information Administration *Residential Energy Consumption Survey* http://www.eia.gov/consumption/residential/data/2009/index.cfm?view=consumption#summary.

2 National Consumer Law Center, National Housing Trust, and, American Council for an Energy Efficient Economy. *Partnering for Success: An Action Guide for Advancing Utility Energy Efficiency Funding for Multifamily Rental Housing.* 2013.