



# Sample Market Transformation Plan: Technical & Financial Solutions for Multifamily Retrofits

January 2025

## Introduction: Guide to Using Sample Plans

This sample plan is intended to serve as a launch point for states to think through how to transform energy use in multifamily buildings. To demonstrate the breadth of possibilities, the sample plan lists numerous activities aimed at developing effective technical approaches and financing for multifamily retrofits. Throughout the sample plans, text in **RED SMALL CAPS** indicates where state-specific data or conditions are needed.

Please note that all text is intended to be illustrative. It is neither recommended nor expected that states adopt this sample plan verbatim. States should develop plans that reflect their specific vision, goals, and strategy.

States are encouraged to review all of the market transformation sample plans regardless of their intended area(s) of focus for market transformation. Content to be covered in each section of the plan is described briefly in italics prior to the sample text; however, states should consult Section 2 of the [Market Transformation Guidance](#) for a detailed description of information to be included in their plans.

## Summary

*Provide a succinct overview of the state's market transformation plan. An acceptable summary will delineate the state's goal(s), market barriers to be addressed, primary activities, and how progress or results will be measured.*

Energy efficiency retrofits at multifamily properties can provide benefits to many stakeholders from tenants and property owners to developers, contractors, local governments and the grid. Retrofitted building systems including envelope upgrades can reduce customer utility bills, lower property maintenance costs, enhance tenant quality of life, improve indoor air quality and make communities more resilient.

Despite these benefits, a number of barriers hinder investments in multifamily retrofits including the complexity of determining appropriate measures, access to affordable capital, disruption to tenants, potential loss of income to owners if relocation is required, and lack of value recognition in real estate or insurance transactions. **[ENTER: STATE]** will undertake various activities to address these barriers and expand the value proposition of multifamily upgrades.

These activities will focus on reducing the complexity of retrofits, measuring the benefits delivered in rebate projects, facilitating access to capital, and creating standard methods to express the value of energy-related improvements to building owners and others with potential financial interests (e.g., utilities, real estate, insurance). The state will leverage an Advisory Committee, strategic partnerships, and other experts to inform and implement actions.

The goal of this plan is to drive large scale adoption of deep energy retrofits in multifamily buildings by standardizing design, construction, and financing processes and offerings that simplify energy retrofits.

## Market Landscape

*If including this optional section, use existing information and analyses to briefly set a context for the state's market transformation plan.*

[ENTER: STATE]'s multifamily building stock consists of the following types: [INCLUDE STATISTICS REGARDING NUMBER OR PERCENTAGE OF MF BUILDINGS IN VARIOUS CATEGORIES, VINTAGE, ETC.1]

- [ENTER: NUMBER] Less than 4 stories
- [ENTER: NUMBER] 4 or more stories
- [ENTER: NUMBER] Built before XXXX
- [ENTER: NUMBER] Built within X years
- [ENTER: NUMBER] Privately owned
- [ENTER: NUMBER] Publicly owned
- [ENTER: NUMBER] Low-income housing

Based on preliminary estimates provided in [ENTER RELEVANT ANALYSES, FOR EXAMPLE DISCUSSIONS WITH THE NATIONAL RENEWABLE ENERGY LABORATORY CONCERNING BUILDING STOCK CHARACTERISTICS], approximately [ENTER: NUMBER] percent of these buildings can make cost-effective [ENTER TYPE OF IMPROVEMENTS: E.G., HEATING, COOLING, HOT WATER, SOME COMBINATION OF THESE RETROFITS] upgrades. Of these, approximately [ENTER: NUMBER] percent require minimal envelope/weatherization upgrades and approximately [ENTER: NUMBER] percent require substantial envelope improvements.

While retrofit opportunities are widespread, the vast majority are not undertaken due to a variety of factors including the split incentive between owners and occupants as well as complex financing challenges (e.g., mid-cycle financing, complex ownership structures, lack of upfront capital, integration with existing financing, etc.) uptake in certain locations:

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<sup>1</sup> Resources for research may include U.S. Census Bureau, U.S. Department of Housing and Urban Development, state housing agencies, National Multi Housing Council (NMHC), real estate data providers, local and regional data including municipalities and counties, building permits and zoning data, etc.

[INCLUDE RELEVANT INFORMATION: E.G., BENCHMARKING AND/OR BUILDING PERFORMANCE STANDARDS THROUGHOUT THE STATE OR INDIVIDUAL LOCALITIES, FINANCIAL INCENTIVES, TECHNICAL ASSISTANCE, EFFORTS BY COMMUNITY-BASED ORGANIZATIONS OR OTHERS IN MULTIFAMILY BUILDING SECTOR.]

[ENTER: STATE/LOCALITY] has established the following building performance requirement:

- All buildings with greater than [ENTER: NUMBER] square feet must [ENTER: REQUIREMENTS E.G., ENERGY EFFICIENCY REQUIREMENTS BY YEAR]
- Non-compliance results in [ENTER: DESCRIPTION OF PENALTIES]

[ENTER: STATE/LOCALITY] has established the following benchmarking ordinances:

- All buildings with greater than [ENTER: NUMBER] square feet must disclose their energy use through [DESCRIBE: METRIC REQUIREMENTS, TIMING, ETC.]

[ENTER: UTILITY] offers the following incentives:

- [ENTER: TYPE OF MULTIFAMILY BUILDINGS E.G., LOW INCOME] are eligible for up to [ENTER: DOLLAR AMOUNT] for [ENTER: TYPE OF IMPROVEMENT]

The following financing options are or may be soon available to help fund retrofits in [ENTER: STATE/LOCALITY]:

- [ENTER: TYPES OF ENTITIES, E.G., BUILDING OWNERS, LOCAL GOVERNMENTS] are eligible to apply for funding and financing through [ENTER: RELEVANT PUBLIC/PRIVATE/UTILITY PROGRAMS].
- [ENTER: STATE] established a green bank in [ENTER: YEAR]. To date, [ENTER: DOLLAR AMOUNT] has been put toward building retrofits, including [ENTER: DOLLAR AMOUNT OR NUMBER OF PROJECTS] for multifamily retrofits.

The following organizations provide technical assistance to [ENTER: TYPES OF ENTITIES E.G., LOW INCOME FAMILY BUILDING OWNERS, WAP PROVIDERS] to address barriers to retrofits such as [DESCRIBE BARRIERS E.G., FAULTY ROOFS, ASBESTOS, INSUFFICIENTLY TRAINED WORKFORCE FOR MF RETROFITS]).

- [ENTER: INFORMATION ON ORGANIZATIONS ACTIVE IN THIS SPACE]

## Vision & Outcomes

*Describe the state's vision for its housing stock, particularly as it relates to residential energy use. Define specific outcomes that the state intends to target in support of that vision. Describe its market transformation strategy(ies), including how it seeks to address at least one market condition or barrier and how it aligns with targeted outcomes.*

### Vision

[ENTER: STATE] aspires to have a multifamily housing stock that [ENTER: DESCRIPTION E.G., IS NET ZERO ENERGY BY [ENTER: DATE], ALLOWS HOUSEHOLDS TO LIVE COMFORTABLY AND SAFELY AT [ENTER COST TARGET]].

To realize this vision, multifamily building owners and investors need to be able to effectively, expeditiously, and affordably carry out energy improvements that deliver expected and sufficient value. They need to be motivated by either a compelling value proposition or an imposed requirement.<sup>2</sup>

## Outcomes

Within the identified scope of building stock, the state's market transformation plan seeks to support four outcomes needed to achieve this vision. These outcomes reflect needs for streamlined technical retrofit solutions; streamlined and favorable financing; and standardized valuation of multifamily building retrofits at time of sale or lease.

- (1) Multifamily building owners have confidence in the value and performance of energy efficiency and electrification technologies.
- (2) Qualified contractors with expertise in multifamily energy efficiency and electrification are readily available across the state.
- (3) Building owners and/or other relevant entities can readily access favorable financing to pay for energy upgrades in multifamily buildings where needed.
- (4) Building energy upgrades are readily apparent and easy to value in real estate and other relevant transactions (e.g., appraisal, sale, lease, insurance).

## Market Barriers and Approach

A number of barriers hinder investment in multifamily retrofits including, but not limited to, the following:

- Designing retrofits and determining which improvements make sense for individual buildings can be complicated.
- Many contractors, energy auditors, and building owners lack experience with newer technologies and retrofit methods.
- Access to whole building energy usage data - which can inform upgrade recommendations and lend greater confidence in savings projections - is limited.
- Retrofits can be disruptive to tenants, making building owners reluctant to undertake them, particularly deeper, more invasive improvements.
- Building owners cannot easily access capital to pay for improvements.
- In contrast to more visible improvements, energy upgrades are typically not reflected in real estate or insurance transactions.

The state's market transformation plan seeks to address these barriers and expand the value proposition of multifamily energy upgrades. Activities focus on developing contractor, energy auditor, and building owner familiarity and expertise with newer and less widely used

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<sup>2</sup> If the state has requirements for multifamily upgrades (e.g., building performance standard), the market transformation plan should suggest ways to facilitate compliance and/or augment what will already take place.

technologies and retrofit methods; measuring the benefits delivered in rebate projects; facilitating access to capital; and creating standard methods to express the value of these improvements to building owners and others with potential financial interests (e.g., utilities, real estate, insurance).

In support of Outcomes #1 and #2, the state will provide support to a set of qualified multifamily projects, known as the MT Focus Buildings for the purposes of this plan. The MT Focus Buildings will be selected based on a variety of factors including the level of interest and commitment of building owners (or other relevant stakeholders) in using the rebates as a means to improving the delivery and effectiveness of energy-savings retrofits. Through case studies and presentations, the state will share lessons learned and project level experience with other market actors to help increase understanding of retrofit options and associated costs and benefits. Where possible, guidance will be developed to encourage adoption of standardized retrofit approaches in buildings with common characteristics. As a corollary to this project-specific work with MT Focus Buildings, the state will work with interested localities to standardize permitting processes associated with typical upgrades, thereby reducing time delays and costs; as well as with utilities to explore how to access whole building data more easily (e.g., through agreements that limit access for the purposes of evaluation or energy audits, ENERGY STAR® Portfolio Manager partnerships, standardized data specifications).

In support of Outcome #3, the state will work with one or more types of financing entities (e.g., housing finance agencies, community banks, green banks, GGRF recipients) to develop and test methods that facilitate streamlined availability of financing for energy efficiency improvements. For example, working with the state's housing finance agency, the state energy office and/or its implementer will develop a process for scoping projects and reserving rebates at the time a building is seeking mortgage financing through the housing finance agency. This will enable building owners to incorporate comprehensive energy efficiency improvements into their broader property renovation plans. The state will work with financing entities to evaluate the performance of these projects (such as impacts of different upgrade types on utility bills, occupant satisfaction, occupancy rates, and maintenance costs) and evaluate potential underwriting practices that may help to increase proceeds available to projects, with the goal of greater access to capital for efficiency improvements after rebate funds are exhausted.

In support of Outcome #4, the state will engage widely recognized energy efficiency programs (e.g., ENERGY STAR), the real estate community and other relevant stakeholders to ensure improvements are documented in a standard way that can be appropriately and easily valued in transactions. Today, it's difficult to prove that investing in energy upgrades will pay off at point of sale or when leasing a property, and this can also be in tension with maintaining affordability at a multifamily property if increased value is realized through higher rents. Putting in place standard practices that support accurate valuation of upgrades at point of sale or refinancing are essential to capturing the value of energy upgrades in real estate transactions and showing that energy upgrades are smart capital investments.

Activities may include:

- Apply market actor insights through advisory committee, testing, and/or surveys, to develop easy-to-understand standard post-installation certificate template for multifamily projects that includes reliable metrics and other valuable information.
- Benchmark buildings receiving rebates in the ENERGY STAR portfolio manager. Benchmarking can be used to identify underperforming buildings, support building investment priorities, verify energy efficiency savings and prevent snapback, share and report energy efficiency performance, and earn ENERGY STAR certification if the ENERGY STAR score is 75 or higher. Buildings able to achieve ENERGY STAR Certification may be able to qualify for financing incentives for mortgage financing through the U.S. Department of Housing and Urban Development's Green Mortgage Insurance Premium (MIP) reductions, Fannie Mae's Green Financing program, or Freddie Mac's Green Advantage program.
- Devise and apply standard method to track projected or measured impact of improvements on a building's operating expenses, including benefits such as compliance with building performance standards and avoidance of costly fines, ability to better attract and retain residents, reduced marketing and turnover costs.

## Key Activities, Milestones, and Timeline

*Describe the activities the state will undertake to advance progress toward its stated goals (outcomes). Include a timeline and associated milestones or deliverables for each set of activities.*

The state (and/or its implementer) will collaborate with outside partners to undertake a range of activities aimed at advancing the four aforementioned outcomes. This section provides detail on each primary area of activity and culminates with a table summarizing high-level market transformation milestones to be reported to DOE. As indicated below, the state will engage strategic partners to further define activities and sequence efforts to support continuous improvement and market evolution (i.e., planning, implementation, tracking, analysis, refinement of activities, and documentation of findings).

## Planning & Expert Engagement

### Advisory Committee & Strategic Partnerships

- Identify experts and organizations (e.g., multifamily building owners, housing finance agencies, community and green banks, GGRF recipients, manufacturers, distributors, home upgrade companies, energy savings performance companies, utilities with load management control or other programs, appraisers, real estate, mortgage lenders) to serve on Advisory Committee and/or assist in carrying out market transformation plan activities including testing new technical and/or financing approaches in specific rebated multifamily projects.

- Develop Advisory Committee membership, charter, meeting cadence, roles and responsibilities, subcommittees and working groups, etc.
- As needed or required by the charter, revise membership, roles and responsibilities, etc.
- Convene group quarterly to track progress, evaluate merit of activities, review findings from MT Focus Buildings, assess new opportunities, and solicit feedback on Market Transformation Plan changes as needed.
- Tap individual members or smaller groups as needed to address topic-specific issues.
- Seek commitments from Advisory Committee members or other technical, financial, or real estate experts to assist in developing and testing (a) streamlined technical and financial approaches for multifamily retrofit projects; and (b) standard methods for documenting and valuing energy upgrades in multifamily buildings.

#### Market Transformation Plan Development and Refinement

- Determine scope, roles and responsibilities, and timing for implementation steps and develop detailed internal working plan.
- As needed and at least annually, review stakeholder feedback on actions, milestones, timing, responsibilities, etc. and revise as needed.
- On an annual basis, as warranted, refine plan objectives and activities to reflect gaps, opportunities, and findings.

#### Data-Driven Analysis & Dissemination of Findings

- Establish data-sharing agreements and methods with utilities to access at least 12 months pre- and post-upgrade usage data for modeled savings projects.
- Collect data as specified in agreements (e.g., types of data, procedures for collecting data, reporting frequency) with technical and financing project partners and others as needed.
- Share lessons learned to inform retrofits beyond rebate programs; apply findings where applicable (e.g., all Home Energy Rebate projects).
- Publish guidance on effective standardized approaches where identified (e.g., streamlined scoping and implementation of retrofits based on building characteristics, financing solutions).

#### Culmination of Market Transformation Plan and Advisory Committee

- Develop plan and establish partnerships to continue work initiated as part of this Market Transformation Plan (including an Advisory Committee) beyond implementation of rebate programs, as appropriate.
- Publish report with final findings from all analyses conducted as part of the Plan; disseminate to relevant stakeholders within state and beyond.
- Identify additional resources needed to sustain recruitment, training, and/or business support after the rebate funds have been exhausted.

## Streamlined & Effective Technical Solutions

- Working with diverse experts including but not limited to representatives from the multifamily building sector, energy upgrade industry, manufacturers, and public and private sector building science and technology sector, assess technical approaches for multifamily energy retrofits that may improve the value proposition for building owners or other potential stakeholders (e.g., utilities).
- Develop turn-key approaches that address all technical components of retrofit projects, including assessments, identification of improvements, permitting, installation, quality assurance, and other requirements.
- Narrow down potential turn-key approaches based on (a) willingness of one or more multifamily building owners to test them as a “MT Focus Building” and (b) potential to deliver benefits such as cost reduction, improved performance, lower maintenance costs and responsibilities, speed of retrofit, and aesthetic value.
- Establish agreements between interested building owners (and other participants if needed) and state or its implementer to clarify terms for being a MT Focus Building including data collection and reporting requirements, and technical assistance to be offered. Develop a data collection and reporting protocol to allow the state to consistently and effectively measure the efficacy and impacts of tested approaches.
- Initiate projects in MT Focus Buildings that apply new retrofit approaches and assess how project results (e.g., time required, realized savings, maintenance costs, tenant and/or owner satisfaction) compare to those achieved with standard retrofit practices.
- Monitor progress and modify approaches as needed given experiential learning or findings from data analysis.

## Streamlined, Affordable Financing

- Work with relevant members of the Advisory Committee (and additional experts if needed) to characterize current barriers to attracting capital, managing cost flow, bundling resources (e.g., tax credits, rebates, private financing), and other needs.
- Develop streamlined approaches to integrating rebates with existing financing options that (a) attract partners interested in applying new approaches either in MT Focus Buildings or other rebate projects and (b) show promise in enhancing conditions needed to scale multifamily energy upgrades (e.g., driving down transaction costs, improving loan terms, reducing risks, speeding up process of finalizing arrangements, and expediting income qualifications where applicable).
- Facilitate opportunities for building owners to use rebates alongside mortgage-based financing to pay for energy upgrades at point of refinance or purchase.
- Develop a data collection and reporting protocol to allow the state to consistently and effectively measure the efficacy and impacts of tested financing approaches.

- Establish agreements between interested building owners (and others if needed) and the state or its implementer to clarify participation terms including data collection and reporting requirements.
- Launch streamlined financing tests in multifamily rebate projects.
- Monitor progress and modify approaches as needed given experiential learning or findings from data analysis.

## **Standard Methods for Valuing MF Upgrades**

- In consultation with experts from real estate, financial, and other relevant sectors, review the post-installation certificate design for multifamily retrofit projects conducted via the Home Efficiency Rebates program to ensure that the certificate can be applied in a variety of use cases.
- Ensure that the certificate is based on a standardized method for documenting the key information needed to value energy upgrades in multifamily buildings; if it does not, establish and publish a standard protocol for creating, or modifying, the certificate and calculating metrics for the purposes of the Home Efficiency Rebates.
- Finalize and publish certificate design ensuring that it provides easy to understand information to building owners, buyers, and lessees, and includes reliable and consistently derived metrics that can easily be applied in real estate and financing transactions.
- Determine if this certificate or one with less data can be provided with specific types of projects carried out via the Home Electrification and Appliance Rebates.
- Promote among real estate and mortgage financing stakeholders the availability of this key information in the certificate.

Table 1: Market Transformation Milestones Summary<sup>3</sup>

<b>Key Activity</b>	<b>Due Date or Frequency</b>	<b>Planned Completion Date</b>
Advisory Committee Convenings	Within 3 months of DOE MT Plan approval and quarterly thereafter	30-Sep-25
Summary of Committee Recommendations	Annually	30-Sep-25
Updated Market Transformation Plan*	Annually	31-Dec-25
Finalize requirements for documenting upgrades in MF rebate projects	No later than 30-June-26; report updates if made to reflect subsequent findings	30-June-26
Identify Streamlined Technical Approaches*	Annually	30-Sep-26
Identify MT Focus Buildings to Test Technical Approaches*	Annually	31-Mar-27
Identify Streamlined Financing Approaches*	Annually	30-Sep-26
Identify MF Rebate Projects to Test Financing Approaches*	Annually	31-Mar-27
Begin MT Focus Buildings Projects	Annually	30-Sep-27
Begin Testing of Financing Approaches with Interested Building Owners & Market Partners	Annually	30-Sep-27
Progress Updates & Findings	Annually	30-Sep-27
MT Summary Findings Report	Within 12 months of depletion of rebate funds or September 30, 2031, whichever is the earlier.	30-Sep-31

<sup>3</sup> The timing of deliverables will vary depending on when awards are made, program launch dates, and other factors. For the purposes of this sample plan, the proposed timeline assumes that the state received its award by early calendar year 2025.

*\*Each year the state will either provide DOE with updated information or confirm that no changes are required for this activity.*

## Measurement & Findings

*Describe how the state will assess the effectiveness of its market transformation activities and document findings.*

As noted in the previous section, [ENTER: STATE] will track progress toward achieving its milestones as part of its regular quarterly reporting to DOE or more frequently as needed. Relevant milestones will be included in the state's contract with its rebate implementation contractor(s). The Market Transformation Plan will be updated annually (or as warranted) to account for findings and feedback as well as timing changes in the implementation of the Home Energy Rebate programs or other factors arising over the course of the multiple-year execution of activities. [ENTER: STATE] intends to use the first activity of strategy and planning to anticipate how to address potential roadblocks and challenges.

Beyond tracking progress in implementing the plan, the state will use the rebate programs to serve as testbeds to measure the effectiveness of various approaches in advancing stated outcomes.

The state will use industry-accepted evaluation processes to measure the effects of new technical approaches, financing, and documentation of upgrades on the following:

- Cost and speed of retrofits
- Benefits of retrofits (e.g., energy savings, cost savings, peak reduction, occupant satisfaction, maintenance savings, other)
- Impact of standard upgrade information in relevant building transactions (e.g., point of sale or rental, insurance, appraisal)

To support these types of impact analyses, the state will require collection of the following data from its MT Focus Buildings as well as standard rebate projects for purposes of comparison:

- Energy usage before and after upgrades<sup>14</sup>
- Time required to complete total retrofit scope and individual components (e.g., assessment, scope of work, specific retrofit improvements, financing arrangements, permitting, etc.)
- Labor costs associated with each part of the retrofit and total project cost
- Financing terms
- Feedback via surveys from multifamily building owners, contractors and tenants
- Surveys of relevant market actors (e.g., real estate) regarding documentation of upgrades
- Appraisal data (where feasible)

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<sup>14</sup> To the greatest extent possible, through agreements with utilities and/or the state's public utility commission, the implementation contractor will be charged to collect at least 12 months of pre- and post-retrofit usage data.

## Applying and Documenting Findings

Depending on findings from multifamily rebate projects - particularly those where new approaches are tested and measured, the state will work with its program implementer and recruitment and training partners to modify approaches. Furthermore, where noteworthy, the state will document and disseminate findings not only within the rebate community but to other relevant stakeholders. Upon completion of the rebate programs, the state will issue a summary report of findings and work with partners to ensure that wider audiences in the multifamily housing arena (both in and out of state) can apply lessons learned.