

Energy, Equity, and Evolution: Rethinking SEM to Scale Impact and Meet the Changing Demands of Multifamily Housing

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ABSTRACT

Since 2022, Energy Trust of Oregon (Energy Trust) Multifamily Strategic Energy Management (MFSEM) offering has evolved into a resilient, data-driven program that delivers measurable energy savings and non-energy benefits (NEBs) across affordable and market-rate housing portfolios. This paper explores the program’s evolution, technical pivots, engagement strategies, and analytical refinements leading to persistent energy savings in a sector challenged by split incentives and operational complexity.

We present longitudinal results from a cohort-based model that has engaged 32 organizations – including housing authorities, nonprofit developers, and private owners. Iterative improvements such as targeted operations and maintenance (O&M) strategies, resident workshops, custodial trainings, and tailored coaching, generate average annual savings of 1.7-3.0% electricity and 2.7-3.9% gas totaling 4 million kWh and nearly 47,000 therms. Resident engagement, especially among residents whose first language is not English, staff capacity building, workshop growth, kit uptake, and diversity, equity, and inclusion (DEI)-driven refinements lead to numerous NEBs. We describe a multi-dimensional measurement framework to monitor resident engagement, organizational capacity, and DEI, and highlight the program’s evolution in response to participant capacity, feedback, and market constraints.

Authored by Energy Trust and SEM design and implementation consultants who have delivered MFSEM since inception, this paper demonstrates how SEM engagement can adapt to shifting organizational priorities, regulatory landscapes, and economic pressures while delivering program-level cost-effective, scalable outcomes. This evidence and resident-facing strategies specifically address how implementers, utilities, and housing professionals can catalyze energy, affordability, and resilience benefits in multifamily buildings.

Introduction

SEM is a structured, ISO 50001-aligned, continuous-improvement approach that combines organizational change management with technical practices to deliver persistent energy and cost savings over time. SEM programs typically emphasize no- and low-cost O&M strategies, staff capacity building, performance tracking against energy baselines, and iterative “plan–do–check–act” cycles - often reinforced by dedicated energy coaches and cohort learning. In multiple independent evaluations across North America, SEM has demonstrated measurable, persistent savings and strong cost-effectiveness. Numerous publications, including ACEEE proceedings, document the details, savings, and examples of SEM.

MFSEM adapts these principles to the unique operating context of multifamily housing - where decision rights, energy cost responsibility, and operational control are distributed among owners, property managers, maintenance teams, residents, and third-party vendors. MFSEM offerings documented by administrators such as Puget Sound Energy (Hayes, 2018), Focus on

Energy (Cadmus, 2023), Marin Clean Energy (MCE) (MCE, 2021), and Energy Trust (this paper) pair portfolio-level coaching with on-site assessments (“treasure hunts”), resident engagement, maintenance trainings, simple analytics (e.g., weather-normalized tracking), and milestone-based incentives. This model seeks to surface and implement low- and no-cost actions in both common areas and units, while scaffolding owners’ longer-term retrofit planning and increasing participation in other incentive programs.

MFSEM can uncover and capture meaningful electric and gas savings - even in markets where traditional retrofit opportunities are seemingly exhausted or slowed by capital constraints or in areas where outreach and recruiting efforts have not resulted in fruitful engagement with property staff. For example, a Wisconsin pilot enrolled 21 buildings and achieved verified savings in 14 sites, totaling approximately 2.7 million kWh and 284,000 therms, while also identifying program design lessons (e.g., the importance of resident engagement and tailored incentives) for future scaling (Cadmus, 2023), and Energy Trust’s long-running MFSEM program continues to prove numerous energy and non-energy benefits (NEBs) year over year.

Motivation for Long-running MFSEM

Multifamily buildings represent a large, under-tapped efficiency opportunity; ENERGY STAR and ACEEE estimate 15–30% efficiency improvements are achievable sector-wide, with billions in potential annual utility bill reductions - benefits that directly support rent stability and property operating margins (ACEEE n.d.a). These gains are especially salient in affordable housing, where operating dollars saved can be reinvested in health, safety, and capital needs. And when affordable housing is critically low (National Low Income Housing Coalition 2026), programs like MFSEM that reduce operational costs and burden can be part of a suite of solutions toward affordable housing preservation (National Institute of Building Sciences 2024).

Sector barriers and the case for long-term SEM engagement. The multifamily sector is shaped by persistent challenges - split incentives between owners and residents, data access challenges, intermittent capital cycles, and staff turnover - that complicate one-off projects. Long-running MFSEM counteracts these frictions by (1) institutionalizing energy management roles and routines; (2) building staff skills and shared accountability; (3) maintaining focus through analytics and cohort peer exchange; and (4) sequencing O&M gains with capital planning as windows, HVAC, controls, and envelope projects. Literature on split incentives and multifamily program design underscores the need for policy/engagement strategies (including benchmarking, incentives, and information tools) to realign interests; SEM’s continuous structure provides a practical delivery vehicle for those strategies. Additionally, SEM offerings can provide measurable benefits to both long-term holders of affordable and subsidized properties as well as short-term holds and commoditized housing.

Regulatory and market catalysts. The spread of mandatory benchmarking and building performance policies has accelerated the need for data-driven operations in multifamily portfolios. Dozens of U.S. jurisdictions now require annual energy reporting (often via ENERGY STAR® Portfolio Manager), and several are advancing building performance standards (BPS) with escalating compliance pathways (IMT, 2021) (IMT, 2025). MFSEM equips owners and operators with internal processes, data review cadence, and resident-facing engagement needed to comply efficiently while turning compliance into cost and resilience benefits.

Resiliency and non-energy benefits (NEBs). Beyond utility savings, MFSEM's O&M discipline and resident engagement can improve comfort and indoor environmental quality, reduce maintenance costs, reduce resident turnover, and strengthen operational resilience. These NEBs can rival or exceed direct energy benefits in overall value, despite whether those are program metrics or success factors or not. The U.S. Environmental Protection Agency (EPA)/Department of Energy (DOE) and Midwest Energy Efficiency Alliance (MEEA) document NEB categories and methods to incorporate them into cost-effectiveness testing. Case studies in affordable housing have reported measurable reductions in maintenance spend and vacancy loss post-retrofit/engagement (MEEA n.d.). A long-running SEM framework is uniquely suited to track and manage various outcomes alongside energy metrics.

Evidence from early MFSEM implementations. Program documentation from Energy Trust, along with third-party pilot reports, shows that MFSEM's combination of targeted O&M measures, resident education (including multilingual materials and workshops), and tailored coaching can produce durable savings while meeting levelized cost thresholds. In addition to this, Energy Trust has seen how the program enables building organizational capacity and forging critical relationships for pathways to additional program offerings and decarbonization opportunities. These features align directly with utility portfolio goals (cost-effective kWh/therm) and housing sector goals (affordability, compliance, resilience).

Paper Objectives

This paper responds to the conference theme – Efficiency Innovations: Improving Affordability and Resiliency – by presenting a four-year longitudinal analysis of a cohort-based MFSEM offering for affordable and market-rate portfolios. Specifically, this paper aims to:

- Document program evolution over four years. We describe key offering pivots (e.g., modifications to workshops, curriculum, milestones, and engagement strategies) that improved persistence and portability across portfolios with different ownership structures and utility mixes.
- Share longitudinal energy and NEB outcomes. We report annualized electric and gas savings (weather-normalized), persistence over time, and observed NEBs (including DEI factors, staff progress and satisfaction, and resident engagement indicators) – providing both methodology and results that can seed future programs.
- Identify transferable lessons for scaling MFSEM. Drawing on cohort design elements and evaluation findings, we propose practical guidance for utilities, implementers, and housing providers.

Together, these contributions provide replicable, evidence-based program design insights and documented outcomes from an underserved sector with high potential and well-known challenges. The analysis adds to the emerging MFSEM literature and supports policy and program administrators in designing equitable, resilient pathways to multifamily energy efficiency and decarbonization.

Program Overview and Design

The MFSEM program is designed to help multifamily property organizations build long-term, organization-wide practices that reduce energy consumption and empower both staff and residents to take part in energy-saving behaviors. This offering specifically targets multifamily property managers and ownership groups who are interested in adopting a structured, holistic approach to energy management. By integrating organizational training, coaching, resident engagement, and in-unit installation opportunities, the program aims to deliver measurable energy savings that benefit whole communities.

A core priority of the program is to reach multifamily properties serving large resident communities, including those serving residents with incomes at or below 80% area median income. To cultivate collaboration and shared learning, participants join cohorts with other multifamily organizations for their first year. Each cohort progresses together through a year-long sequence of training events, coaching sessions, and site-level activities that help incorporate energy efficiency into everyday operations. Participants interested in prolonged SEM engagement can enroll in a continuation cohort with other multifamily and commercial participants.

Program Design and Components

The multifamily SEM model is built around a structured framework that guides organizations through the process of establishing effective, lasting energy management practices. Over the program year, participants complete three organizational milestones, each designed to support key elements of SEM such as goal setting, energy planning, staff engagement, and operational improvements. Successful completion of these milestones results in financial incentives, which help organizations offset the internal labor and resource costs of implementing new practices.

The program offers two additional site-specific milestones that create deeper value for participants and residents. These resident engagement milestones reward participants who share energy tips and resources (collateral provided by Energy Trust) with their residents and host two seasonally-relevant resident workshops throughout the year.

Resident workshops. The signature element of MFSEM is the inclusion of resident engagement workshops offered each summer and winter. These events are facilitated by trained energy educators ensuring consistent and high-quality delivery across participating sites. Resident workshops serve several functions:

- Provide residents with actionable energy-saving strategies tailored to their living environment.
- Enhance overall program impact by reducing in-unit energy waste. Strengthen resident-management relationships through community-oriented events that include complimentary food and giveaways.
- Distribute free energy kits to all workshop attendees, equipping residents with LED bulbs, aerators, power strips, and other efficiency items they can immediately use.

Participating properties can earn resident engagement milestone incentives each year, which helps encourage broad resident outreach and ongoing engagement.

Energy coaching, training, and site evaluations. Throughout the year, participants receive dedicated energy coaching, including virtual and onsite support to identify O&M opportunities. One of the program's most impactful field activities is the Treasure Hunt, an onsite evaluation that guides building staff in locating implementable efficiency opportunities related to equipment operations, scheduling, setpoint optimization, and behavioral practices.

First-year participants also attend five interactive workshops that cover energy management principles such as benchmarking, energy planning, staff engagement practices, O&M fundamentals, and strategies for persistent savings. These sessions offer both technical knowledge and peer-to-peer learning opportunities, reinforcing the cohort model.

Kits and direct installation support. For affordable housing organizations, the program provides an additional opt-in resource known as the In Unit Installation Items (formerly Landlord Kits). Each affordable housing participant receives a per-unit budget that can be used to order approved energy-saving equipment, such as high-efficiency showerheads, weatherstripping, and pipe insulation, for installation in resident units. This offering supplements the resident workshop kits, helping drive deeper, building-wide savings that support the financial stability of affordable housing providers who choose to order and install kit items.

Staffing and professional development incentives. To further strengthen organizational capacity, the program includes incentives to support staffing and workforce development. Participants may receive up to \$10,000 in reimbursements for hiring an SEM intern, helping organizations expand their internal resources while creating valuable hands-on training opportunities for emerging professionals. Energy Trust also covers more than half the cost for eligible staff members to complete the Building Operator Certification (BOC) training. Multiple levels of the BOC program qualify, making it accessible to staff regardless of prior experience. Additionally, Energy Trust launched EnergyWise Custodial training in 2024 and extended this offer to MFSEM participating organizations in 2025, including a Spanish-only training for staff at properties serving Spanish-speaking agricultural workers.

Evolution of MFSEM Offering

The MFSEM offering has undergone substantial evolution in response to participant feedback, program performance data, and a broader understanding of the market constraints experienced by multifamily housing providers. These shifts reflect a consistent effort to reduce administrative burden, increase accessibility, and deepen meaningful resident engagement while maintaining the program's emphasis on delivering long-term energy savings. The following section outlines the major changes to the resident-focused components, curriculum structure, and milestone design, with attention to lessons learned and emerging questions that continue to shape program strategy.

Increasing Flexibility and Reducing Administrative Burden

Early iterations of MFSEM relied on a rigid milestone structure and engagement model that required significant time and resource investments from multifamily organizations – many of which, particularly the affordable housing sector, operate with limited staff capacity. Over time, the program has shifted toward a more flexible approach, simplifying milestone

administrative requirements and allowing properties to tailor engagement activities to their unique resident populations and physical spaces.

We simplified incentives and shifted to milestone-based direct site payments to reduce administrative burden and align effort with outcomes. Funds are now able to flow directly to the sites that achieve a milestone, rewarding the appropriate party for their efforts.

The program also transitioned to a multi-year resident engagement collateral schedule, which expanded the number of educational touchpoints over time and ensured content remained relevant and fresh. This restructuring allowed residents to receive information gradually and repeatedly, and customized to their properties, consistent with behavioral science findings that learning improves through repeated exposure and reinforcement (CSA Group 2025).

Enhancing Resident Workshops

Resident workshops have always been a core component of MFSEM, but the design of these events has evolved significantly. In the program's first years, workshops were delivered through a single facilitation contractor, followed a highly standardized format, and included very labor-intensive distribution of gift cards. Today, Energy Trust engages a range of facilitation partners, including those with local presence in specific regions, which reduces travel burden and improves cultural and contextual relevance. Workshop requirements have been intentionally simplified, and the program now incorporates the following:

- Flexible workshop structures, allowing properties with limited community space to host sessions in smaller or non-traditional settings.
- Virtual workshop options, which improve accessibility for properties unable to host in-person events. Interestingly, these have been poorly attended.
- A stronger emphasis on property manager and resident services staff involvement, recognizing that workshops succeed when they are integrated into existing community support structures and customized based on property-specific information.

MFSEM discontinued the use of gift cards as an attendance incentive. Residents now receive free energy-saving kits (one per unit) when they attend workshops. This change shifts the focus toward behavior change and provides immediate, tangible value that supports energy-efficient practices. Food is also provided at workshops to drive attendance, ensure residents are comfortable, and compensate for workshops during standard mealtimes. To support families who wish to attend, family-friendly materials such as coloring books and wheelchair-accessible venues are provided to improve participation and create a welcoming and accessible environment for all residents.

Looking ahead, the program is considering additional streamlining, including further reducing administrative requirements for the resident engagement milestone so that the primary focus can be on delivering successful, impactful workshops and maximizing attendance.

Year-1 Curriculum and Continuation Pathways

One of the most significant evolutions in MFSEM has been the development of a distinct year-1 curriculum that lays a strong foundation in energy management practices before participants enter continuation years. Continuation curriculum builds upon their knowledge to expand into more technical and advanced energy management practices and initiatives.

Over time, MFSEM refined the transition between year-1 and continuation by merging the multifamily curriculum with commercial delivery at more advanced levels. This approach was developed through ongoing analysis and internal decision-making processes, which included the use of a decision matrix to evaluate participant needs, internal capacity, and program objectives. While the current approach has improved alignment between participant pathways and organizational goals, the program continues to examine whether this branching model optimally supports ongoing engagement, energy savings, and coach training efficiency based on the alignment between commercial and multifamily property types.

Milestones and Data Collection Improvements

MFSEM originally required participants to complete a sequence of progressive milestones across organizational, O&M, and resident engagement categories. Participants often found these requirements duplicative and administratively heavy, especially because milestone expectations were documented in separate Excel Action Plans and not integrated directly into milestone forms, as they are in other program tracks. In response, the program consolidated milestones into a more streamlined structure that mirrors the general approach taken by other SEM tracks. The program now includes five year-1 milestones and seven continuation milestones, with clear requirements embedded directly into milestone forms for easier tracking.

Additionally, the year-1 curriculum modified a multifamily-specific data collection milestone to reward participants for providing detailed information about major systems, unit-level equipment, and resident engagement practices to support accurate energy modeling and inform customized workshop planning and coaching.

In Unit Installation Items and O&M Support

To increase completion of O&M projects in resident units, particularly in affordable multifamily properties, MFSEM now provides free O&M in-unit installation kits (“Landlord Kits”) valued at approximately \$30 per unit. This addition supports deeper savings opportunities and helps properties overcome cost and logistical barriers to implementing efficiency upgrades.

The evolution of the MFSEM program demonstrates a consistent focus on making participation more accessible and impactful. By streamlining processes, enhancing resident engagement, and tailoring milestones and curriculum, MFSEM has become more responsive to multifamily housing needs and continues to adapt based on feedback and emerging priorities.

Analytical Approach, Measurement, and Continuous Improvement

This section describes the analytical framework and measurement approaches used to evaluate program performance across four dimensions – DEI, energy savings, participant progress and satisfaction, and resident engagement and feedback – and outlines how these inputs inform continuous program improvement.

DEI Measurement

Our DEI approach focuses on setting and revising priorities and identifying associated action plans, collecting relevant demographic and participation data where collection does not

put residents or owners in uncomfortable positions, understanding disparities in engagement or access, and modifying delivery strategies accordingly. Examples of DEI data include:

- Language needs and preferred communication formats
- Attendance patterns by property type and resident populations
- Accessibility considerations for workshops, trainings, and materials

Specific feedback-driven adjustments include expanding the workshop timing and formatting options, offering in Spanish or interpretation in multiple other languages, and updating specific font size, color, and photo adjustments to address accessibility and inclusivity. In a few cases, common area space limitations resulted in modifying the workshop structure to be set up as interactive demonstrations in vacant units, for example.

DEI measurement does not rely solely on surveys; we also evaluate qualitative insights from monthly coaching calls, property-level reflections, and resident/staff responses to engagement materials, feedback from MFSEM resident workshop facilitators and data collection requests. Participants are asked to provide information about resident accessibility needs to ensure content and workshops are accommodating and approachable to all. These findings directly shape program improvements including updating workshop formats, providing multilingual O&M resources, and adjusting training frequency to support workers with limited schedule flexibility.

Energy Savings

Gathering, processing, and aggregating whole-building and unit-level meter data in multifamily housing is complex due to fragmented billing, inconsistent access, and mixed owner- and resident-paid meters. To date, we have not discovered an effective workaround to bypass these challenges, so we rely on a disciplined and transparent approach.

Energy Trust uses a Commercial O&M M&V Guideline, an internal document, to describe the approaches that balance the reliability of energy savings estimates with the cost/effort required to estimate program savings. This Energy Trust Guideline focuses primarily on top-down, statistical regression models at the meter level (or aggregated meter level for multifamily), as described by the International Performance Measurement and Verification Protocol (IPMVP) under their “Option C”. In addition, this Energy Trust guideline aligns to and/or refers to other guidelines, including the IPMVP white paper Impacts of COVID-19 on M&V of Energy Savings, American Society for Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Guideline 14-2014 and those from several demand side management (DSM) programs.

Together, these frameworks allow for weather-normalized, statistically defensible quarterly forecasting estimates and annual savings summaries that prioritize persistence and comparability while recognizing the data constraints inherent in multifamily properties.

Participant Progress and Satisfaction

Our measurement strategy prioritizes collecting usable data while minimizing the burden on participants. Progress and satisfaction are assessed at participant workshops, annual reporting and resident workshops.

For every SEM participant workshop, we conduct brief digital surveys that capture quantitative satisfaction ratings, qualitative commentary and testimonials, and immediate reactions to content relevance, pacing, and clarity. The delivery team conducts an internal debrief immediately after each workshop to identify opportunities for improvement before the next session. This rapid feedback loop has contributed to smoother facilitation, more targeted coaching, and tailored follow-up materials.

Each program year concludes with a Final Impact Report for each participant summarizing the number of SEM projects completed, milestones achieved, attendance rates for workshops and coaching sessions, qualitative success stories and highlights along with recommended next steps. This multi-layered feedback structure allows us to track organizational progress, identify emerging needs, and refine engagement strategies on a per-participant basis.

Resident engagement, most notably in resident workshops, relies heavily on qualitative feedback, and response rates are remarkably high. For example, resident workshop feedback collection rates reached approximately 48% in summer 2025 and 64% in winter 2025-2026. This high response rate provides valuable insight into:

- What content residents found most useful
- How well messaging resonated across language groups
- Suggestions for improvements

These insights directly influence program delivery including adjusting workshop content, updating delivery techniques, refining energy-saving kits, and tailoring communication strategies for different resident groups. Because residents are essential operators of in-unit systems, this feedback is foundational to both equity goals and energy outcomes.

Results

The results below illustrate the measurable impacts of the MFSEM program across participation, energy savings, and resident engagement.

Cohort Composition and Enrollment Trends

The MFSEM program currently engages five to eight property management and/or ownership organizations per new cohort, which is smaller than current Energy Trust Commercial SEM (CSEM) cohorts, where organizations tend to have larger operational footprints and more stable staffing structures. Multifamily property teams, particularly those operating affordable housing portfolios, often navigate chronic staff turnover and operate within constrained budgets. These factors limit the capacity of organizations to dedicate staff time or facility resources to proactively address energy efficiency initiatives, and they ultimately influence the size and stability of MFSEM cohorts. However, even modest engagement from multifamily staff enables the program to reach many more residents who make up the majority of multifamily property energy consumption. While the cohort sizes are small, the overall unit count and resident connection is much larger. Table 1 shows past and present enrollment numbers for each MFSEM cohort (cohort 1 = “M1”). After their first year in the program, most participants choose to continue SEM participation by joining the Continuation cohort.

Table 1. Enrollment numbers for consecutive first-year and current Continuation cohorts

Enrollment	M1	M2	M3	M4	M5	2026 Continuation
Number of organizations	3	8	8	5	8	12
Number of sites (properties)	12	35	33	20	36	62
Number of units	1,306	2,536	4,283	2,670	2,338	6,689

Cohort size at formation does not represent ongoing impact due to persistent attrition as properties shift priorities, reorganize staff, or adapt to market changes. Recruiting new organizations has also grown more difficult, driven by economic and regulatory shifts and competing demands on property managers. Additionally, continuation participants may add or change sites, so the actual number of units impacted can differ from initial enrollment. Nonetheless, MFSEM maintains steady participation with continuation participants frequently updating their sites to keep unit counts high.

Energy Savings

When considering total energy performance across the MFSEM portfolio, trends as shown in Table 2 demonstrate that cohort-wide electricity savings held constant at 2.03% between 2022–2023 and 2023–2024, before decreasing slightly during 2024–2025 and increasing in the most recent year to 3.00%. Gas savings, however, showed a gradual decline from 3.87% in 2022–2023 to 2.67% in 2024–2025 and a slight uptick most recently to 3.12%. There is limited prevalence of gas-based systems within Oregon multifamily buildings and other than adding additional baseload to the cohort, it is difficult to achieve additional ongoing reductions once basic operational improvements are implemented.

Table 2. Percent savings for each program year (not cumulative)

Fuel type	2022-2023 (M1)	2023-2024 (M2 + continuation)	2024-2025 (M3 + continuation)	2025-2026 (M4 + continuation)
Electric (kWh)	2.03%	2.03%	1.73%	3.00%
Gas (therms)	3.87%	3.26%	2.67%	3.12%

One observation that is consistent with earlier MFSEM pilots (Hayes, 2018) is that while the percent savings is higher for common areas than resident units, the residential baseload is much greater, and the absolute savings are equally significant. Table 3 supports a correlation between increased resident engagement year over year and the percent savings in residential areas. Cumulative electricity savings as a percent of total baseload rose year over year for resident units, whereas the percent savings for common area electricity was initially very high and has decreased since.

Table 3. Percent savings for each program year (not cumulative), distributed by common area and resident unit savings

Property model	Measure	2022-2023	2023-2024	2024-2025	2025-2026
Common area	kWh	5.76%	3.34%	2.29%	3.55%
	Therms	3.87%	3.26%	3.21%	4.21%
Resident	kWh	0.65%	1.32%	1.45%	2.60%
	Therms	N/A	N/A	1.76%	0.80%

Absolute gas savings in common areas remain modest overall (approximately 16,000 therms in 2026 and cumulatively nearly 41,000 therms). Common area gas is typically used for corridor and shared space heating, and opportunities for operational optimization such as adjusting setpoints and settings, typically have less impact relative to electricity-based measures. Residential in-unit gas use is much less prevalent in Oregon multifamily and contributes only modestly to total gas savings (cumulatively only 6,000 therms to date).

Absolute total MFSEM electricity savings total nearly 4 million kWh and cumulative to-date residential savings comprise 50% of that, whereas cohort 1 (M1) residential savings were only 23% of a modest savings total, supporting the assertion that continuous program innovation combined with ongoing cohort growth results in increasing savings over time.

Non-Energy Benefits

The MFSEM program continues to generate a range of NEBs, driven by increased resident engagement and trust as well as operational improvements that extend far beyond direct energy savings. The following subsections highlight how resident workshops, engagement materials, and In Unit Installation Items each contribute to these broader impacts.

Resident engagement serves as a core pillar of the MFSEM program, grounded in the understanding that resident behavior plays a substantial role in multifamily energy consumption. To encourage properties to engage in resident energy efficiency education, participating organizations earn milestone incentives for hosting resident workshops, summer and winter, aligned with periods of peak energy use. Table 4 provides attendance information for resident workshops from summer 2024 through winter 2025-26.

Table 4. Resident workshop attendance numbers for previous two years

	Summer 2024	Winter 2024-25	Summer 2025	Winter 2025-26
Workshops / sites	51	38	63	57
Organizations	15	15	17	18
Attendees	437	437	561	654
Units attending	408	400	522	572

Workshop implementation has grown steadily over time and attendance followed similar growth. The number of units represented at workshops continues to increase, and the percent of enrolled units attending workshops remains consistent at around 10%. While there is a lack of resident participation data for comparable long-term engagement programs, ACEEE's

comparative analysis of multifamily programs shows participation ranges from low single digits to ~30%+ across programs, depending heavily on design and delivery approach (Ross, Jarrett, and Drehobl 2016). A 10% participation rate is notable for an opt-in activity. The team attributes successful attendance to resident interest as well as strengthened property-level engagement supported by ongoing refinement to workshop design and delivery. Although some properties occasionally combine workshops across multiple sites, this represents only a small portion of events.

Resident engagement materials provide tips on how to save energy and water, manage indoor air quality, and personal relevance by connecting these themes to comfort. They are delivered either as printed posters, door hangers, or digital downloads, providing seasonally relevant, actionable guidance for residents and staff. Materials follow a three-year content development cycle, ensuring they remain fresh and responsive to evolving conditions such as extreme weather, utility price shifts, or updates in building technology.

Participants select the number of physical materials they wish to receive, typically resulting in three to four poster shipments and one door hanger shipment per year per participant, supplemented by six to seven digital distributions. Each poster shipment includes nearly 500 printed fliers (across all MFSEM sites), while the annual door hanger shipment exceeds 8,600 door hangers, supporting direct communication with individual resident units. The Resident Engagement Workshop Milestone includes requirements related to distributing resident materials, reinforcing the connection between resident education and program participation.

MFSEM affordable housing organizations can access Multifamily Kits (In Unit Installation Items), which reduce O&M costs in high-energy-use resident units. After several years of limited uptake under more restrictive versions of the offering, a substantial expansion in 2025 led to significant increases in participation and impact. Nine organizations ordered 13,733 products valued at \$63,886. Kits included weatherstripping, high-efficiency showerheads, pipe insulation, thermostatic shut off valves, and air sealing supplies. Each organization's product allocation matched its enrolled unit count. Coaching and workshops supported these improvements with ongoing technical assistance and follow-through.

MFSEM cohorts continue to produce measurable energy savings and substantial NEBs, strengthening resident engagement and operational improvements. Resident-focused workshops, engagement materials, and In Unit Installation Items are key to boosting participation and increasing the total energy savings in units and common areas. Continued investment in resident engagement and staff support is crucial for ongoing future energy savings.

Implications and Recommendations

Across all audiences, our findings show that ongoing (more than one year), human-centered, data-informed MFSEM – especially when aligned with resident needs and organizational capacity – can deliver persistent savings, resilience, and NEBs that far exceed what a single-year, resource acquisition-only based program can capture.

Recommendations for Utilities

Invest in more than one year. Our longitudinal analysis confirms that the most persistent energy and non-energy outcomes emerge after year-1 participation as energy teams mature, SEM interns and standard operating procedures help reduce the impacts of staff turnover, and resident

engagement strategies stabilize. Multi-year commitments through continuation also better aligns with capital planning cycles, workforce development initiatives, and BPS.

Consider the full picture beyond kWh and therms. MFSEM produces benefits across affordability, resilience, compliance, workforce development, and customer satisfaction. Treating MFSEM exclusively as a “resource acquisition” tool undercuts much of its value. Programs should allow MFSEM to operate as a cross-cutting strategy that supports:

- Energy burden reduction and housing affordability
- Workforce development pipelines for maintenance and facility staff
- Portfolio planning and retrofit readiness

Customize design to your local needs and stressors. Utilities should tailor MFSEM to regional hazards, policy drivers, resident demographics, and address how situations such as immigration enforcement might impact energy use and participation. Examples include:

- Integrating resilience planning for wildfire smoke, rolling blackouts, or extreme heat
- Offering interpretation and multilingual resources for residents whose first language is not English
- Aligning MFSEM with state or city benchmarking and BPS requirements to reduce work on participants and compliance risk
- Prioritizing properties in disadvantaged or frontline communities where co-benefits are highest

Recommendations for Implementers

Integrate MFSEM with BPS and utility portfolio pathways. Implementers should help owners use MFSEM as a foundation for compliance with benchmarking and performance standards. This includes:

- Mapping MFSEM action items to BPS metrics (e.g., energy use intensity reductions, portfolio reporting)
- Ensuring that SEM data systems feed into Portfolio Manager and local reporting workflows
- Bundling SEM savings with other program pathways (retrocommissioning, electrification where applicable, weatherization) to accelerate and sustain savings

Ensure curriculum and delivery are nimble to allow for ongoing continuous improvement. Implementers should regularly refine:

- Coaching and workshop structure
- Data analytics and weather-normalized baselines
- Communications and resident engagement/education
- Feedback loops from maintenance staff and property managers
- Site enrollment flexibility for multifamily organizations with multi-use properties

Longitudinal data show that implementer-level iteration, based on lessons from earlier cohorts, significantly improves persistence and NEB outcomes.

Maintain human-centered design and prioritize interventions that directly matter to staff and residents. Effort-to-impact ratio should drive implementer decisions such as:

- “Pretty collateral” does not always equate to high impact. A maintenance team may gain more from a simple, unformatted O&M checklist they can integrate into their existing work-order system than from professionally designed brochures.
- For residents, frequent, multilingual, behavior-oriented conversations (e.g., in-person workshops, affordable comfort strategies, tabling events) outperform one-time printed materials.
- For portfolio managers, quick-win action lists and benchmarking support often matter more than lengthy technical reports.

Build bridges across programs and stakeholders. For some implementers, these will seem like “no-brainers,” but for others, especially where attribution arm wrestling and scope and budget hurdles exist, these may not always be contractually possible.

- Establish cross-program referrals to enhance enrollment in other programs such as new construction, other rebate and incentive offerings, retrocommissioning, capital project studies, etc.
- Build data-sharing protocols with utilities and owners early.
- Conduct an exit interview with participating energy champions at each property and provide discrete actions to sustain savings beyond formal SEM participation.

Recommendations for Housing Providers

Seek partners early. Engage with utility account representatives, local housing coalitions, affordable housing associations, and state energy offices.

Identify pathways to get involved. Start with ACEEE’s SEM directory to find nearby options (ACEEE n.d.b). If none exist locally, ask your utility or jurisdiction; the demand signal often drives program development.

Make the case to diverse stakeholders. Asset managers, sustainability directors, property and community managers, resident services coordinators, leasing agents, and O&M staff all bring valuable and unique perspectives, motivations, and workflows.

Affordable housing providers can use MFSEM to strengthen preservation strategies, reduce operating costs, improve compliance readiness, and support capital planning. Highlight how SEM’s NEBs such as reduced maintenance costs, reduced resident utility bills, and improved resident health and comfort map to preservation goals.¹

Market-rate housing providers can connect MFSEM participation to investor-driven reporting such as Environmental, Social, and Governance (ESG), Global Real Estate Sustainability Benchmark (GRESB), and Corporate Social Responsibility (CSR), which increasingly value operational efficiency, climate risk mitigation, and resident engagement. Convey that energy management maturity can improve property competitiveness in markets with transparency or labeling policies.

¹ Preservation refers to both the physical preservation as well as long-term affordability. [The Role of Rehabilitation in Housing Preservation | National Housing Trust](#)

Keep in mind that workforce development is a core benefit, not a secondary one.

Maintenance teams gain new diagnostic skills, which improve job satisfaction, career advancement, and retention. MFSEM helps formalize O&M practices, reduce crisis-driven repair cycles and mitigate staff burnout. Credentialing and training opportunities can be integrated with local workforce programs, increasing long-term organizational capacity.

Prepare for regulatory shifts now. MFSEM participation helps housing providers get ahead of:

- Benchmarking requirements (annual reporting, data governance)
- Emerging BPS and rating systems
- Local hazard-related compliance (e.g., cooling requirements in heat-prone jurisdictions)

Conclusion

Over four years, the Energy Trust MFSEM program has demonstrated that a sustained, resident-centered SEM model produces consistent energy savings alongside meaningful NEBs across multifamily portfolios. Results show that even small cohorts can achieve measurable electricity and gas savings when supported by structured O&M practices, targeted coaching, and robust resident engagement strategies.

The program's evolution toward reducing administrative burden, improving accessibility, and refining curriculum and engagement strengthens participant experience and enhances the persistence of outcomes. These findings affirm the value of long-horizon SEM engagement for utilities seeking scalable, cost-effective savings; for implementers aiming to integrate SEM with benchmarking, BPS, and other decarbonization pathways; and for housing providers working to preserve affordability, build staff capacity, and prepare for regulatory and market shifts.

As the multifamily sector continues to face operational constraints, climate pressures, and affordability challenges, MFSEM offers a scalable, adaptable framework for improving energy performance and equity at the building and resident levels. What's next? Will demonstrated persistence support deemed or prescriptive savings approaches to redirect more resources toward residents? Will the industry expand MFSEM's adoption to further expand the benefits to even more residents and staff? Could MFSEM takeaways expand beyond utility programs?

References and AI-assisted Tools

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AI-assisted Tools

AI-assisted tools used: Microsoft Copilot.

Used for: editing suggestions, reorganization, and reputable resources.

Extent: light editing and references formatting.

Human review: All content and citations were verified by the authors.