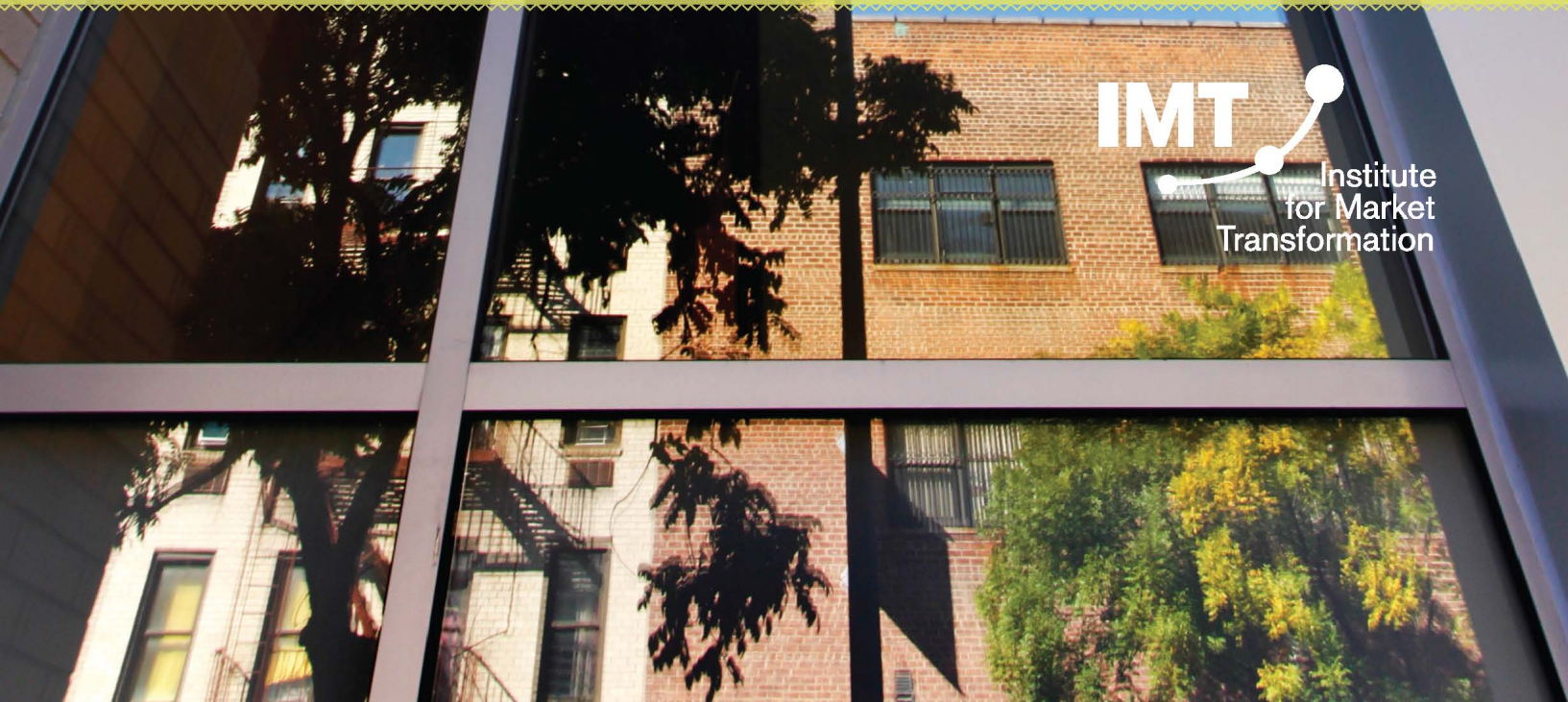
ENERGY TRANSPARENCY IN THE MULTIFAMILY HOUSING SECTOR

Assessing Energy Benchmarking and Disclosure Policies

ANDREA KRUKOWSKI | ANDREW C. BURR | DECEMBER 2012



IMT Institute for Market Transformation

On the cover: The Dempsey Apartments is a new 80-unit affordable housing development in Harlem, sponsored by the Phipps Houses Group and West Harlem Group Assistance. The project is participating in the NYSERDA Multifamily Performance Program and incorporates sustainable features including a well-insulated and well-sealed envelope, energy efficient lighting and mechanical equipment, and ENERGY STAR appliances.

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Executive Summary

Mirroring recent trends in other real estate sectors, the multifamily housing sector is subject to an increasing number of rules and regulations related to energy-performance benchmarking and performance disclosure. State and local governments are moving rapidly to institutionalize benchmarking and make energy-performance information available in the real estate marketplace, while major lending institutions are taking initial steps to factor building energy performance into financial products.

The goal of these new rules is to enable transparent building energy-performance information to drive energy efficiency improvements in multifamily housing that lower energy bills for residents; contribute to greater local housing affordability; and create new jobs and services related to energy efficiency. Many multifamily owners and operators have never benchmarked the energy performance of their buildings, while other parties – including state, local, and federal policymakers, tenants, utilities, and lenders – have little or no access to building energy-performance information that can help shape real estate decisions or inform the development of policies, incentives, and financial vehicles to advance energy efficiency. This critical shortage of information about building energy performance has prevented property markets from valuing energy efficiency and severely undermined both public and private efforts to increase the energy efficiency of multifamily housing.

While energy benchmarking and disclosure policies are an innovative approach to overcome energy-performance information gaps in the multifamily sector, several challenges must be addressed. The multifamily sector is fragmented and resists a one-size-fits-all approach, ranging from low-income public housing to luxury properties, all with varied sources of public and private financing. Policies must reflect and accommodate the diversity of both the building stock and its stakeholders. In many cases, underlying barriers continue to limit the ability of many multifamily owners to conduct benchmarking and other energy-performance assessment measures.

This report is intended to serve as a guide for policymakers and multifamily stakeholders on benchmarking and disclosure rules and regulations. It provides an introduction to the multifamily housing sector, followed by a thorough review of existing benchmarking and disclosure policies and an assessment of continuing policy challenges and opportunities.

Policy Overview: Benchmarking and Disclosure in the Multifamily Sector

Benchmarking and disclosure is a market-based policy tool to overcome informational gaps that limit energy efficiency awareness and investment. As its name implies, benchmarking and disclosure policy has two key elements: A requirement to comparatively assess the energy performance of a property (a process known as benchmarking), and a requirement to make energy performance metrics available in the marketplace. The goal of benchmarking and disclosure policies is to drive and sustain market-based demand and competition for energy-efficient buildings by making energy-performance information universally available and accessible to property owners, tenants, investors, lenders, and other parties.

Over the past decade, benchmarking and disclosure policies have emerged around the world as a key strategy to address energy performance in the existing buildings sector, where most building energy efficiency opportunities are found. Since 2001, major policies have been adopted by the European Union, China, and Australia.

In the United States, two states (California and Washington) and five major cities (Austin, New York, Philadelphia, San Francisco, and Seattle) plus the District of Columbia have adopted benchmarking and disclosure requirements for privately owned buildings, four of which apply to the multifamily housing sector. Those policies, in Austin, New York City, Seattle, and the District of Columbia, combine to cover approximately 13,400 multifamily properties totaling more than 1.3 million housing units and 1.8 billion square feet of space – almost half of the total space covered to date under all benchmarking and disclosure policies.

Key Findings

This report finds that benchmarking and disclosure policies display significant potential to overcome many primary barriers to energy efficiency in the existing multifamily housing stock, and that best practices in policy design and implementation are rapidly emerging. Cities that have adopted policies are gaining important knowledge and experience that is already informing the development of new policies. However, the multifamily sector presents unique challenges in the application of benchmarking and disclosure requirements, many of which have not been fully addressed. Continued policy evolution and improvement is critical to overcome remaining challenges and ensure policies are effectively promoting energy efficiency.

Key findings of this report include the following:

1. **Policy best practices are emerging as leading cities gain knowledge and experience in policy design and implementation.** This "policy pathway" can help guide the development of new policies and includes the following key concepts:

   - **Ensure building owners have access to energy-consumption data for benchmarking.** Utilities, regulators, policymakers, and real estate leaders should work together prior to policy adoption to ensure that benchmarking requirements are accompanied by whole-building energy consumption data accessibility measures from utilities that support an owner's ability to conduct benchmarking.

   - **Focus initially on large buildings.** Policies should initially apply only to larger multifamily housing properties, which are better positioned to comply with policy requirements. Policymakers should analyze the composition and ownership structures of the local multifamily housing stock to determine specific building-size thresholds. Most existing policies initially apply only to multifamily buildings larger than 20,000 square feet. Success with this subset of buildings should increase the likelihood of achieving success with smaller properties.

   - **Establish an industry advisory group.** Policymakers should establish a small working group comprised of key representatives from the private sector to provide important guidance and feedback on implementation activities. Ideally, this group should include five to ten individuals representing the real estate, utility, and financial sectors, including representatives from different segments of the multifamily sector. Representatives from the financial sector can provide guidance on key opportunities related to multifamily benchmarking data that may enable their use of data in lending practices and policies.

   - **Develop robust stakeholder outreach and benchmarking training activities.** Policymakers should anticipate that to achieve policy goals, multifamily stakeholders may need more time to comply with

benchmarking requirements and a robust public education and benchmarking training program during implementation. Stakeholder resources should include live informational and training sessions and a dedicated benchmarking help center to assist stakeholders with compliance.

- **Establish robust data quality assurance measures.** Policymakers should establish robust quality assurance measures prior to policy implementation to ensure market confidence in benchmarking data integrity is high. Such measures may include a combination of data audits, third-party verification, and penalties for submitting inaccurate benchmarking data.

2. **Policies can help close the data gap in the multifamily housing industry.** Benchmarking and disclosure policies have significant potential to help address data barriers that have undermined energy efficiency efforts in the multifamily sector. Very little data on the actual energy performance of multifamily properties is currently available, making the benefits of energy efficiency improvements difficult to quantify and weakening efforts to design energy efficiency incentive and financing products. The adoption of benchmarking and disclosure policies is overcoming these barriers by making data more transparent, giving government policymakers, utilities, and lenders the ability to design and deploy new policies, incentives, and financial products that advance energy efficiency efforts.

   As a result of New York City's benchmarking and disclosure policy, city officials received benchmarking data on nearly 900 million square feet of multifamily space in 2011, data that can inform future policy decisions. Large utilities in Massachusetts, California, and other states are already using benchmarking data to target energy efficiency incentives and rebates to certain customers. In the financial services sector, Deutsche Bank Americas Foundation recently identified potential benefits to lenders that consider building energy performance in loan underwriting, and Fannie Mae, the nation's largest multifamily mortgage investor, is now requiring benchmarking and energy audits in its Green Physical Needs Assessment, a prerequisite for loan applicants to Fannie Mae's Green Refinance Plus mortgage product.

Additionally, most existing benchmarking and disclosure policies were accompanied by measures enabling multifamily owners to gain access to whole-building energy-consumption data directly from local utilities, allowing many of them to assess the energy performance of their buildings for the first time.

3. **Energy disclosures can be improved.** Determining the most effective disclosure methods for multifamily energy-performance data will maximize the ability of policies to advance energy efficiency within the sector. While the public disclosure of benchmarking data is one effective conduit to deploy information, policymakers should consider other disclosure conduits and options that are more tailored to the needs of residential tenants and the multifamily sector in general:

   - **Integration with listing services.** As with single-family housing energy disclosures, one of the most effective information conduits for renters is listing services. Integrating energy-performance data into listing services would ensure that information reaches renters early in the rental process.
   - **Integrated public and direct disclosures.** While jurisdictions have adopted either public or direct disclosure requirements, a more effective strategy may be to adopt both. A disclosure regime that integrates public disclosure with requirements to disclose information directly to transactional counterparties and existing tenants has greater potential to impact the market.
   - **Consumer-friendly metrics.** Particularly for residential renters, it is significant that energy-performance data disclosures be simple and compelling, similar to fuel economy stickers on vehicles and nutritional labels on food. At present, the lack of an ENERGY STAR 1-to-100 energy-performance score for multifamily buildings negatively impacts the value of the disclosure. In place of the performance score (currently under development), several jurisdictions are requiring the disclosure of each building's energy use intensity (EUI), a numeric metric measured on a per square foot basis. While the EUI has value for building operators, its impact on consumers is expected to be limited. One option policymakers should consider for the multifamily sector is a monthly cost-

based metric, similar to the information contained in Austin's "Energy Guide" disclosure within its multifamily energy disclosure program.

4. **Policy customization may be beneficial for affordable housing.** Policymakers should consider customizing policy provisions to meet the needs of affordable housing, which displays characteristics that sets it apart from typical market rate housing. For example, whereas market rate tenants may consider energy-performance information before leasing a property, low-income tenants are much less likely to be impacted by that type of disclosure, because they receive utility allowances or are subject to waiting lists for public housing, or other factors. In those cases, energy disclosures to HUD may be more impactful.

   Additionally, the difference in operating budgets between owners of government-assisted housing and market-rate housing may be significant. The owners of government-assisted housing that receive a benchmarking score may not have available capital to implement even low-cost improvements. Austin and New York City allow waivers for owners demonstrating financial hardship with more capital-intensive requirements, such as audits, retrocommissioning, or submetering. But rather than simply exempt these properties, policymakers should explore the use of subsidies or other financial assistance to assist owners with financial hardship, enabling them to conduct measures that may result in energy and financial savings.

5. **Other opportunities exist to integrate benchmarking and disclosure.** Benchmarking and disclosure requirements may be embedded within the multifamily housing sector in ways other than legislative policies. The U.S. Department of Housing and Urban Development should consider requiring benchmarking and the disclosure of benchmarking data for all government-assisted properties, and state housing agencies should consider integrating ongoing benchmarking requirements into qualified allocation plans (QAPs) that determine tax credit allocations. Building on Fannie Mae's integration of benchmarking and other energy performance assessment measures into its Green Refinance Plus program, multifamily lenders (including GSEs) should consider integrating energy performance into loan underwriting as a risk mitigation strategy.

The goal of these new rules is to enable transparent building energy performance information to drive energy efficiency

improvements in multifamily housing. Many multifamily owners and operators have never benchmarked the energy performance of their buildings, while other parties – including state, local and federal policymakers, tenants, utilities and lenders – have little or no access to building energy performance information that can help shape real estate decisions or inform the development of policies, incentives and financial vehicles to advance energy efficiency. This critical shortage of information about building energy performance has prevented property markets from valuing energy efficiency and severely undermined both public and private efforts to increase the energy efficiency of multifamily housing.

While energy benchmarking and disclosure policies are an innovative approach to overcome energy performance information gaps in the multifamily sector, several challenges must be addressed. The multifamily sector is fragmented and diverse, ranging from low-income public housing to luxury trophy properties with varied sources of public and private financing, and resists a one-size-fits-all approach. Policies must reflect the needs of diverse stakeholders. In many cases, underlying barriers continue to limit the ability of many multifamily owners to conduct benchmarking and other energy performance assessment measures.

This report is intended to serve as a guide for policymakers and multifamily stakeholders on benchmarking and disclosure rules and regulations. It provides an introduction to the multifamily housing sector, followed by a thorough review of existing benchmarking and disclosure policies and an assessment of continuing policy challenges and opportunities.

1. Introduction to Multifamily Housing

1.1 What Is Multifamily Housing?

Ranging from high-rise towers with thousands of apartments to garden-style complexes with just a few units, the versatile multifamily housing sector is a critically important part of the U.S. housing market. Multifamily housing provides homes for millions of Americans, including a significant share of minority and lower-income populations, and houses three out of every four households that rent their homes.[1]

Used in this report, the term "multifamily housing" references residential structures with five or more units, a typical threshold used within the housing industry for multifamily rental properties. According to data from the National Multi Housing Council and the U.S. Census Bureau, there are more than 500,000 multifamily structures with five or more units in the United States that contain a total of more than 15 million occupied rental units and another 2.6 million condominium and cooperative (owned) units.[2] More than 90 percent of multifamily rental units are located in urban areas, making them a staple of the built environment in many large cities and an important source of housing for metropolitan residents.[3]

The multifamily rental sector is diverse and subject to several important classifications related to the affordability of units:

- Public housing is managed by local housing authorities and financed by the federal government, and typically serves households earning less than 30 percent of their area median income (AMI). According to data from the U.S. Department of Housing and Urban Development (HUD), there are approximately 1.13 million public housing units nationally.[4]
- Subsidized affordable housing refers to privately owned multifamily housing that receives some form of government subsidy to maintain rental affordability. According to HUD data, approximately 5 million multifamily housing units are serviced by federal rental housing-assistance programs such as tenant vouchers, project-based Section 8 housing subsidies, and the federal Low Income Housing Tax Credit.[5] According to Fannie Mae data, there are approximately 6.1 million total subsidized affordable housing units nationally, which includes federal rental housing-assistance programs and a mix of other subsidies including capital financing, state

or local tax abatements, and federal grant programs such as the Community Development Block Grant and the Home Investment Partnership (HOME).[6]

- Conventional market-rate housing refers to privately owned multifamily housing that does not receive subsidies. Market rate housing is the largest segment of the multifamily sector, accounting for more than half of all occupied multifamily rental units.
- Workforce rental housing refers to housing units that are affordable to a broad segment of the population – households earning 60 percent to 100 percent of AMI. Whereas public, subsidized affordable, and market-rate housing are all characterized in part by the receipt or non-receipt of subsidies, workforce rental housing is a hybrid category that captures housing units that both receive and do not receive subsidies to maintain affordability. It accounts for 29 percent of the nation's total multifamily rental housing stock, according to Fannie Mae.[7]

1.2 Benefits of Energy Efficiency in Multifamily Housing

Significant, untapped opportunities exist to improve the energy efficiency of the nation's multifamily housing stock, which accounts annually for more than 100 million tons of carbon emissions and approximately $22 billion in energy expenditures.[8] With a median age of 36 years,[9] most multifamily rental properties were constructed before modern building energy codes were adopted, and existing utility incentive and rebate programs often overlook the multifamily sector in deploying energy efficiency incentives and rebates.[10] These factors combine to produce an aging building stock that has received comparatively low investment from utilities to conduct energy efficiency improvements. Harnessing opportunities to improve energy efficiency in the multifamily housing sector can provide significant benefits to multifamily residents, property owners, and local communities.

Energy Cost Savings and Preservation of Housing Affordability. Reducing energy costs in the multifamily sector can help preserve rental housing affordability, an issue for millions of Americans each year that is becoming increasingly more severe. Several recent studies highlight the potential for energy efficiency and energy cost savings in multifamily properties:

- The Benningfield Group indicated in a 2009 study that the multifamily sector has an "achievable potential" of 30 percent improvement in energy efficiency by 2020, which would save $9 billion in energy costs for building owners and tenants and reduce CO2 emissions equivalent to shuttering approximately 20 coal power plants.[11]
- The American Council for an Energy-Efficient Economy (ACEEE) and CNT Energy estimated in a 2012 report that enrolling the entire U.S. multifamily sector in a "quality" utility program (achieving energy efficiency improvements of 15 percent for electricity and 30 percent for natural gas) would create annual utility bill savings totaling more than $3.3 billion for building owners and tenants.[12]
- A 2012 report commissioned by Deutsche Bank Americas Foundation and Living Cities found that energy efficiency retrofits conducted on more than 21,000 affordable housing units in New York City generated significant energy reductions that reduced fuel costs by an average of $240 per unit annually, and electric costs by $50 per unit annually.[13]

Rental affordability is declining at a steep rate, driven both by a shortage of affordable housing units and by stagnant real renter incomes that have not kept pace with increases in rental and utility costs over the past decade. According to the Joint Center for Housing Studies of Harvard University (Harvard JCHS), the share of renters with moderate or severe cost burdens – those who spend more than 30 percent or 50 percent, respectively, of household income on rent and utilities – more than doubled since 1960 to comprise 49 percent of all renters in 2009.[14] More than 40 percent of that increase has occurred just since 2001, driven in part by the U.S. foreclosure crisis.

Rising energy costs have contributed to the decline in affordability. Since 2000, energy costs for renters increased by more than 20 percent – nearly three times as much as average rents increased over the same period – and increased as a share of gross rent from 10.8 percent to 15 percent. Rising energy costs have been particularly harmful for low-income households. Utility bills now comprise more than 25 percent of total housing costs for renter households in the bottom quintile of income distribution.[15]

Improving the energy efficiency of the multifamily housing stock is identified as a key strategy to preserve housing affordability by major government agencies and organizations involved in affordable housing, such as HUD, Fannie Mae, Harvard JCHS, Enterprise Community Partners, and Stewards of Affordable Housing

for the Future (SAHF), a consortium of nonprofit organizations that provides affordable rental housing nationwide. The benefits of lower energy bills can accrue to tenants either through direct savings in monthly energy bills or by reducing the building owner's energy expenses, which can lessen the need for rent escalations and unlock capital that can be reinvested in other property improvements.

Increased Property Value. Energy efficiency may allow multifamily housing investors to increase the value of their properties, either through increased cash flow resulting from lower energy bills or from increased competitiveness in the marketplace. Studies in the commercial property sector conducted by universities and major real estate companies have correlated energy-efficient buildings with increased occupancy levels and leasing and sale prices, while studies in the single-family housing sector have correlated energy efficiency and sustainability with higher home values.[16]

Existing property value studies have leveraged national or regional third-party designations, such as the U.S. Green Building Council's LEED certification for sustainability and the U.S. Environmental Protection Agency's ENERGY STAR certification for energy efficiency, to differentiate high-performing properties and measure the effects of energy efficiency and/or sustainability. While several designations apply to multifamily housing – such as ENERGY STAR for Homes, LEED, Enterprise Community Partners' Green Communities Criteria, and the National Association of Homebuilders' National Green Building Certification Program – these designations have achieved relatively limited market penetration. More data on how energy efficiency impacts multifamily housing value may emerge as energy efficiency and sustainability designations become more common within the sector.

Occupant Health and Comfort. The benefits of energy-efficient multifamily housing extend beyond energy cost savings. Several recent studies indicate that energy-efficient buildings are more likely to create healthier and more comfortable environments for tenants by increasing indoor air quality and improving thermal comfort:

- A 2010 report by the National Safe and Healthy Housing Coalition found that energy retrofits of existing homes resulted in self-reported health improvements, fewer sick days from work and school, and fewer visits to general health practitioners.[17]

- A 2012 report by the National Center for Healthy Housing surveyed residents of single-family and multifamily housing in three U.S. cities before and after weatherization projects, and found improved occupant comfort and general health, less indoor moisture, and fewer air leaks, following energy upgrades.[18]
- A preliminary analysis of the energy performance of large buildings in New York City identified a correlation between high asthma rates and buildings with lower than average energy efficiency. Multifamily buildings accounted for 80 percent of the total number of buildings analyzed by the city for this study.[19]

Underwriting. The recent study on energy efficiency underwriting by Deutsche Bank Americas Foundation and Living Cities found major potential benefits for banks that consider energy efficiency in lending practices, including:

- Reduced risk of loan default in properties with lower energy expenses and stronger cash flow;
- Reduced risk of an energy-efficient property losing long-term asset value;
- Ability of properties to support higher levels of debt service that could potentially cover the cost of energy improvements; and
- Increase in profits from developing new loan products to serve the $16 billion multifamily energy efficiency market.[20]

Local Job Creation. Improving the energy efficiency of the multifamily housing stock has the potential to create new jobs nationwide in the construction, manufacturing, design, energy efficiency products and services, facilities management, and engineering sectors. According to a 2012 study by DB Climate Change Advisors and the Rockefeller Foundation, conducting comprehensive energy retrofits on the nation's stock of pre-1980 multifamily buildings would create 199,000 jobs over the duration of the program.[21] An analysis by Deutsche Bank Americas Foundation and Living Cities found that investing $40 million annually in residential energy retrofits nationwide would create more than 4 million jobs each year.[22]

1.3 Barriers to Energy Efficiency

Despite the significant potential benefits of energy efficiency in multifamily housing, implementing energy efficiency measures at scale within the sector has been difficult. The reasons include:

Complexity and fragmentation. Multifamily energy efficiency program and policy design is extremely complex because of the diversity and fragmentation of the building stock. While individual dwelling units function essentially as single-family homes, building owners often treat multifamily buildings as commercial investments, and multifamily buildings are regulated under building codes as either commercial and residential structures depending on property size. Multifamily subsectors, including public housing, condominium/cooperative (owned) housing, affordable rental housing, and conventional market-rate housing, exhibit very different ownership and occupancy profiles, financing considerations, and other characteristics. While multifamily housing is concentrated in urban areas, the stock is relatively evenly dispersed across the country, with slightly higher overall concentrations in the South and West regions, and a higher concentration of large (50+ unit) properties in the Northeast region.[23] Property ownership is dispersed, with more than half of multifamily properties nationwide owned by individual investors and approximately 38 percent of properties owned by dedicated real estate investment groups or by partnerships or joint ventures, according to data from the federal government.[24] Together, these factors have made it difficult for policymakers and program administrators to design and implement effective programs to increase energy efficiency.

Lack of Energy-Performance Data. A systematic lack of data on the energy performance of multifamily housing has severely constrained actions that can help unlock energy efficiency improvements, an issue HUD has called "one of the most significant flaws affecting the market."[25] The problem is twofold: Many owners of multifamily buildings cannot legally access utility bills for their own properties because of tenant privacy laws, preventing energy-performance awareness and softening demand for energy improvements; and many lenders, policymakers, and other parties lack the energy-performance data they need to quantify energy efficiency benefits and design and deploy energy efficiency programs, policies, and products. While data barriers exist across the real estate industry, the issue has been perhaps most severe in the multifamily housing sector due to the fact that most multifamily properties have

individual energy meters for tenants, and data privacy expectations are typically higher for residents than for commercial tenants.

Split Incentives. Where tenants pay their own energy bills in multifamily buildings, owners who invest in energy efficiency measures may not recoup their investment because tenants are the beneficiaries of energy cost reductions. Similarly, utility allowances that do not account for property-specific energy performance can act as a major disincentive for owners to invest in energy efficiency upgrades. Even with the development of solutions that overcome this misalignment of energy efficiency costs and benefits, such as green leases and energy efficiency-based utility allowances, split incentives continue to constrain demand for energy efficiency improvements.*

Availability of Capital in Affordable Housing. While the need for energy efficiency financing solutions has been well documented to address initial energy retrofit costs, the owners of affordable housing projects may face other budgetary impediments to energy efficiency. Capital improvement expenditures for subsidized affordable housing properties may be subject to discretion from government housing regulators, or from Low Income Housing Tax Credit equity partners who may be averse to additional capital outlays or debt before they realize initial returns on their investment.[26] Affordable housing projects owned by nonprofit organizations typically have smaller pools of capital reserves for energy efficiency improvements, given their mission to provide affordable housing rather than maximize profit.

* "Green lease" refers to a lease that incorporates elements of sustainability and/or energy efficiency into the duties of tenants and/or landlords. In the context of energy efficiency, green leases are often used to help overcome the split incentive problem by distributing the financial costs of energy upgrades and resulting energy savings among the owner and tenants in a way that motivates all parties to pursue energy efficiency improvements. Green leases are not yet a widespread practice in the multifamily housing sector.

2. Benchmarking and Disclosure Policy in the Multifamily Sector

2.1 Overview of Benchmarking and Disclosure Policy

Benchmarking and disclosure is a market-based policy tool to overcome informational gaps that limit energy efficiency awareness and investment. As its name implies, benchmarking and disclosure policy has two key elements: a requirement to comparatively assess the energy performance of a property (a process known as benchmarking), and a requirement to make energy-performance metrics available in the marketplace. The goal of benchmarking and disclosure policies is to drive and sustain market-based demand and competition for energy-efficient buildings by making energy-performance information universally available and accessible to property owners, tenants, investors, lenders, and other parties.

Benchmarking can be required at a set interval, such as annually, or triggered by a building transaction, such as a sale, lease, or application for financing. Two policy models for the disclosure of building energy-performance information have emerged: public disclosure, where the jurisdiction publishes building-level energy efficiency metrics on a publicly available website, and transactional disclosure, where the building owner must disclose energy efficiency metrics to prospective transactional counterparties prior to a building transaction. In both cases, most existing policies also require building owners to report energy efficiency metrics to the local jurisdiction.

Over the past decade, benchmarking and disclosure policies have emerged around the world as a key strategy to address energy performance in the existing buildings sector, where most building energy efficiency opportunities are found. Since 2001, major policies have been adopted by the European Union, China, and Australia.

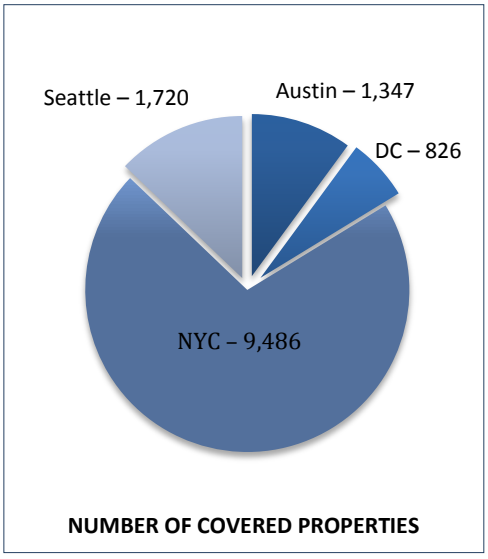
In the United States, two states (California and Washington) and five major cities (Austin, New York, Philadelphia, San Francisco, and Seattle) plus the District of Columbia have adopted benchmarking and disclosure requirements for privately owned buildings. Those policies will affect approximately 60,000 commercial and multifamily buildings totaling more than 4 billion square feet of floor space, according to statistics from the jurisdictions that have enacted policies and IMT research.[27] Similar policies are being considered in several state and local jurisdictions, including Boston, Boulder, Chicago, Connecticut, Massachusetts, and Vermont.

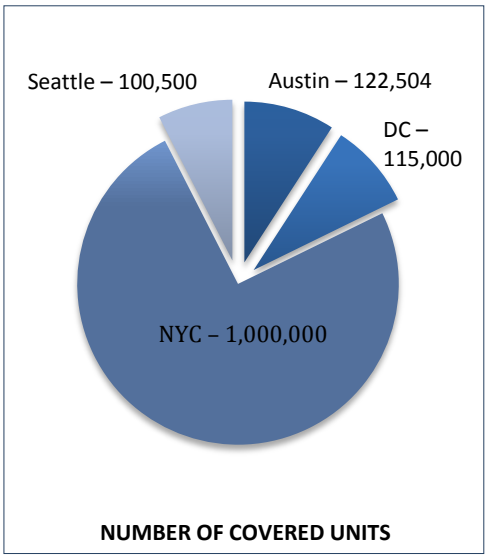
Of the eight existing U.S. benchmarking and disclosure policies, four apply to the multifamily housing sector. Those policies, in Austin, New York City, Seattle, and the District of Columbia, combine to cover approximately 13,400 multifamily properties totaling more than 1.3 million housing units and 1.8 billion square feet of space – almost half of the total space covered to date under all benchmarking and disclosure policies.

2.2 Benefits of Benchmarking and Disclosure Policy for Multifamily Housing

Policymakers have focused on applying policies to the commercial sector and have been hesitant to expand requirements too quickly to multifamily housing, where voluntary benchmarking is much less prevalent. While this approach is logical, policymakers would benefit from a greater understanding of the multifamily sector and the benefits of benchmarking and disclosure policy before excluding a real estate sector where energy efficiency opportunities are robust, and where gains have been modest.

FIGURE 1: Impact of benchmarking and disclosure laws on the multifamily sectors in New York City; Austin; Washington, DC; and Seattle by number of covered properties, dwelling units, and amount of floor space.[17]





Applied to multifamily housing, benchmarking and disclosure policies show significant potential to overcome many primary barriers to energy efficiency. Recent research on multifamily housing energy efficiency by the Benningfield Group found that rating the energy performance of apartments would "change the dynamics of demand in the apartment sector and give apartment owners incentives to improve the efficiency of their buildings,"[28] while the Residential Energy and Water Data Collaborative (REWDC), a consortium of affordable housing groups including Enterprise Community Partners, the Local Initiatives Support Corporation, NeighborWorks America, SAHF, and the Housing Partnership Network, identified benchmarking as a critical tool to increase energy efficiency in the multifamily sector.[29]

In jurisdictions where policies are adopted, local government officials and key market participants will have access to energy-performance metrics for properties that can significantly advance multifamily energy efficiency efforts, both at the property level and at the program design and implementation level. For instance, as part of New York City's benchmarking and disclosure policy, multifamily owners gained access to whole-building energy consumption data directly from local utilities, a key enabler for many of them to assess the energy performance of their buildings for the first time. The city received benchmarking data on nearly 900 million square feet of multifamily property at its initial compliance deadline in August 2011, enabling it to run analyses on energy usage trends. City officials plan to use the analyses to develop new energy efficiency policies and incentives, and provide feedback on the

impact of those efforts, throughout its local multifamily housing stock.

Data acquired through benchmarking can provide similar benefits to utilities. In Massachusetts, seven utilities are participating in an initiative called the Low Income Energy Affordability Network (LEAN) to benchmark affordable housing in the state, with the goal of enabling utility program administrators to target energy efficiency incentives and rebates. According to the utility participants, benchmarking enables the LEAN program to "identify and target the most energy-inefficient buildings in order to maximize deep, comprehensive savings."[30]

Benchmarking is also helping multifamily operators manage energy and creating new retrofit markets for energy efficiency services providers. Bellwether Housing, an owner of 29 affordable housing properties with 3,000 residents in Seattle, used benchmarking results to identify buildings in its portfolio that were good retrofit candidates, eventually reducing energy usage by 40 percent at one of its properties.[31] FS Energy, a multifamily residential energy management company, complemented New York City's benchmarking requirement with its own initiative to benchmark clients' properties, helping increase its multifamily retrofit projects from 10 in 2010 to 40 in 2012. The company added almost 10 jobs during that time and credits benchmarking with sparking client interest about improving energy performance.[32]

Additionally, the financial community is beginning to recognize the benefits of benchmarking. Fannie Mae, the nation's largest multifamily mortgage investor, requires benchmarking and energy audits in its Green Physical Needs Assessment, a prerequisite for loan applicants to Fannie Mae's Green Refinance Plus mortgage product. As referenced earlier in this report, Deutsche Bank Americas Foundation recently identified potential benefits to lenders that consider building energy performance in loan underwriting. However, such lending practices have been slow to emerge.

2.3 Multifamily Policy Profiles

The following policy profiles explain the requirements and known results of the multifamily benchmarking and disclosure provisions in each of the cities that adopted a policy.

Austin, Texas

The City of Austin's Energy Conservation and Audit Disclosure (ECAD) Ordinance was adopted in November 2008 and amended

slightly in April 2011. It requires energy-performance assessments and disclosure for single-family homes, multifamily housing, nonresidential, and municipal buildings. Specific requirements vary depending on the building sector.

While the Ordinance requires benchmarking using the EPA's ENERGY STAR Portfolio Manager tool for nonresidential buildings, the requirements for multifamily housing are among the most stringent of any U.S. state or city and differ significantly from multifamily benchmarking and disclosure requirements in jurisdictions with similar laws. Owners of most multifamily properties of five or more units are not required to benchmark, but must perform an energy audit once every 10 years and disclose energy-performance information in the following ways:

- Post an energy audit report in the building lobby.
- Provide the energy audit report to Austin Energy, the municipal utility.
- Provide prospective renters and current tenants with an "Austin Energy Guide" form that contains audit results and estimated monthly electric costs.

Additionally, the most energy-intensive properties must undergo mandatory energy efficiency improvements within 18 months of notification by the city.[33] A failure to meet energy efficiency targets triggers a separate disclosure notifying prospective renters and current tenants that their energy bill may be higher than other properties in the area.[34]

Approximately 1,350 multifamily properties totaling 106.5 million square feet and more than 122,500 housing units were required to comply at the initial compliance deadline in June 2011. Multifamily properties are exempted from all requirements if they are less than 10 years old, or if the owner has conducted comprehensive duct remediation or HVAC replacement in all units within the past 10 years (the work is eligible for utility rebates). The initial compliance rate was approximately 60 percent, including properties that were exempted after the completion of energy upgrade work that exempted them from audit requirements. Austin Energy exceeded its fiscal year 2011 goals for multifamily megawatt reductions by 150 percent, which utility program administrators attribute at least partially to the impact of multifamily audit and upgrade requirements.[35]

Austin Energy is providing whole-building energy consumption data to building owners upon request to help facilitate benchmarking.

District of Columbia

The District of Columbia adopted the Clean and Affordable Energy Act in July 2008. It requires annual benchmarking and the public disclosure of benchmarking information for multifamily housing and nonresidential and municipal buildings, as well as energy-performance estimations for new construction and renovation projects.

The District of Columbia was the first U.S. jurisdiction to adopt benchmarking requirements for its multifamily stock, serving as a model for other cities such as New York and Seattle. The District's requirements for multifamily housing mirror those for nonresidential buildings. All properties larger than 50,000 square feet of gross floor space are required to be benchmarked on a graduated schedule beginning with the largest buildings. Initial compliance was delayed and is now being phased in from 2012 to 2014. Benchmarking for existing buildings must be conducted using the Portfolio Manager benchmarking tool. All benchmarking information must be reported to the District Department of the Environment (DDOE), which will publicly post benchmarking information beginning in the second year a building is required to comply.

Approximately 826 multifamily properties totaling 112 million square feet and 115,000 housing units are required to comply by 2014, according to DDOE. Additionally, beginning with the issue of permits in 2012, the District is requiring nonresidential and multifamily construction projects totaling 50,000 square feet or more to undergo energy-performance estimations using the ENERGY STAR Target Finder tool, and owners must submit data to the city government. The requirement is triggered by new construction and major renovations, and data will be posted online.

Neither of the city's two main utilities, Pepco and Washington Gas, is currently providing whole-building energy consumption data to building owners to help facilitate benchmarking, except where the owner has signed authorization from each tenant to access that information. In response, the District will allow multifamily owners to conduct benchmarking for common area spaces only, until a data access program is developed.

New York City

New York City's Local Law 84 (LL84) was adopted in December 2009 and requires annual benchmarking and the public disclosure of benchmarking information for multifamily housing and nonresidential and municipal buildings. LL84 passed as part of the *Greener, Greater Buildings Plan*, a suite of energy efficiency policies that also requires energy audits, retrocommissioning, submetering, and lighting upgrades for large commercial and multifamily properties.

Owners of all multifamily properties greater than 50,000 square feet of gross floor space are required to benchmark annually using Portfolio Manager and report benchmarking information to the city, which will begin publicly posting benchmarking information in 2013. The initial compliance deadline was Aug. 1, 2011; however, the city extended initial compliance until the end of 2011.

Approximately 9,500 properties totaling 1.5 billion square feet and approximately 1 million units were required to comply at the initial compliance deadline, the largest volume of multifamily stock in any city with a benchmarking and disclosure policy by a wide margin. Approximately 75 percent of properties complied with LL84 by the end of 2011, with multifamily housing accounting for approximately 80 percent of submittals.

Initial analyses of benchmarking data by city officials yielded several interesting findings, including that for both multifamily and office properties, energy use intensities were greater in newer buildings than older buildings. As a group, multifamily buildings more than 80 years old use the least energy compared to other multifamily building age groups. Additionally, the city found that its subsidized affordable housing properties (constituting about 15 percent of total multifamily housing units covered by LL84) were on average more energy intensive than market-rate or mixed income housing properties, however more research is needed to determine the reason.[36]

From 2013 through 2022, the city will begin phasing in auditing and retro commissioning requirements for large commercial and multifamily properties. By 2025, the city is also requiring lighting upgrades and sub metering of all large tenant spaces (greater than 10,000 square feet) for the same subset of large properties.

The city's two main utilities, Consolidated Edison and National Grid, are providing whole-building energy consumption data to building owners upon request to help facilitate benchmarking.

Seattle

The City of Seattle adopted its benchmarking and reporting program in January 2010. It requires annual benchmarking and the disclosure of benchmarking information at the time of a real estate transaction for multifamily housing and nonresidential buildings.

Multifamily buildings greater than 20,000 gross square feet are required to be benchmarked in Portfolio Manager and benchmarking information reported to the Seattle Office of Sustainability and Environment. The requirement phases in, with large multifamily properties required to report by October 2012 and smaller multifamily properties required to report in April 2013. Unlike other jurisdictions, Seattle is not publicly disclosing benchmarking information. Instead, building owners must disclose benchmarking information to transactional counterparties upon their request prior to the sale, lease, or financing of a building, and disclose benchmarking information to current tenants upon the request of a tenant.

As a result of major policy changes adopted in September 2012, approximately 1,720 multifamily properties totaling more than 121 million square feet and approximately 100,500 housing units are required to comply with Seattle's policy. Whereas the policy originally covered multifamily properties with five or more units and nonresidential buildings larger than 10,000 square feet, the amended law instituted a 20,000-square-foot minimum threshold across all property types and delayed initial compliance for multifamily properties by an additional six months.

The city's three main utilities, Seattle City Light, Puget Sound Energy, and Seattle Steam, are providing whole-building energy consumption data to building owners upon request to help facilitate benchmarking. The utilities have also automated the transfer of metered energy data directly to Portfolio Manager.

TABLE 1: SUMMARY OF BENCHMARKING AND DISCLOSURE REQUIREMENTS

	AUSTIN	WASHINGTON, DC	NEW YORK CITY	SEATTLE
Adopted	2008	2008	2009	2010
Benchmarking Requirements				
Size Threshold	-	50,000 SF	50,000 SF	20,000 SF
Frequency	-	Annual	Annual	Annual
Benchmarking System	-	EPA ENERGY STAR	EPA ENERGY STAR	EPA ENERGY STAR
First Reporting Deadline	-	2012	2011	2012
Energy Auditing Requirements				
Size Threshold	5+ units	-	50,000 SF	-
Frequency	Once every 10 years	-	Once every 10 years	-
First Reporting Deadline	2011	-	2013 - 2022	-
Disclosure Requirements				
Reporting to City Government	✓	✓	✓	✓
Public Disclosure on Internet	-	✓	✓	-
Transactional Disclosure	✓	-	-	✓
Public Posting in Building	✓	-	-	-
Disclosure to Current Tenants	✓	-	-	✓
Utility Energy Consumption Data Accessibility Practices				
Providing Building Owner with Aggregate, Whole-Building Energy Consumption Data	✓	-	✓	✓
Providing Automated Upload of Energy Consumption Data Directly to Benchmarking Tool	-	-	-	✓

TABLE 2: SUMMARY OF ENERGY PERFORMANCE DISCLOSURES

	AUSTIN	WASHINGTON, DC	NEW YORK CITY	SEATTLE
Disclosure	1. Summary building information[1] 2. Energy audit results[2] 3. Estimated monthly electric usage and cost per unit 4. "Notice of High Energy Use Property" for properties exceeding average electric usage by 150%	1. Summary building information 2. ENERGY STAR score[3] 3. Site and source energy use intensity (EUI) 4. Annual CO_2 emissions ($MtCO_2e$) 5. Total annual energy consumption (kBtu) 6. Water usage per square foot	1. Summary building information 2. ENERGY STAR score 3. Site and source energy use intensity (EUI) 4. Annual CO_2 emissions ($MtCO_2e$) 5. Water usage per square foot	1. Summary building information 2. ENERGY STAR score 3. Site and source energy use intensity (EUI) 4. Annual CO_2 emissions ($MtCO_2e$) 5. Total annual energy consumption (kBtu)

[1] Summary building information includes property address and general characteristics such as building size, building type and year built
[2] Energy audit results include air duct system leakage, insulation levels and solar screens or window film recommendations, as well as summary building information
[3] Energy audit results include air duct system leakage, insulation levels and solar screens or window film recommendations, as well as summary building information
[4] ENERGY STAR score disclosure applicable only to properties eligible to receive ENERGY STAR score

2.4 Policy Implementation Considerations

Access to Energy Consumption Data

The energy consumed within a building is the single most important benchmarking input. In order to benchmark a building using Portfolio Manager and many other benchmarking tools, a building owner must access energy-consumption data for the entire building for the previous 12-month period.

The owners of many multifamily housing structures may be unable to acquire energy consumption data in a simple and timely manner. Many multifamily buildings have separate utility meters for each dwelling unit. Under this common metering configuration, the owner does not typically possess a legal right to access information

from those meters without authorization from each tenant. At the same time, many multifamily buildings have a large number of dwelling units, often exceeding 20 units and sometimes reaching well into the hundreds. Manually gathering energy consumption information for separately metered units in large multifamily buildings may be an exceedingly difficult exercise for owners, and tenants may simply refuse to provide the owner with the requested information.

Utilities have not typically provided metered consumption data for individual tenants to building owners without explicit customer authorization, citing customer privacy expectations and confidentiality policies. However, a growing number of utilities are providing aggregated tenant consumption data to building owners on a monthly or yearly basis. The aggregation of tenant meter data into a single lump sum allows utilities to mask individual tenant data while still providing owners the consumption data needed to benchmark. Utilities using this approach include Austin Energy, Commonwealth Edison, Consolidated Edison, Puget Sound Energy, and Seattle City Light.

Given the difficulties that multifamily owners are likely to encounter in attempting to either manually collect monthly energy bills from individual tenants, or secure authorization from each tenant to acquire metered consumption data from the utility, benchmarking requirements must be accompanied by supporting data accessibility measures by utilities. Prior to or during the policy adoption process, most cities and states with policies engaged with local utilities and state utility regulators to establish whole-building data accessibility solutions, including data aggregation. Jurisdictions that are unable to establish sufficient data accessibility measures to support benchmarking are not recommended to impose requirements on the multifamily housing sector.

Covered Properties

Policies must clearly define what constitutes a "covered" multifamily property versus properties that are exempt from requirements. While existing policies have a great deal in common, they also vary greatly on key provisions, such as how the size of a multifamily property is measured. Policymakers should have a complete understanding of the following topics as policy is developed:

a. **Measuring the size of multifamily housing properties.** New York City and the District of Columbia use a square footage measurement to determine which multifamily

buildings are covered by policy requirements, whereas Austin determines covered properties by the number of units at a property. Seattle amended its policy in 2012, switching from a unit-based measurement to a square footage metric. Both measurements have benefits and drawbacks. Measuring by square feet can establish a single building-measurement metric across the commercial and multifamily sectors that simplifies policy design and administration, according to current policy implementers. However, square feet is a rarely used metric by practitioners in the multifamily housing sector and many owners and operators may have difficulty finding the square footage of their properties. The number of units contained in a property is the industry's standard measure of property size, both in financial transactions and in defining multifamily structures in the building code.

b. **Establishing a minimum size threshold for compliance.** Whether measured by square footage or by number of units, policymakers should establish a building size threshold for compliance that focuses on larger buildings. Appropriate thresholds may be in the 30,000-square-foot-to-50,000-square-foot range or in the 25-unit-to-50-unit range. Focusing efforts on larger buildings allows policymakers to concentrate on a relatively small number of buildings that has the largest potential for energy and carbon reductions. The owners of larger buildings are typically more sophisticated about energy efficiency, and have greater existing financial resources to make energy efficiency improvements, than owners of smaller properties. According to government data, individual investors own more than 60 percent of multifamily properties with fewer than 50 units, but only 13 percent of properties of 50 units or more.[37]

c. **Buildings vs. Properties.** Some types of multifamily properties, such as garden-style complexes, are housed in multiple buildings on the same property. Policymakers should develop requirements that cover multiple small buildings on a single property which collectively meet the minimum size threshold, and separate buildings that share systems can be treated as a single "building" for the purposes of benchmarking. Policies that narrowly define buildings may exempt large properties with multiple small buildings, undermining policy intent.

Compliance Timeframe

Existing policies typically establish a phased implementation schedule – either by building type, building size, or both – to ensure that stakeholders have ample time to comply. For a variety of reasons, requirements on the multifamily housing sector should generally be phased in following nonresidential building sectors. Whereas benchmarking is already something of an established practice in commercial real estate, it is far less prevalent in the multifamily sector, and policy implementation should reflect additional time related to the sector's needs in the areas of benchmarking training and education.

Delaying multifamily implementation also allows program administrators to focus on compliance needs for nonresidential and multifamily somewhat separately, which should benefit both sectors while easing burdens on implementation resources.

Benchmarking Tools

Existing benchmarking policies require commercial and multifamily owners to benchmark using ENERGY STAR Portfolio Manager, a benchmarking tool available online at no cost and administered by EPA. Portfolio Manager has captured significant market share in the commercial sector; however, its use is less prevalent in the multifamily sector. Of the more than 250,000 properties nationwide that have been benchmarked using Portfolio Manager, only about 13,000 of them are multifamily housing, including multifamily properties that were required to be benchmarked in New York City.[38] While Portfolio Manager provides a number of energy-performance metrics for multifamily buildings, it cannot yet provide relative efficiency scores between properties. For multifamily owners, the main value Portfolio Manager provides is measuring a building's energy-use intensity and allowing energy-performance tracking for a single property over time.

Policymakers should continue to reference Portfolio Manager as the required benchmarking tool for several reasons. A standard benchmarking system for all nonresidential and multifamily properties maintains harmonization across jurisdictions and building types and prevents stakeholders from having to learn multiple benchmarking systems. EPA is currently working with Fannie Mae to develop a 1-to-100 energy score for the multifamily sector that is scheduled to be deployed to market in late 2013, which would add considerable value for multifamily stakeholders.

While a number of privately administered benchmarking tools add considerable value beyond Portfolio Manager, it may be

difficult for policymakers to require the use of a private tool. These benchmarking systems also charge fees for their usage. In jurisdictions with existing policies, the vendors of privately administered benchmarking tools are conducting much of the Portfolio Manager benchmarking for multifamily stakeholders, and are in some cases benefitting greatly from conducting this work and increasing their exposure to potential new clients. Policymakers can discuss specific benchmarking tools with multifamily stakeholders prior to adopting a tool to achieve a greater understanding of the strengths and weaknesses of specific benchmarking tools.

Benchmarking Data Quality

Ensuring the quality of benchmarking data is critical to the success of benchmarking and disclosure policies. Because Portfolio Manager and other benchmarking tools were designed primarily for an owner's self-assessment of energy performance, they typically do not provide any quality assurance (QA) measures.

At a minimum, jurisdictions should establish authority to audit incoming benchmarking data and enforce noncompliance or purposeful benchmarking misrepresentations. Policymakers should also consider other forms of data quality assurance, including requiring a third party to verify the accuracy of all submittals prior to reporting deadlines. A QA system similar to the one required by EPA when building owners apply for ENERGY STAR certification, which requires a registered architect or a Professional Engineer to conduct an on-site visit at the building, could both eliminate the potential for gaming and identify accidental data-entry errors. There is a financial cost associated with this verification that policymakers should discuss with multifamily stakeholders during the policy design phase. Policymakers should consider subsidizing the cost of third-party verification for nonprofit-owned properties and other affordable housing projects.

Building Stock Inventories

States and local jurisdictions typically know very little about privately owned buildings. Prior to implementing a benchmarking and disclosure policy, program administrators must construct an accurate inventory of buildings and building contacts that they can use to notify owners of policy requirements, measure compliance, and enforce noncompliance. To construct this inventory, jurisdictions have used a number of data sources, including tax records, building permit data, CoStar information, Light Detection and Ranging (LIDAR) data, and utility data. No single data source is

likely to include all the data points needed to construct the inventory.

The multifamily sector presents some interesting challenges that policymakers should be aware of when constructing building-stock inventories. For instance, residential condominiums are recorded as separate properties in tax payrolls, rather than units within a single structure. Policymakers will need to match the addresses for individual units to shared structures to accurately assess the number and size of condominium buildings. For all multifamily buildings, policymakers should create a feedback loop with building owners to verify that the sizes of covered buildings (by square footage or number of units) are correct.

Industry Outreach, Education, and Benchmarking Training

Launching a broad public outreach campaign to educate multifamily stakeholders on policy benefits and requirements and provide benchmarking training for owners and operators is fundamental to successful policy implementation. Policymakers should begin by engaging local multifamily stakeholders, including property owners, managers, nonprofit groups, and energy efficiency services vendors, as policy requirements are developed. Program administrators should work in partnership with nonprofit organizations, trade associations, and other industry groups to provide information to stakeholders during policy implementation.

Jurisdictions should organize benchmarking training sessions specifically for the multifamily sector well in advance of reporting deadlines. As previously mentioned, the multifamily sector has less overall experience than the nonresidential sector in benchmarking. The affordable housing sector in particular would benefit from holistic training and informational sessions about how energy efficiency can support mission-driven goals. Jurisdictions should also establish staffed centers to assist owners with questions about policy compliance or benchmarking, as many cities have already done.

3. Policy Recommendations and Conclusion

3.1 Policy Pathway

While multifamily benchmarking and disclosure policies continue to evolve rapidly, jurisdictions that are considering such policies can follow a “policy pathway” of best practices established by leading

cities to guide their efforts and help ensure policies achieve their goals. Those best practices include:

- **Ensure building owners have access to energy-consumption data for benchmarking.** Utilities, regulators, policymakers, and real estate leaders should work together prior to policy adoption to ensure that benchmarking requirements are accompanied by whole-building energy consumption data accessibility measures from utilities that support an owner's ability to conduct benchmarking.

- **Focus initially on large buildings.** Policies should initially apply only to larger multifamily housing properties, which are better positioned to comply with policy requirements. Policymakers should analyze the composition and ownership structures of the local multifamily housing stock to determine specific building-size thresholds. Most existing policies initially apply only to multifamily buildings larger than 20,000 square feet. Success with this subset of buildings should increase the likelihood of achieving success with smaller properties.

- **Establish an industry advisory group.** Policymakers should establish a small working group comprised of key representatives from the private sector to provide important guidance and feedback on implementation activities. Ideally, this group should include five to ten individuals representing the real estate, utility, and financial sectors, and different segments of the multifamily sector. Representatives from the financial sector can provide guidance on how multifamily benchmarking data may enable their use of data in lending practices and policies.

- **Develop robust stakeholder outreach and benchmarking training activities.** Policymakers should anticipate that to achieve policy goals, they may need to give multifamily stakeholders more time to comply with benchmarking requirements and should offer a robust public education and benchmarking training program during implementation. Stakeholder resources should include live informational and training sessions and a dedicated benchmarking help center to assist stakeholders with compliance.

- **Establish robust data quality assurance measures.** Policymakers should establish robust quality assurance measures prior to policy implementation to ensure that market confidence in benchmarking data integrity is high. Such measures may include a combination of data audits, third-party verification, and penalties for submitting inaccurate benchmarking data.

3.2 Challenges and Opportunities

The following recommendations are intended to help identify challenges and opportunities in benchmarking and disclosure policies and practices in the multifamily housing sector.

Policies can help close the data gap in the multifamily housing industry. Benchmarking and disclosure policies have significant potential to help address data barriers that have undermined energy efficiency efforts in the multifamily sector. The adoption of policies is making energy-performance information available and accessible in the real estate marketplace, with the following potential benefits:

- Government policymakers, utilities, and lenders can collect and use benchmarking data – including pre- and post-retrofit data – to design and deploy new policies, incentives, and financial products that advance energy efficiency efforts.
- Benchmarking data can inform the development of energy-efficient utility allowances that reduce split-incentive barriers.
- The availability of benchmarking data to real estate tenants, investors, and lenders can increase accountability for poor building performance and help parties value energy efficiency in transactions.
- Benchmarking data can help building owners proactively manage energy and drive demand for energy efficiency improvements through greater awareness of improvement opportunities.

Energy disclosures for multifamily housing can be improved. Determining the most effective disclosure methods for multifamily energy-performance data will maximize the ability of policies to advance energy efficiency within the sector. While public disclosure

is one effective conduit to deploy information, policymakers should consider other disclosure conduits and options that are more tailored to the needs of residential tenants and the multifamily sector in general:

- **Integration with listing services.** As with single-family housing energy disclosures, one of the most effective information conduits for renters is listing services. Integrating energy performance data into listing services would ensure that information reaches renters early in the rental process.

- **Integrated public and direct disclosures.** While jurisdictions so far have adopted either public or direct disclosure requirements, a more effective strategy may be to adopt both. A disclosure regime that integrates public disclosure with requirements to disclose information directly to transactional counterparties and existing tenants has greater potential to impact the market.

- **Consumer-friendly metrics.** Particularly for residential renters, it is important that energy-performance data disclosures be simple and compelling, similar to fuel economy stickers on vehicles and nutritional labels on food. At present, the lack of an ENERGY STAR 1- to-100 energy-performance score for multifamily buildings negatively impacts the value of the disclosure. In place of the performance score (currently under development), several jurisdictions are requiring the disclosure of each building's energy-use intensity (EUI), a numeric metric measured on a per-square-foot basis. While the EUI has value for building operators, its impact on consumers is expected to be limited. One option policymakers should consider for the multifamily sector is a monthly cost-based metric, similar to the information contained in Austin's "Energy Guide" disclosure within its multifamily energy disclosure program.

Policy customization may be beneficial for affordable housing. Existing policies typically cover the entire multifamily housing sector under the same requirements. However, policymakers should consider customizing policy provisions to meet the needs of affordable housing, which displays characteristics that set it apart from typical market-rate housing. For example, whereas market-rate tenants may consider energy-performance information before leasing a property, low-income tenants are much less likely to be

impacted by that type of disclosure, because they receive utility allowances or are subject to waiting lists for public housing, or other factors. In those cases, energy disclosures to HUD may be more impactful.

Additionally, the difference in operating budgets between owners of government-assisted housing and market-rate housing may be significant. The owners of government-assisted housing who receive a benchmarking score may not have available capital to implement even low-cost improvements, including for reasons listed in Section 2.3. Austin and New York City allow waivers for owners demonstrating financial hardship with more capital-intensive requirements, such as audits, retrocommissioning, or submetering. Rather than simply exempt these properties, policymakers should explore the use of subsidies or other financial assistance for owners with financial hardship, enabling them to conduct measures that may result in energy and financial savings.

There are other opportunities to integrate benchmarking and disclosure. Benchmarking and disclosure requirements may be embedded within the multifamily housing sector in ways other than legislative policies. Examples include:

- **HUD reporting requirements.** HUD subsidizes the operating costs for rental properties owned by public housing authorities (PHAs) and private owners with project-based Section 8 housing subsidies. In both cases, HUD subsidizes energy costs based on utility expense levels, and each year PHAs must report energy-consumption data for those properties to HUD. Using administrative authority, HUD could require PHAs to benchmark their properties each year and report benchmarking information along with energy-consumption data. This type of requirement could help HUD identify poorly performing buildings that are good candidates for energy retrofits, and provide an additional data point for determining future utility expense levels.

- **Low-Income Housing Tax Credit criteria.** Using administrative authority, state housing agencies could integrate ongoing benchmarking requirements into qualified allocation plans (QAPs) that determine tax credit allocations. While many QAPs already feature sustainability criteria, state agencies have not typically extended criteria into areas related to ongoing building energy assessment or operations. Annual benchmarking requirements could enable housing

owners to manage and reduce energy costs, in turn helping to preserve the rental affordability of those properties.

- **Loan requirements.** Building on Fannie Mae's integration of benchmarking and other energy-performance assessment measures into its Green Refinance Plus program, multifamily lenders (including GSEs) should consider integrating energy performance into loan underwriting as a risk mitigation strategy. With housing markets in recovery and billions of dollars of commercial mortgage-backed securities (CMBS) loans made from 2006 to 2008 in special servicing or coming due in the next few years, significant opportunities exist for lenders to develop energy-performance assessment protocols that may ultimately reduce the risk of loan default.

Notes

[1] U.S. Census Bureau American Housing Survey of 2009

[2] Multifamily housing unit data from U.S. Census Bureau American Housing Survey of 2009. Multifamily property data from National Multi Housing Council, *Quick Facts: Apartment Stock*.

[3] National Multi Housing Council. *Quick Facts: Apartment Stock*. Accessed Oct. 8, 2012.

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[6] Fannie Mae. *Fannie Mae and Workforce Rental Housing*. 2011.

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[13] Deutsche Bank Americas Foundation and Living Cities. *Recognizing the Benefits of Energy Efficiency in Multifamily Underwriting*. 2012.

[14] Harvard University Joint Center for Housing Studies. *America's Rental Housing – Meeting Challenges, Building on Opportunities*. April 2011.

[15] Harvard University Joint Center for Housing Studies. *The State of the Nation's Housing 2011*.

[16] For more information on commercial property value studies, see www.imt.org/performance-policy/efficiency-and-value. For single-family housing property value studies, see http://www.corporate-engagement.com/files/publication/KK_Green_Homes_071912.pdf and http://www.prnewswire.com/news-releases/certified-homes-outperform-non-certified-homes-for-fourth-year-in-portland-metro-region-123477939.html.

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[21] DB Climate Change Advisors and the Rockefeller Foundation. *United States Building Energy Efficiency Retrofits: Market Sizing and Financing Models*. 2012.

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[24] U.S. Department of Housing and Urban Development, Office of Policy Development and Research, and U.S. Department of Commerce, Economics and Statistics Administration. *Residential Finance Survey: 2001*. Sept. 2005. Section 6, p. 4, and Section 7, p. 4.

[25] U.S. Department of Housing and Urban Development. *Quantifying Energy Efficiency in Multifamily Rental Housing*. Evidence Matters Newsletter. 2011. p. 4.

[26] Benningfield Group. *Addendum Report: U.S. Multifamily Housing Stock Energy Efficiency Potential*. 2010. p. 13.

[27] Institute for Market Transformation. *Building Energy Transparency: A Framework for Implementing U.S. Commercial Energy Rating and Disclosure Policy*. 2011. p. 4.

[28] Benningfield Group. *Addendum Report: U.S. Multifamily Housing Stock Energy Efficiency Potential*. 2010.

[29] Residential Energy and Water Data Collaborative. *Establishing Threshold Data Points to Track Building Performance*. 2011.

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[31] Resource Media and Seattle Department of Planning and Development. *Benchmarking: Unlocking Energy Savings in Residential Buildings*. 2011.

[32] Institute for Market Transformation. *Energy Disclosure and the New Frontier for American Jobs*. 2012.

[33] Multifamily properties using more than 150 percent of the average energy use per square foot by multifamily properties in the Austin Energy service area are considered "high energy use" properties, and must conduct improvements to bring the property to 120 percent of the average within 18 months.

[34] "Notice of High Energy Use Property" form

[35] Interview with Tim Arndt, Austin Energy, Feb. 7, 2012.

[36] City of New York. *New York City Local Law 84 Benchmarking Report*. 2012.

[37] U.S. Department of Housing and Urban Development, Office of Policy Development and Research, and U.S. Department of Commerce, Economics and Statistics Administration. *Residential Finance Survey: 2001*. Sept. 2005. Section 6, p. 4, and Section 7, p. 4.

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Appendix

About the Multifamily Energy Disclosure Policy Workshop

IMT convened the Multifamily Energy Disclosure Policy Workshop on Jan. 26, 2012, in Washington, DC. The nation's first event dedicated exclusively to energy benchmarking and disclosure policy in the multifamily housing sector, the Workshop reviewed existing policy structures, examined policy design considerations, and explored solutions to overcome policy implementation challenges. The U.S. Environmental Protection Agency also led a special forum on ENERGY STAR multifamily program efforts and the development of the ENERGY STAR benchmarking score for multifamily buildings.

The Workshop featured broad participation from the public and private sectors, including the following individuals:

- **Laurie Actman**, Energy Efficient Buildings Hub
- **Jayson Antonoff**, City of Seattle Office of Sustainability and Environment
- **Eric Barteldes**, Fannie Mae
- **Zach Baumer**, Austin Office of Sustainability
- **Hilary Beber**, New York City Mayor's Office of Long-Term Planning and Sustainability
- **Jaime Berg**, Related Management
- **Andrew Burr**, Institute for Market Transformation
- **Deborah Cloutier**, JDM Associates
- **Leslie Cook**, U.S. Environmental Protection Agency
- **Alex Dews**, Philadelphia Mayor's Office of Sustainability
- **David Diestel**, First Service Residential Management
- **Marshall Duer-Balkind**, District of Columbia Dept. of the Environment
- **Debra Hall**, Massachusetts Dept. of Housing and Community Development
- **Yianice Hernandez**, Enterprise Community Partners
- **Barry Hooper**, San Francisco Department of the Environment
- **Donna Hope**, New York City Mayor's Office of Long-Term Planning and Sustainability
- **Alena Hutchison**, U.S. Environmental Protection Agency
- **Matthew Johnston**, Urban Land Institute
- **Caroline Keicher**, Institute for Market Transformation
- **William Kelly, Jr.**, Stewards of Affordable Housing for the Future

- **Laurie Kerr**, New York City Mayor's Office of Long-Term Planning and Sustainability
- **Matt Latham**, National Housing Trust/Enterprise Preservation Corp.
- **Eileen Lee**, National Multi Housing Council
- **Thomas Lee**, Bozzutto Management Co.
- **Cliff Majersik**, Institute for Market Transformation
- **Vaughn Maurer**, UDR
- **Alan Mileti**, National Church Residences
- **Eileen Nacev**, JBG Cos.
- **Todd Nedwick**, National Housing Trust
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About the Institute for Market Transformation (IMT)

The Institute for Market Transformation (IMT) is a Washington, DC-based nonprofit organization promoting energy efficiency, green building, and environmental protection in the United States and abroad. IMT's work addresses market failures that inhibit investment in energy efficiency and sustainability in the building sector. For more information, visit imt.org.

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