

# EEAC EM&V RESULTS WEBINAR: NON-RESIDENTIAL

► **May 27, 2015**

[www.ma-eeac.org](http://www.ma-eeac.org)

# ORGANIZATION OF PRESENTATION



## ▶ Refresher

- What is EM&V?
- How is EM&V used in Massachusetts?
- How is EM&V organized in Massachusetts?

## ▶ Summary of current status

## ▶ Discussion of Recent Non-Residential EM&V Results

- Market Assessment Studies
- Data-mining Studies
- Process Evaluations
- Impact Evaluations
- Top-Down NTG Research

## REFRESHER: KEEP IN MIND THAT EM&V IS A BIG TENT

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- ▶ **Many different kinds of studies**
- ▶ **Many different stakeholders**
- ▶ **Many different applications for the results**
- ▶ **Different stakeholders tend to be interested in different studies, and different results from the same studies**

# WHAT'S UNDER THE BIG TENT: TYPES OF EM&V STUDIES



Type of Study	Methods	How Applied
Impact evaluation (gross)	End-use metering, billing analysis, site visits, engineering re-analysis	<ul style="list-style-type: none"> <li>•Refine planning assumptions prospectively, via TRM</li> <li>•True up savings retrospectively, via annual reports</li> <li>•Inform program screening and cost-benefit analysis</li> </ul>
Impact evaluation (net to gross)	Survey research, sales data analysis, quasi-experimental design, econometric analysis	<ul style="list-style-type: none"> <li>•Same as above</li> </ul>
Market assessment	Surveys, interviews, focus groups, secondary research	<ul style="list-style-type: none"> <li>•Support program planning and implementation</li> <li>•Inform policymaking</li> </ul>
Process Evaluation	Surveys, interviews, focus groups, database review	<ul style="list-style-type: none"> <li>•Improve program design and delivery</li> </ul>
Data-Mining	Detailed analysis of tracking, billing and other databases	<ul style="list-style-type: none"> <li>•Inform policymaking</li> <li>•Improve program design and delivery</li> </ul>
Other (Measure cost, baseline, persistence, NEBs, etc.)	Various	Various

# REFRESHER: MA EM&V FRAMEWORK



- ▶ **Under 2009 agreement:**
  - All studies are statewide
  - Studies are administered by individual PAs, with responsibility systematically distributed across PAs by research area
  - Studies planned and performed collaboratively with EEAC and its consultants
  - If consensus cannot be reached between PAs and EEAC consultants, consultants have decision-making authority
    - Thus far, 100% of decisions made by consensus
- ▶ **Three statewide research areas, each with assigned PA evaluators, EEAC consultant reps, and a standing contractor team**
- ▶ **EM&V Management Committee (EMC) provides a forum for statewide evaluation issues, and guidance, planning and direction to each evaluation research area**

# SUMMARY OF CURRENT STATUS

- ▶ **Strategic Evaluation Plan (SEP) submitted to Council in Fall of 2013 laid out some 45-50 studies to be performed over following two years**
- ▶ **The majority of the studies described in SEP have now been completed**
  - First quarter of 2015 was a particularly heavy reporting period
  - As a result we have many new results to share – particularly market assessment, process evaluation and data-mining studies
  - Relative under-representation of impact evaluations in recent reports is a matter of timing, not change in emphasis
- ▶ **Some of the studies in SEP remain in progress, and additional ones have been added over last year**
  - As a result, overall EM&V study portfolio remains in a roughly steady state

# RECENT NON-RESIDENTIAL EM&V RESULTS COVERED TODAY

## ▶ **Market Assessment Studies**

- LED Market Effects Baseline Study
- C&I On-Site Saturation and Market Share Study
- Commercial Real-Estate (CRE) Study
- Umbrella Marketing Tracking Study

## ▶ **Data-mining Studies**

- 2013 C&I Customer Profile
- PA Differences Study

## ▶ **Process Evaluations**

- SBDI Process Evaluation

## ▶ **Impact Evaluations**

- C&I Upstream Lighting Revisits Study
- Pre-Rinse Spray Valve Impact Evaluation
- C&I Electric Net-to-Gross Self-Reporting Study

## ▶ **Top-Down NTG Study**

## ▶ **Comprehensive Behavioral Program Review (draft)**

# PROVISOS



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- ▶ **We can only scratch the surface today**
  - Not all recent reports discussed
  - Only highlights from each study discussed
- ▶ **Most of reports discussed have been finalized and posted, but a few are still in draft form**





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# MARKET ASSESSMENT STUDIES

# LED MARKET EFFECTS BASELINE STUDY: RESEARCH OBJECTIVES AND METHODS

- ▶ **Study compared many indicators of status of LED markets in MA and three comparison states**
  - Comparison states: GA, KS, NE (both Res and Non-Res); AZ (Res only)
- ▶ **Separate assessments of Res and Non-Res LED markets**
- ▶ **Initial Objectives:**
  - Understand status of market to support programming and policymaking
  - Return in 2-3 years to study MA and same comparison states again; use results to assess market effects
- ▶ **Market Characteristics Studied:**
  - End-user awareness, attitudes and practices
  - Practices of retailers, contractors, designers, distributors
  - Product availability
  - Pricing
  - Sales and saturation patterns

# LED MARKET EFFECTS BASELINE STUDY: KEY FINDINGS

- ▶ **For a number of indicators, C&I LED market already appears to be significantly more advanced in MA than comparison states**
  - Higher adoption
  - Lower price premiums
  - Particularly large differences in indicators for screw-in LEDs
    - Screw-in LEDs have been heavily promoted in MA
    - However, differences in indicators can't be explained simply by program activity
    - Are the differences due to spillover/market effects?
    - We are starting an immediate spillover study
  
- ▶ **Res LED market, to the contrary, appears to be at a comparable stage of development in MA and comparison states**
  - Plan to come back in a few years remains in place

# C&I CUSTOMER ON-SITE AND MARKET SHARE STUDY: RESEARCH OBJECTIVES AND METHODS

- ▶ **Features comprehensive on-site visits to a sample of 800 representative C&I establishments in MA**
- ▶ **Equipment holdings and building characteristics are being studied in detail**
- ▶ **Equipment purchased within the last five years is being identified and efficiency determined in order to assess recent sales trends/patterns**
- ▶ **Results will have many applications:**
  - Savings potential
  - Updating Baseline assumptions
  - Informing program design
  - Target marketing
  - Supporting market effects studies
- ▶ **Final report expected December 2015**
- ▶ **Interim report covers first wave of 350 on-sites**

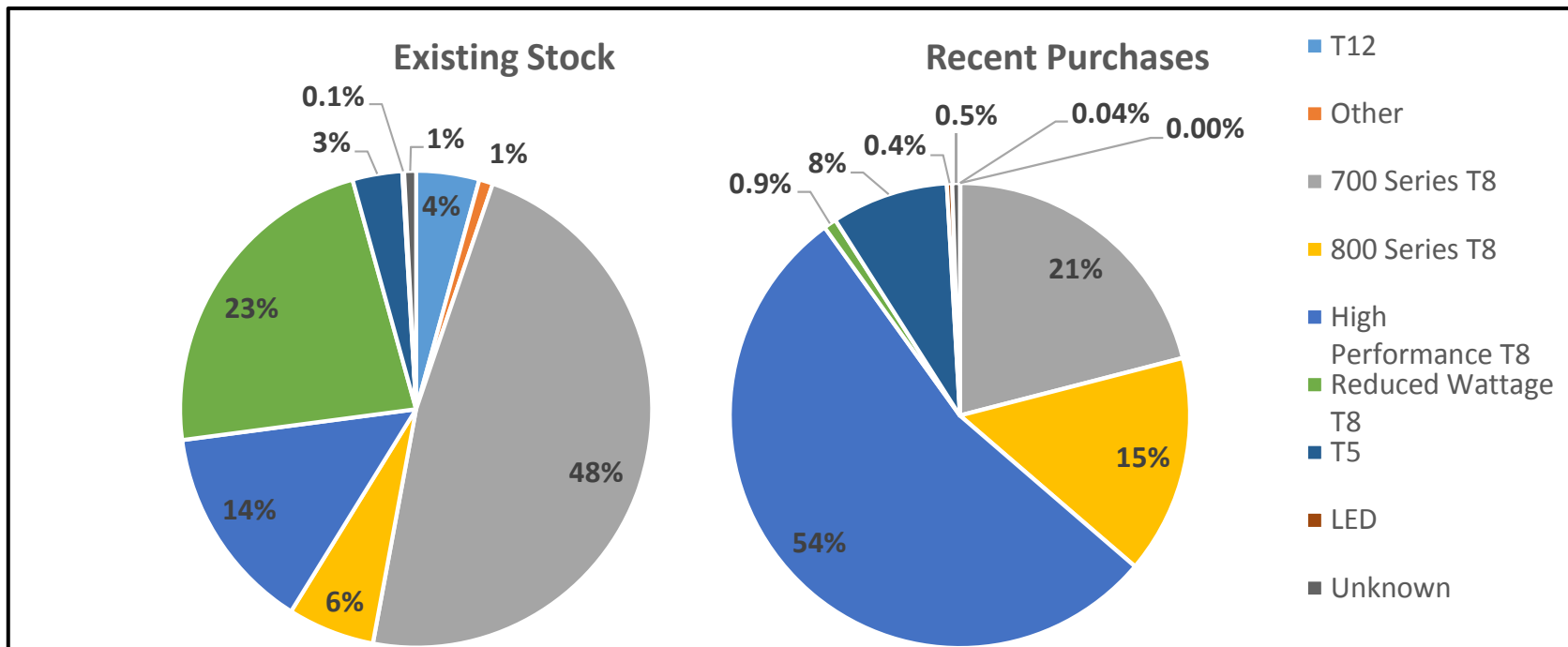
# C&I CUSTOMER ON-SITE AND MARKET SHARE STUDY: INTERIM FINDINGS, 30,000-FOOT VIEW

- ▶ **In many ways, the existing C&I building stock looks quite efficient**
  - This may well reflect the many years of EE programming, although there appears also to be significant adoption of EE measures outside of programs
- ▶ **Remaining savings potential:**
  - Significant potential remaining
  - However, in percentage terms, may be more left in small and mid-sized customers
    - This is consistent with results of other recent EM&V studies that have found small and mid-sized customers to have received less marketing attention
  - Increased emphasis on newer technologies will be needed
- ▶ **Sales Patterns:**
  - For key end-uses and measure categories, a majority of recent purchases exceed minimum efficiency standards
  - This reflects high levels of program activity, and in some cases may also suggest spillover/market effects

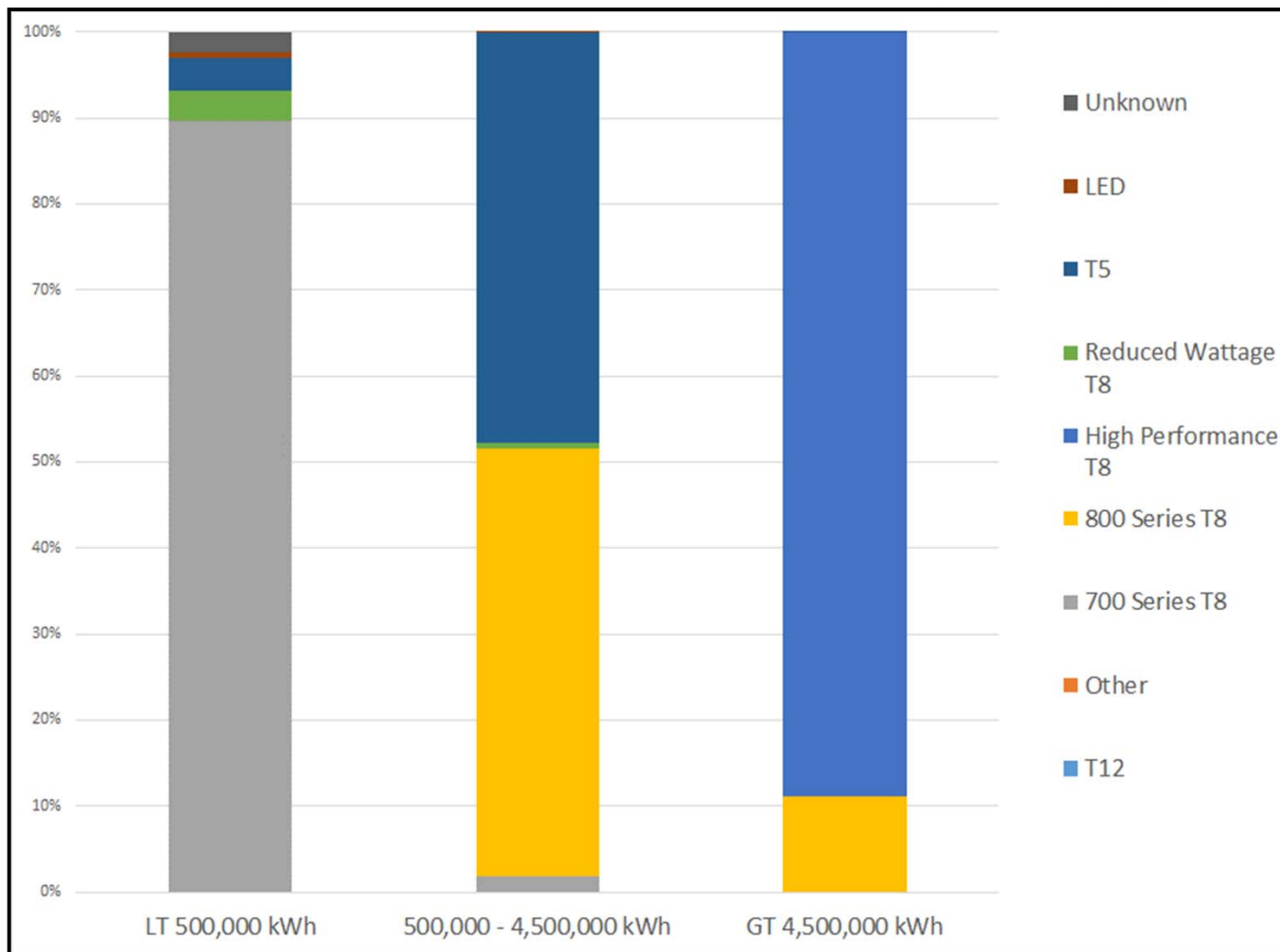
# C&I CUSTOMER ON-SITE AND MARKET SHARE STUDY: CLOSE-UP, LINEAR LIGHTING

- ▶ The **good news** is that there is plenty of savings potential left in linear lighting
- ▶ The **bad news** is that some changes in business-as-usual may be needed to harvest it
  - More relative emphasis on smaller customers, less on the largest
    - Past EM&V studies have found that current marketing approaches tend to strongly emphasize very large customers
    - However, there appears to be more remaining savings potential in linear lighting among smaller customers
  - Turning to LED linear replacements as quickly as the market supports
    - Up until now, programs have focused mainly on improving efficiency of linear fluorescent systems
    - However, market appears to have advanced to the point where it will get more difficult to continue to reap significant net savings this way
    - LED linear replacements have gained little traction to date (either in programs or in the market) -- but prices are declining, and takeoff may be near

# C&I ON-SITE STUDY, LINEAR LIGHTING: DISTRIBUTION OF STOCK AND RECENT SALES



# C&I ON-SITE STUDY, LINEAR LIGHTING: RECENT PURCHASES BY CUSTOMER SIZE





# C&I CUSTOMER ON-SITE STUDY: CLOSE-UP, SCREW-IN LAMPS



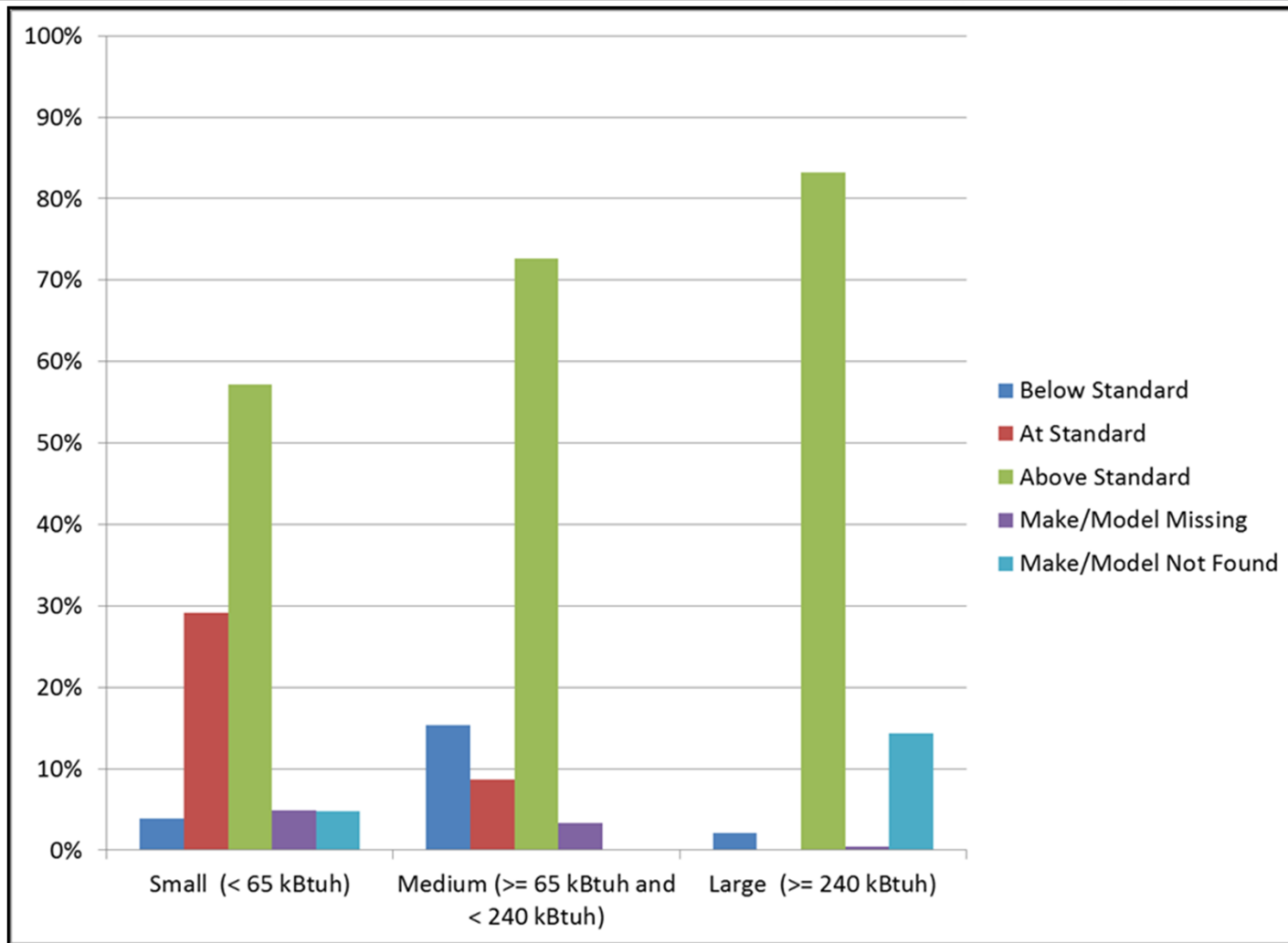
## ► Screw-In Lamps

- LEDs estimated to have 81% current market share, and to already comprise more than 20% of total stock
- These numbers are sure to change once all the data is in, but overall pattern of very high market share and rapidly increasing saturation appears to be robust
- Results resonate with finding from LED market effects baseline study that C&I screw-in LED market is more advanced in MA than in comparison states
- Upstream C&I lighting program is selling a large volume of LEDs, but initial analysis finds the bulk of total C&I LED sales appear to be out-of-program
- This pattern of results suggests possible significant spillover effects
- A new C&I LED spillover study is now underway

## C&I ON-SITE STUDY: CLOSE-UP, HVAC SPLIT AND PACKAGED SYSTEMS

- ▶ These make up small share of total HVAC consumption, but provide good example of HVAC findings
- ▶ Majority of recent purchases are more efficient than required by current standards
- ▶ Among recently purchased systems, the larger the system, the more likely it is to exceed current efficiency standards
- ▶ This suggests that to continue reaping savings at the same rate, it may be necessary to more strongly target smaller systems
- ▶ This echoes findings for linear lighting to some extent
  - However, because large facilities often have multiple HVAC systems, size of *system* is not synonymous with size of *customer*
- ▶ High efficient market share suggests that it may be important to focus more on controls and retrocommissioning for savings

# HVAC SPLIT AND PACKAGED SYSTEMS: EFFICIENCY RATINGS OF RECENTLY PURCHASED SYSTEMS BY SYSTEM SIZE



# COMMERCIAL REAL ESTATE (CRE) STUDY: RESEARCH OBJECTIVES AND METHODS

## ► Objectives:

- Improve understanding of the relationships among building owners, property managers and tenants
- Identify points in the property sale and leasing process that provide savings opportunities

## ► Methods

- Study relied on general population phone survey that was used to recruit end-users for the on-site study
- Survey instrument was specifically designed to support analysis of CRE issues
  - Ownership structure
  - Business practices
  - Building and equipment characteristics
- Additional research activities had initially been planned, but were deferred to avoid overlap with research commissioned by CRE Working Group

# COMMERCIAL REAL ESTATE (CRE) STUDY: KEY FINDINGS



## ► Building and Business Characteristics

- Compared to non-CRE, CRE businesses:
  - Are smaller and use less energy (on average)
  - Much more likely to be in malls and high-rise office buildings
  - Are located in buildings that are roughly the same age

## ► Lease Structure

- 48% of leases were long-term (8 years or longer)
- But nearly one quarter (23%) had less than one year remaining on lease
- About half of CRE tenants responsible for paying energy bills directly

## ► Engagement

- Majority of CRE firms do not have energy manager
- Compared to non-CRE firms, CRE firms:
  - Are less likely to have IOU account manager
  - Tend to have somewhat shorter payback requirements

# COMMERCIAL REAL ESTATE (CRE) STUDY: REPORT RECOMMENDATIONS



- ▶ **Work with owners and managers to identify tenants who:**
  - Have long-term leases
  - Have significant time remaining on their lease
  - Are responsible for paying their energy bills
- ▶ **Target CRE businesses that are older and/or have not undergone a renovation recently**
- ▶ **Leverage account managers for those CRE businesses who have them**

# UMBRELLA MARKETING TRACKING STUDY: RESEARCH OBJECTIVES AND METHODS

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- ▶ **Since 2012, EM&V has performed regular waves of market research studies to assess progress of umbrella marketing efforts**
- ▶ **Specific objectives and methods have varied with each wave, but studies have consistently assessed end-user:**
  - Brand awareness
  - Exposure to marketing messages
  - Depth of program knowledge
  - Attitudes
- ▶ **Most recent wave completed in January 2015 focused on surveys of residential and non-residential end-users**

# UMBRELLA MARKETING TRACKING STUDY: KEY FINDINGS

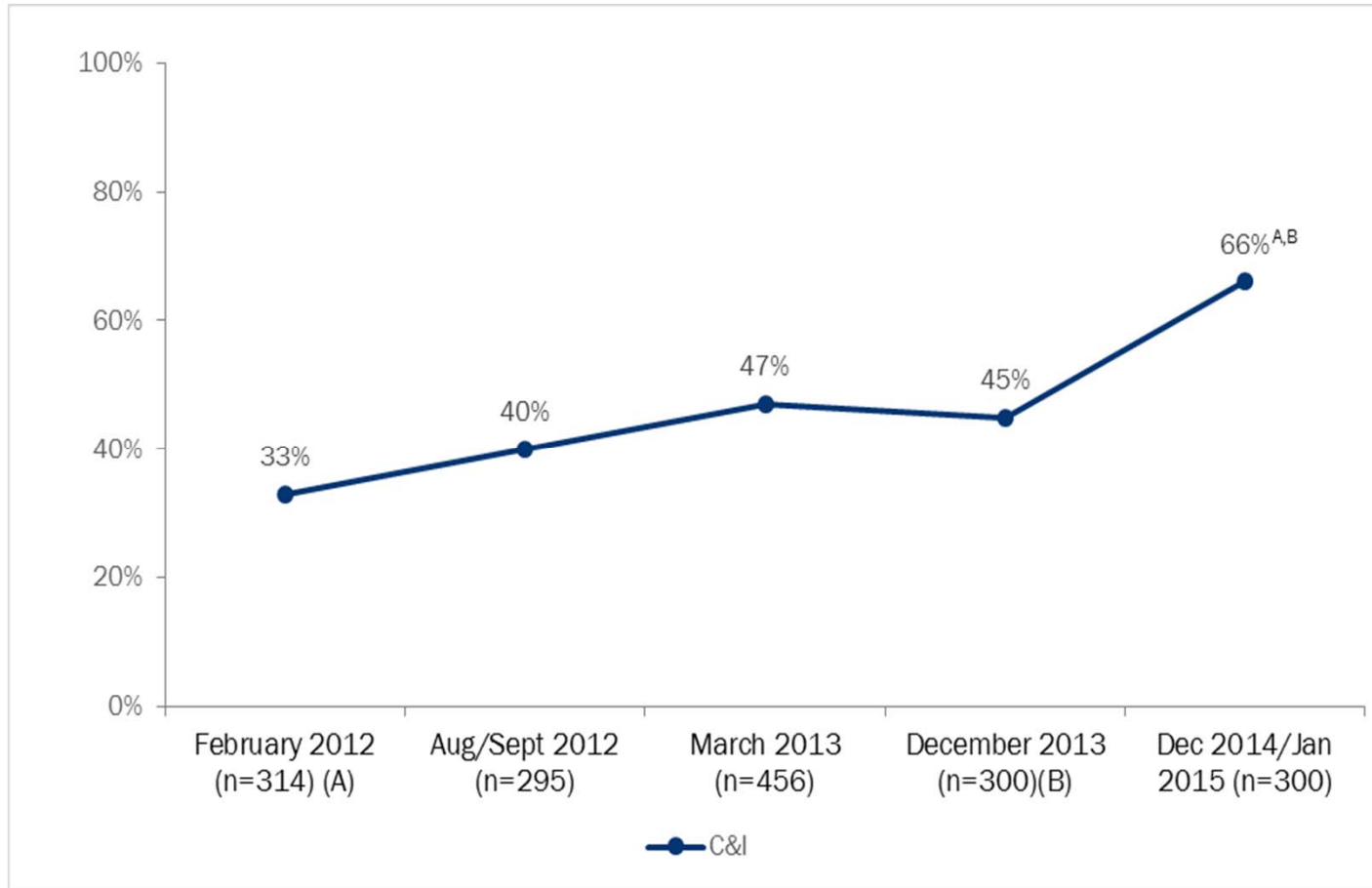


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- ▶ **C&I awareness of MassSave brand appears to have surged in 2014 after several years of stagnation**
- ▶ **Also increases in:**
  - Awareness and use of MassSave.com website
  - Self-reported exposure to marketing messages
  - Depth of knowledge of program offerings



# UMBRELLA MARKETING TRACKING STUDY: C&I AWARENESS OF MASS SAVE OVER TIME





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# DATA-MINING STUDIES

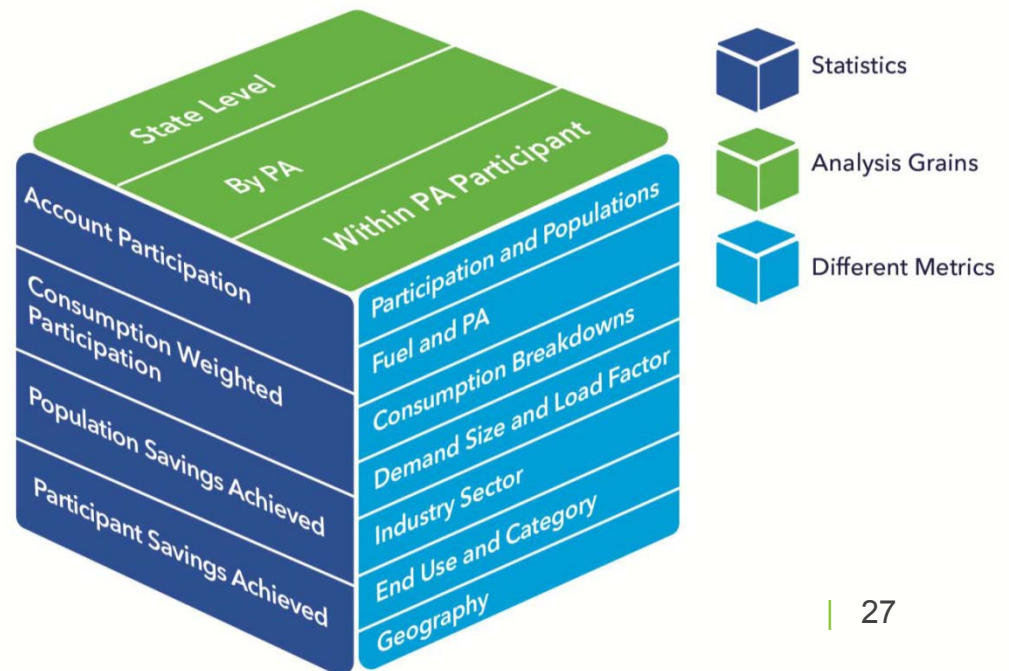
# 2013 CUSTOMER PROFILE

## ► Objectives:

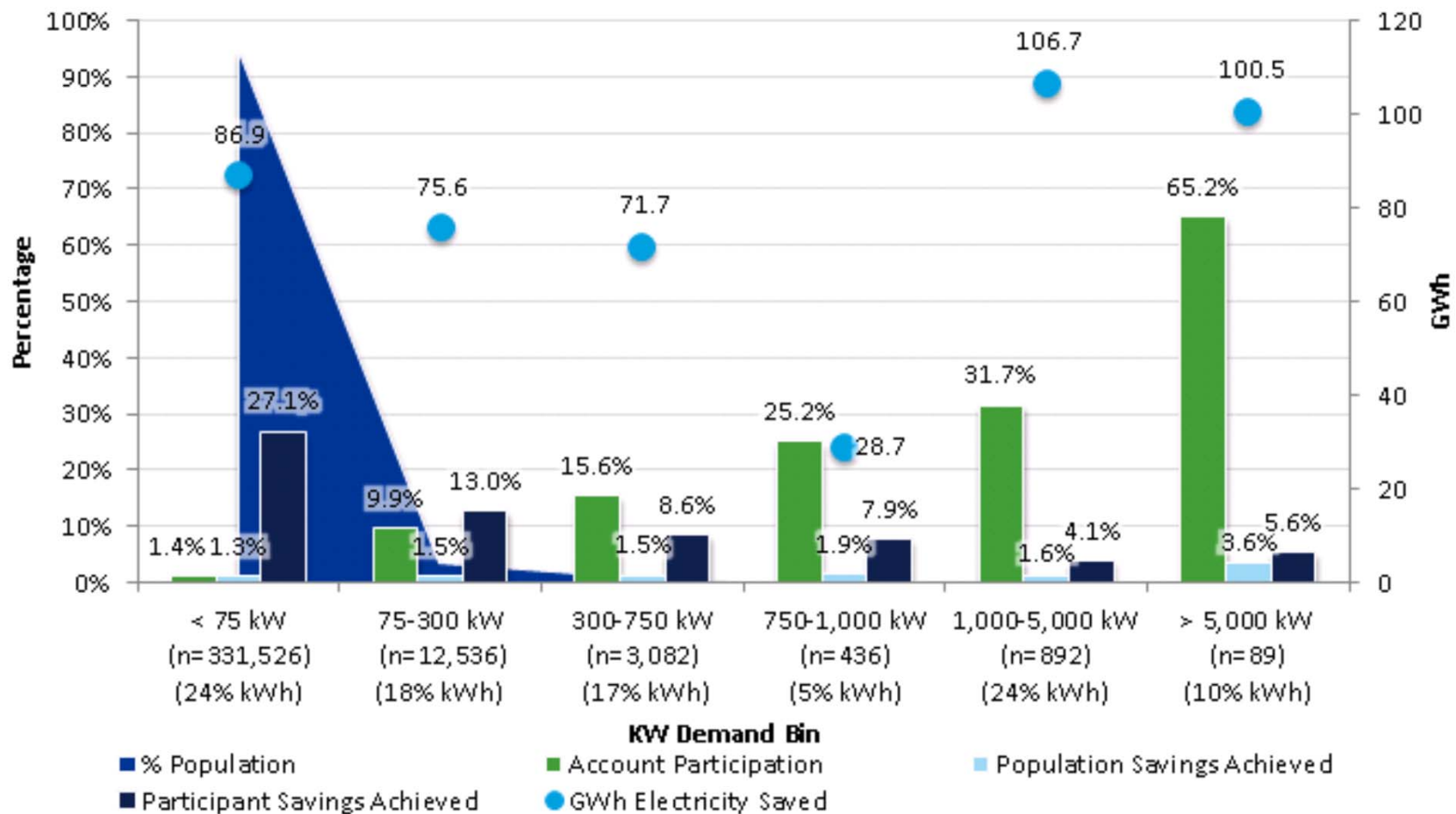
- Create a compendium of standardized statewide data
  - Unified statewide database of participants and the overall population of C&I customers
- Comprehensively explore statewide trends and patterns in participation, savings and other key outcomes
  - Inform research hypotheses and questions

## ► Methods

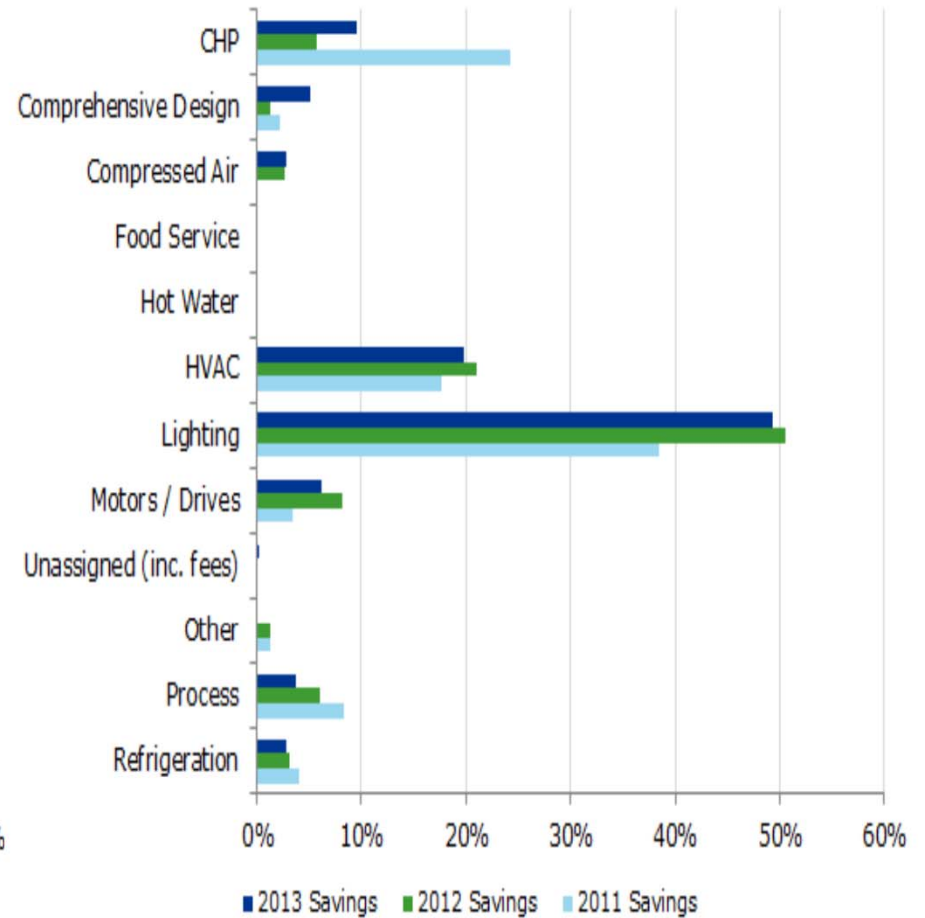
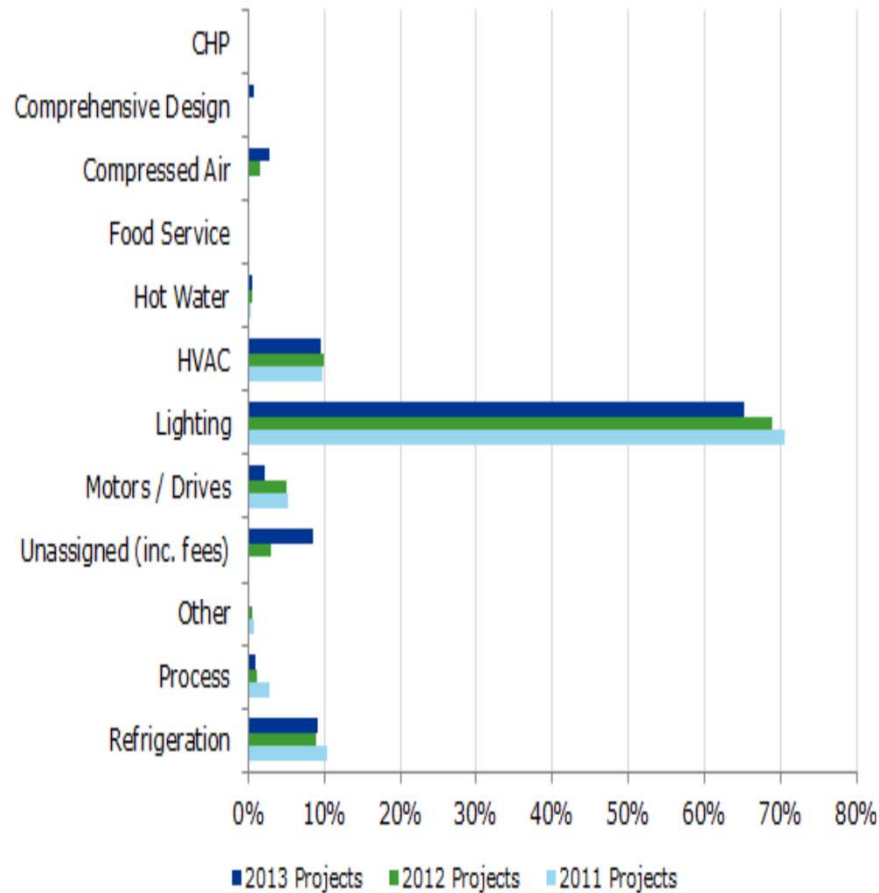
- Collect and clean PA data
- Multivariate data analysis



# 2013 ELECTRIC STATISTICS BY ACCOUNT SIZE (KW)



# 2013 CUSTOMER PROFILE ELECTRIC PROJECTS & SAVINGS BY END USE



# 2013 CUSTOMER PROFILE

## PROGRAM RELATED FINDINGS



- Account participation and consumption-weighted participation ratios are low in some sectors.
- Gas participation continues to increase, but at a faster rate than population savings.
- Large multi-year participants make up a sizable proportion of electric PA savings.
- Smaller PAs have greater volatility in participation and they have a shift in savings contribution toward smaller customers.
- Larger PAs have higher consumption-weighted market penetration rates, particularly for gas.

# 2013 CUSTOMER PROFILE DATA RELATED RECOMMENDATIONS



- Continue to use third party data to gain insights
  - Tax assessor data
  - Geographic data-
    - ▶ Identify priority questions “where is participation lagging?”
    - ▶ Identify and evaluate predictor variables such as (EUI, building age, square footage)
- Expand the number of linked gas and electric accounts to effectively evaluate dual-PA served customers
  - Analysis currently at town, not customer, level

# PA DIFFERENCES STUDY: RESEARCH OBJECTIVES AND METHODS

## ► Objectives

- Verify and document the reasons for differences between PA savings and costs to achieve those savings
- Identify potential opportunities to achieve greater savings and/or cost effectiveness
- Assist the PAs and EEAC in understanding the achievement of customer equity across the state
- Identify potential opportunities for increasing the consistency of program delivery statewide, particularly for customers served by multiple PAs.

## ► Methods

- Uses 2012 participant and 2011 billing data
- Phase 1 – assess data relative to researchable questions
- Phase 2 – explore key questions by establishing metrics and evaluating data



# PA DIFFERENCES STUDY FINDINGS REGARDING ELECTRIC PAS

- ▶ **No correlations between economic indicators and metrics**
- ▶ **Large customers have disproportionate impacts**

Demand	Number of Accounts	Participant Accounts 2013	Annual MWh Savings 2013	Avg Annual kWh Save/Participant	Incentive/MWh
<20kW or no demand)	298,521	2,880	40,482	14,056	\$359
20 kW - 4,999kW	51,517	3,938	329,387	83,643	\$274
5000 kW and above	89	58	100,476	1,732,349	\$140
Total	350,127	6,876	470,345	68,404	\$253

- Large PAs have more large accounts with higher consumption than small PAs; Eversource has the most
- Large PAs are better at engaging their largest customers to achieve projects and savings
- Small PAs have more year over year variability due to fewer large accounts

# PA DIFFERENCES STUDY

## VARIANCES IN PA PERFORMANCE

- ▶ **Differences in Electric PA cost to achieve savings in large retrofit:**
  - Driven by largest projects which typically cost less
  - Large PAs spend less on incentives and more on marketing, sales, and technical assistance and had a lower cost to achieve.
  
- ▶ **Large PA sales may provide advantages in large project completions.**
  - Large PAs:
    - Segment market and dedicated sales teams
    - Memoranda of understanding (MOUs)
    - Subcontractors for mid-sized customer market
  - Small PAs
    - Small number of efficiency employees who are generalists
    - Report close relationships with largest customers
  
- ▶ **PAs that achieved greater savings in non-lighting end uses, particularly HVAC, performed better than those that only completed lighting projects.**

# PA DIFFERENCES STUDY

## VARIANCES IN GAS PA PERFORMANCE

- ▶ **Large Gas PAs had higher savings rates**
- ▶ **Large customers yielded larger projects**
  - Savings even more concentrated in large customer projects than electric
  - Greater impact for gas because of overall smaller customer base
- ▶ **Employment rates had positive correlation with participation rates in gas programs**
  - However, employment rates were *not* found to be directly related to savings rates



# PROCESS EVALUATIONS

# SMALL BUSINESS PROCESS EVALUATION: RESEARCH OBJECTIVES AND METHODS

## ► Objectives:

- Describe program operations, focusing on issues bearing on comprehensiveness and the effects of recent program changes
- Develop recommendations to increase savings through greater comprehensiveness and wider participation
- Provide recommendations for enhancing cost-effectiveness

## ► Methods

- Staff and vendor interviews
- Document review
- Data-mining
- Surveys of participating and non-participating customers and contractors
- Vendor ride-alongs

# SMALL BUSINESS PROCESS EVALUATION: KEY FINDINGS



- ▶ **Program has been much more successful in generating electric than gas savings**
  - Only 24% of participants install gas measures
  - Need for better identification and promotion of major gas measures (boilers, furnaces, insulation, water heating)
- ▶ **Room to improve both depth of savings and comprehensiveness**
  - ▶ Electric savings are still overwhelmingly from lighting (89%)
- ▶ **Integration of electric and gas has been a high-profile issue since 2010**
  - Significant progress in 2010-2011, but limited further progress since then

## SMALL BUSINESS PROCESS EVALUATION: KEY REPORT RECOMMENDATIONS

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- ▶ **Build achievement of non-lighting and gas savings into vendor contracting process**
- ▶ **Make contract process more consistent across PAs and eliminate duplication of effort**
- ▶ **Implement common tool or app for all vendors**
- ▶ **Require vendors to report major gas savings opportunities and share with gas PAs as quickly as possible**
- ▶ **Consider providing vendors with training on non-lighting and gas savings opportunities**
- ▶ **Improve consistency of tracking databases across PAs**
- ▶ **PAs that do not have electronic data entry should implement it**



# IMPACT EVALUATIONS



# EFFECTS OF RECENT C&I IMPACT EVALUATION RESULTS: 30,000-FOOT VIEW

- ▶ **C&I Upstream Lighting Study revisited participants to see if measures initially in storage later got installed**
  - Result is slight increase in realization rates
- ▶ **Pre-Rinse Spray Valve Study**
  - Prevalence of measure is increasing, but there had been substantial uncertainty surrounding savings assumptions
  - Result is roughly 10% decrease in deemed savings value
- ▶ **C&I Electric Net-to-Gross Self-Report Study estimated NTG factors by end-use, measure category and PA**
  - Standardized method used for many years in MA
  - Result is generally moderate increases in NTG assumptions
- ▶ **Bottom line: limited overall effects from recent impact studies. However:**
  - Studies earlier in current program cycle had more effects
  - Studies currently in field but due by October may have more effects
  - Periodic independent assessment remains indispensable



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# TOP-DOWN NTG STUDY

# TOP-DOWN NET-TO-GROSS (NTG) STUDY: BACKGROUND



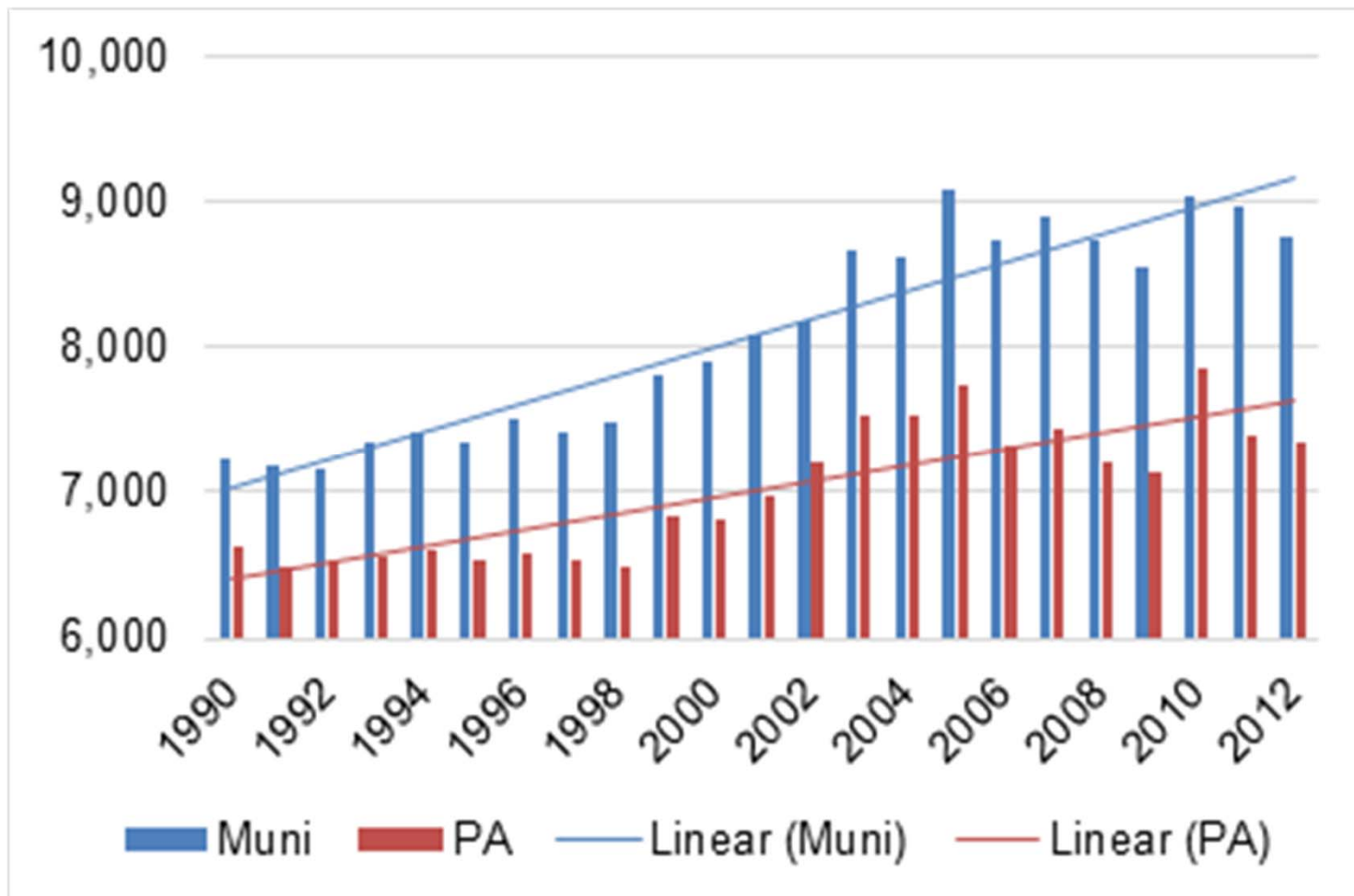
- ▶ A typical NTG study uses *bottom-up* methods: detailed research to assess whether individual measures were induced by individual programs
- ▶ *Top-down* methods estimate global savings by correlating trends in consumption with trends in overall program activity across geographic regions
- ▶ Top-down research uses sophisticated econometric methods and is still largely experimental
  - Only a handful of studies nationally
- ▶ Top-down and bottom-up NTG research are intended to complement each other, not compete
  - Top-down can capture long-term effects and synergies between programs
  - Bottom-up can tell us what is and isn't working and why

# TOP-DOWN NET-TO-GROSS (NTG) STUDY: METHODS

- ▶ **Study focused on electric**
- ▶ **Covered both Residential and C&I; only C&I results discussed here**
- ▶ **Two approaches were used**
  - *PA-Municipal Approach* capitalized on differences in program activity between PA and Municipal territories within MA
  - *PA Data Approach* capitalized on differences in program activity between different towns/counties within PA service territories
  - For each approach:
    - Key researchable question: are geographic differences in program activity reflected in overall consumption trends?
    - Wide range of data sources marshalled to control statistically for non-programmatic differences across regions
- ▶ **PA Data Modeling approach encountered data limitations**
- ▶ **Remainder of presentation thus focuses on PA-Municipal Approach**

# PA-MUNICIPAL NTG APPROACH: A VISUAL ILLUSTRATION

RESIDENTIAL ELECTRIC CONSUMPTION TRENDS  
IN PA VS MUNICIPAL TERRITORIES (KWH PER CAPITA, UNADJUSTED)



# TOP-DOWN NTG STUDY: NON-RESIDENTIAL RESULTS FROM PA-MUNICIPAL APPROACH

- ▶ **Single best model yields an estimated realization rate of 101%**
- ▶ **Realization rate = ratio of top-down net savings estimate to cumulative bottom-up net savings estimate over 10 years**
- ▶ **However, this estimate is quite uncertain**
  - Wide confidence interval
  - Sensitive to model specification
- ▶ **So what does this all mean?**
  - Can we be confident that net savings are almost exactly what had been previously thought? **NO.**
  - However, finding constitutes meaningful corroborating evidence that tracked C&I savings are real – effects can be seen at macro level
  - Top-down NTG work is an important addition to methodological tool-chest

# DRAFT REPORT: COMPREHENSIVE BEHAVIORAL PROGRAM REVIEW

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- ▶ **Study reviewed cutting edge behavioral program approaches nation-wide**
  - Covers both Residential and Non-Residential
  - **Key finding for Non-Res: there are behavioral program approaches available, although few have been implemented on a large scale**

# APPENDIX: LINKS TO REPORTS DISCUSSED TODAY

Report	Link
LED Market Effects Baseline Study	<a href="http://ma-eeac.org/wordpress/wp-content/uploads/LED-Market-Effects-Baseline-Characterization-Final-Draft.pdf">http://ma-eeac.org/wordpress/wp-content/uploads/LED-Market-Effects-Baseline-Characterization-Final-Draft.pdf</a>
C&I On-Site Study	<a href="http://ma-eeac.org/wordpress/wp-content/uploads/Massachusetts-Commercial-and-Industrial-Customer-on-Site-Assessments-Interm-Report.pdf">http://ma-eeac.org/wordpress/wp-content/uploads/Massachusetts-Commercial-and-Industrial-Customer-on-Site-Assessments-Interm-Report.pdf</a>
Commercial Real Estate Study	<a href="http://ma-eeac.org/wordpress/wp-content/uploads/Massachusetts-Commerical-Real-Estate-Survey-Analysis-Final-Report.pdf">http://ma-eeac.org/wordpress/wp-content/uploads/Massachusetts-Commerical-Real-Estate-Survey-Analysis-Final-Report.pdf</a>
Umbrella Marketing Tracking Study	<a href="http://ma-eeac.org/wordpress/wp-content/uploads/2014-Massachusetts-Statewide-Marketing-Campaign-Post-Campaign-Report.pdf">http://ma-eeac.org/wordpress/wp-content/uploads/2014-Massachusetts-Statewide-Marketing-Campaign-Post-Campaign-Report.pdf</a>
2013 C&I Customer Profile Study	<a href="http://ma-eeac.org/wordpress/wp-content/uploads/2013-CI-Customer-Profile-Report.pdf">http://ma-eeac.org/wordpress/wp-content/uploads/2013-CI-Customer-Profile-Report.pdf</a>
PA Differences Study	<a href="http://ma-eeac.org/wordpress/wp-content/uploads/How-PA-Differences-Affect-CI-Outcomes-Phase-2-Final-Report.pdf">http://ma-eeac.org/wordpress/wp-content/uploads/How-PA-Differences-Affect-CI-Outcomes-Phase-2-Final-Report.pdf</a>
SBDI Process Evaluation	<a href="http://ma-eeac.org/wordpress/wp-content/uploads/Small-Business-Program-Process-Evaluation-Final-Report.pdf">http://ma-eeac.org/wordpress/wp-content/uploads/Small-Business-Program-Process-Evaluation-Final-Report.pdf</a>
C&I Lighting Upstream Revisits Study	<a href="http://ma-eeac.org/wordpress/wp-content/uploads/CI-Upstream-Lighting-Program-In-Storage-Lamps-Follow-up-Study.pdf">http://ma-eeac.org/wordpress/wp-content/uploads/CI-Upstream-Lighting-Program-In-Storage-Lamps-Follow-up-Study.pdf</a>
Pre-Rinse Spray Valve Impact Evaluation	<a href="http://ma-eeac.org/wordpress/wp-content/uploads/Prescriptive-Gas-Pre-Rinse-Spray-Valve-Measure-Impact-Evaluation.pdf">http://ma-eeac.org/wordpress/wp-content/uploads/Prescriptive-Gas-Pre-Rinse-Spray-Valve-Measure-Impact-Evaluation.pdf</a>
C&I Electric Net-to-Gross Self-Reporting Study	<a href="http://ma-eeac.org/wordpress/wp-content/uploads/CI-Electric-Programs-Free-Ridership-and-Spillover-Study.pdf">http://ma-eeac.org/wordpress/wp-content/uploads/CI-Electric-Programs-Free-Ridership-and-Spillover-Study.pdf</a>
Top-Down NTG Study	<a href="http://ma-eeac.org/wordpress/wp-content/uploads/Top-down-Modeling-Methods-Study-Final-Report.pdf">http://ma-eeac.org/wordpress/wp-content/uploads/Top-down-Modeling-Methods-Study-Final-Report.pdf</a>



# Thanks!

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► **May 27, 2015**