

MULTIFAMILY RETROFIT IMPLEMENTATION UPDATE DEEPER DIVE AND TOPICAL PRESENTATION

CONSULTANT PRESENTATION TO EEAC
AUGUST 12, 2014

SUMMARY OF KEY POINTS



- ▶ The cross-cutting nature of multifamily retrofit poses unique challenges
- ▶ The PAs have made significant progress in improving their multifamily program offering and are employing many best practices
- ▶ Opportunities for continuous improvements remain to enhance customer experience and achieve deeper savings
- ▶ Remaining challenges are best overcome through establishment of a fully integrated, distinct multifamily effort for 2016-2018

MULTIFAMILY RETROFIT SERVICES ARE CROSS-SECTOR

- ▶ Individual units receive services through Res MF Retrofit Initiative (tied to residential meters)
 1. Instant savings measures
 2. Air sealing and insulation, where appropriate
 3. Common area and exterior lighting (in most circumstances)
- ▶ Whole building and common area services provided through C&I Retrofit Program (tied to master meters)
 1. Central mechanical equipment (heating, cooling, DHW)
 2. Custom measures

KEY CHALLENGES

TECHNICAL

- ▶ Wide range of building types requiring a broad set of skills, expertise, and measures

CUSTOMER

- ▶ Variations in customer type (condos, small building landlords, large real estate investment trusts...)

IMPLEMENTATION

- ▶ Res/CI split in program budgets and accounting for savings and benefits

POLICY

- ▶ Has prevented weatherizing oil heated multifamily buildings

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BENCHMARKING OPPORTUNITY FOR MARKET RATE PROGRAM

- ▶ Pre-screening of customers
- ▶ Portfolio management
- ▶ Targeted program offers, vendor services, measure packages, etc.
- ▶ Performance-based program offers
- ▶ Example tools in use in MA include WegoWise (LIMF) and Energy Savvy (HES and more)

"We used to spend about \$1.65 million annually on utilities - gas, electric, and water. Just by tracking our consumption and identifying problem buildings and systems, we have been able to cut down by 15%, on average"

Beverly Craig, Homeowner's Rehab Inc.
Cambridge, MA

- ▶ \$240,000 annual savings from 2006 spending levels
- ▶ 21% reduction in carbon dioxide emissions
- ▶ 17% reduction in heating costs

As quoted by Urban Land institute, April 2014

THE OPPORTUNITY FOR DELIVERED FUELS IN MULTIFAMILY

HISTORICAL PERSPECTIVE

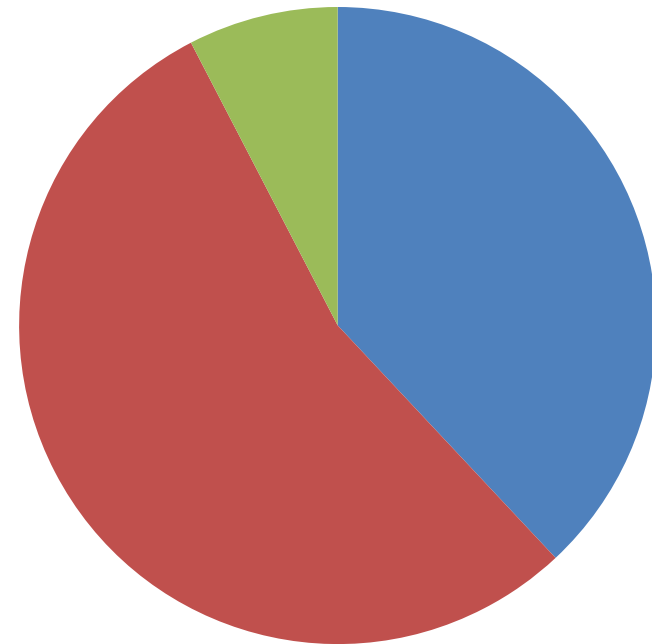
- ▶ Average of 3,100 oil heated units served annually, without targeting oil heat (15 % of units served)
- ▶ Missed opportunity = 8,600 MMBtu annual savings, for each program year

PROJECTION

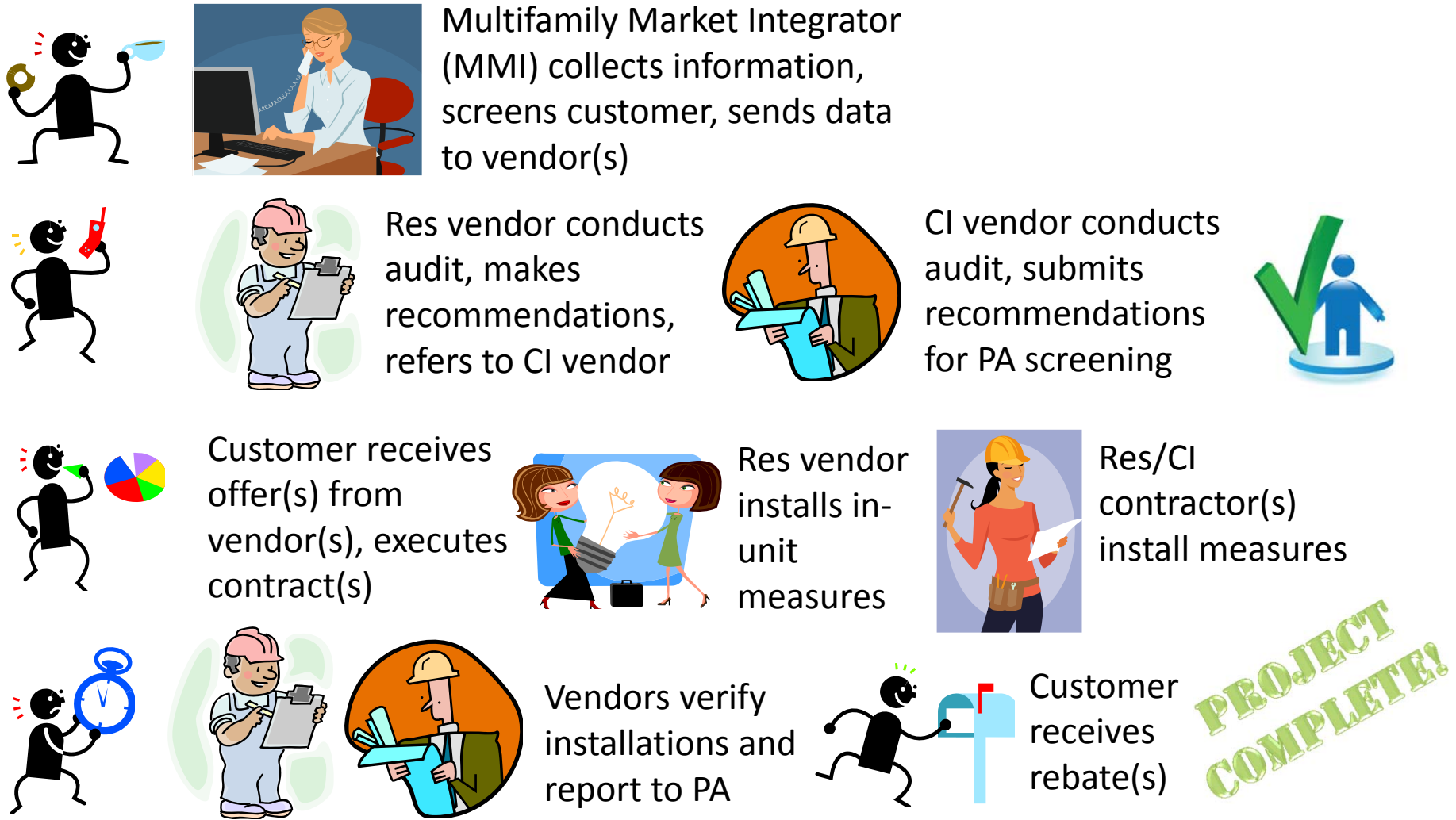
- ▶ Estimated 80,000 oil heated units in MA by 2030
- ▶ Maximum achievable market potential = 223,000 MMBtu annual savings

Possible Savings Distribution by Fuel

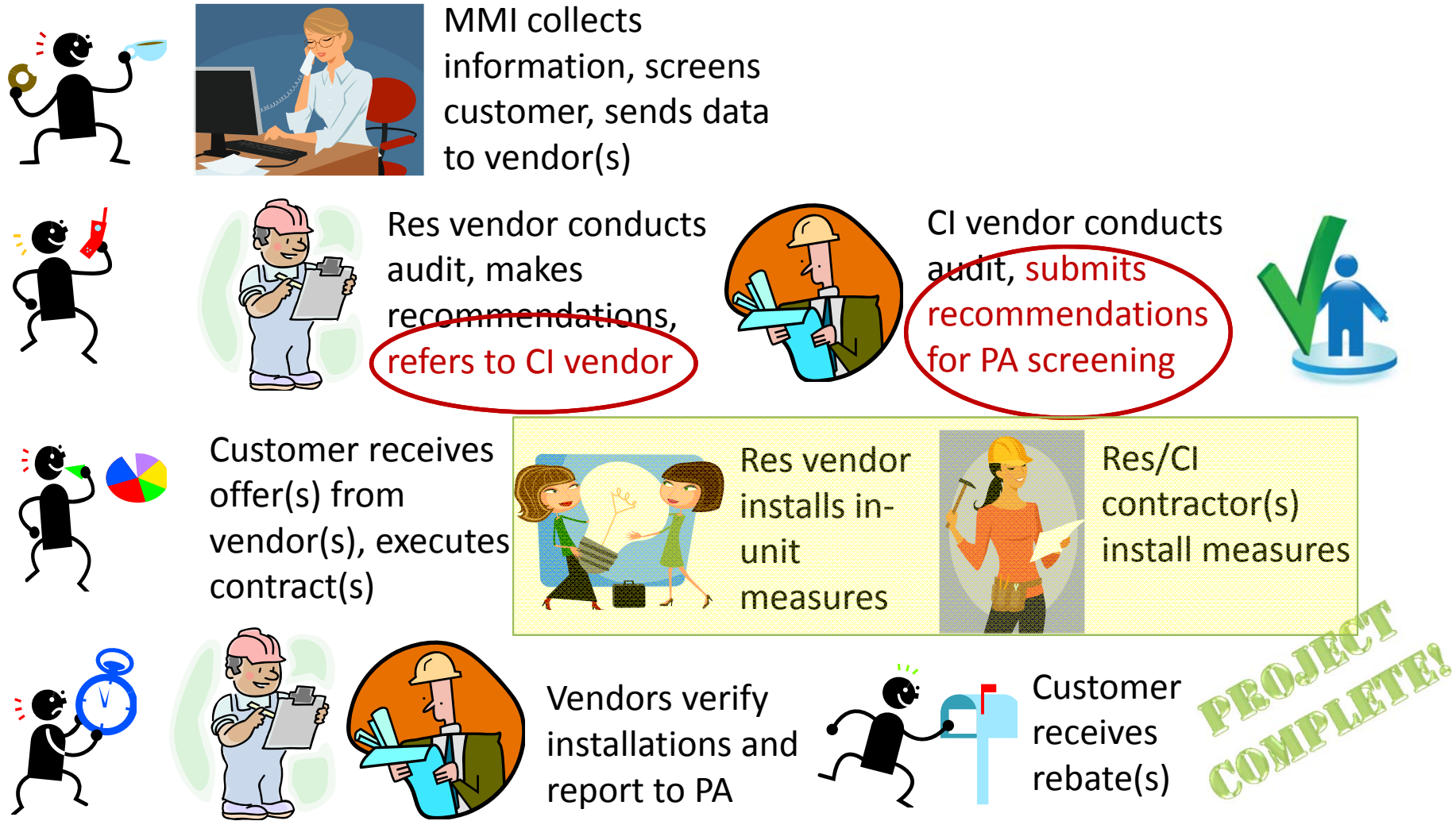
■ Gas ■ Electric ■ Oil



THE MULTIFAMILY PROJECT PROCESS CHALLENGE: TYPICAL RES+CI CUSTOMER EXPERIENCE



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RES/CI PROGRAM SILO-ING AFFECTS MEASURE IMPLEMENTATION



INCOMPATIBLE INCENTIVE STRUCTURES PRESENT AN
ARTIFICIAL BARRIER TO CERTAIN CUSTOMERS

- ▶ Non-prescriptive commercial incentives require additional steps to access and are less predictable and attractive than res incentives
- ▶ Cost-ben analysis from PA perspective, but not for customer

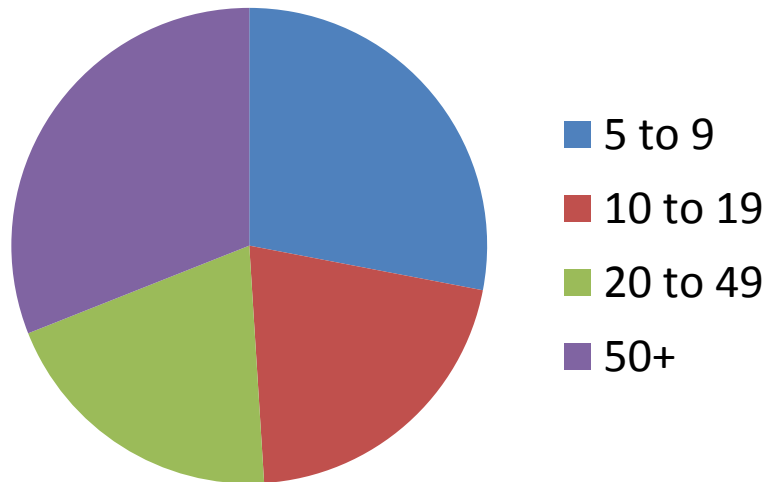
OPPORTUNITIES EXIST TO IMPROVE COMPREHENSIVENESS

- ▶ Vendor skill sets not being fully tapped (missed opportunities?)
- ▶ Prescriptive approach dominates residential (inherently limiting creative solutions)
- ▶ Blurring of the lines already happening

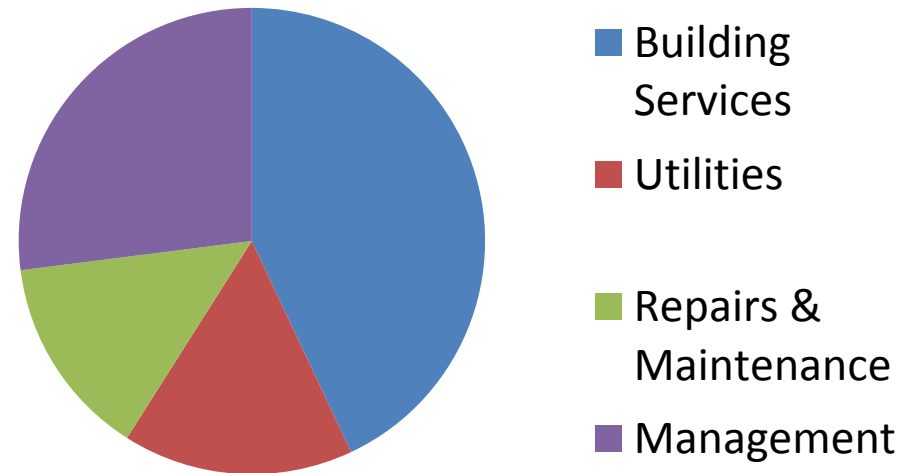
MARKET CHARACTERISTICS DRIVE PROGRAM APPROACHES

- ▶ Larger buildings need universal services
- ▶ Owner concerns go beyond utility costs
- ▶ EE can reduce turnover and vacancy rates

MF Buildings by Size



MF Operations Cost Categories



RECOMMENDATION: RESTRUCTURE TO ESTABLISH A FULLY INTEGRATED AND DISTINCT MULTIFAMILY EFFORT (e.g., NEW PROGRAM, SECTOR) FOR 2016-2018 PLAN

- ▶ Integrate findings from in-progress EM&V projects
- ▶ Continue to implement near-term improvements
- ▶ Determine regulatory implications
- ▶ Engage stakeholders in program redesign for next 3-year planning cycle
- ▶ Consider impact on:
 - new construction and low income
 - Condominiums (approx. 50% of MF sector)
- ▶ Re-allocate budgets: establish systems for fair tracking of spending and savings by rate-payer sector
- ▶ Revise TRM and BCR calculations
- ▶ Review best practices from other jurisdictions: NJ, CA, VT, ME, RI, NYSERDA, Georgia Power

QUESTIONS AND DISCUSSION



EXTRA RESOURCE SLIDES



ACEEE BEST PRACTICES: MASSACHUSETTS ON A STRONG TRACK

ACEEE Best Practice	Massachusetts has...	Possible Enhancement...
Provide a “one-stop-shop” program service	MMI provides a common point of contact and facilitates hand-offs	Provide project consultants
Incorporate on-bill repayment or low-cost financing	HEAT loan Mass Save Financing C&I	On-bill financing
Integrate direct install and rebate programs	Both are available through Mass Save	Continue to streamline transitions
Streamline rebates and incentivize in-unit measures to overcome split incentives	In-unit measures are provided	Mitigate remaining dichotomy between Res/CI offers
Provide escalating incentives for greater savings achievement	Stacking of incentives is allowed	Performance-based path
Target incentives for affordable housing	Provided through LEAN (for facils. w/50%+ units w/LI residents)	Moderate income offers

TACTICAL MULTIFAMILY INITIATIVE IMPROVEMENT RECOMMENDATIONS

CUSTOMER EXPERIENCE

- ▶ Offer a “single point of contact” by project (vs. MMI “central point of contact”)
- ▶ Supplement “Energy Action Plan” with standard template for audit reports including executive summary, customer’s cost/ben analysis, O&M
- ▶ Improve alignment of Res/CI incentive screening processes and offers
- ▶ Per (proposed) RCS guidelines, include delivered fuels in multifamily offers

CONTINUED INTEGRATION OF RES/CI IMPLEMENTATION

- ▶ Enable residential vendors to screen and process more measures
- ▶ Enable tracking by building/facility using unique site ID’s

INNOVATION

- ▶ New measures: e.g. enhanced air sealing and ventilation
- ▶ Benchmarking: customer ed, triage leads, performance tracking
- ▶ Performance-based approaches, e.g. P4P retro-commissioning model
- ▶ Enable vendors to specialize in specific building/customer types
- ▶ Offer multifamily building operator training

MULTIFAMILY MEASURES



PRESCRIPTIVE MEASURES

- ▶ Insulation (attic, wall, basement, rim)
- ▶ Heating equipment, in-unit
- ▶ DHW equipment, in-unit
- ▶ Refrigerators
- ▶ Light fixtures, common area and exterior
- ▶ Photo-sensor and hi/low dimming
- ▶ Occupancy sensors
- ▶ Exit signs
- ▶ VSD pumps and fans
- ▶ Energy Management Systems
- ▶ Vending Misers

INSTANT SAVINGS MEASURES

- ▶ In-unit lighting, bulbs and nightlights
- ▶ In-unit light fixtures
- ▶ Smart strips
- ▶ DHW saving devices
- ▶ Programmable t-stats
- ▶ Air sealing, where applicable

Key

Residential side measures
Commercial side measures
Blurred line: residential vendors often deal with them although costs and savings accrue to the CI side

MULTIFAMILY RETROFIT MEASURE REVIEW



MOST COMMON CUSTOM MEASURES

- ▶ Anecdotally, custom measures frequently include central heating system improvements and DHW demand circulator pumps
- ▶ Data is not easily accessible. C&I program doesn't identify multifamily as a unique customer type

GAPS AND OPPORTUNITIES

- ▶ Opportunity to offer “easy to screen” measures through residential vendors instead of adding steps on C&I side (e.g. hot water demand circulator pumps, central heating system terminal controls)
- ▶ Residential vendors can be tapped to identify, screen, and inspect whole-building measures that aren't normally covered in C&I (e.g. tall building air sealing, central ventilation system improvements)