



# EEAC EM&V Briefing

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## Overall Status Report

- EM&V has systematized its planning processes, and improved its outreach and stakeholder engagement efforts
- Current focus is on implementing the 2013-2014 EM&V plan delivered last October
- The EM&V program is now firing on all cylinders, with the volume of research steadily increasing
  - 53 studies now in progress (widely varying stages)
- PA project management capacity has increased, but remains a worry
- Some new directions in study content:
  - Increased focus on data-mining and market assessment
  - Gross savings impact evaluation not going away, but we have reached a steady state
  - Net savings: research programs focused on top-down econometric methods and market effects studies are now in place



## So What Lessons Have We Learned Lately?





## Some Studies Recently Completed or Near Completion

- Residential New Construction Net-to-Gross Study
- Upstream Lighting Impact Evaluation
- C&I Mid-Sized Customer Study
- Residential Lighting Hours of Use (HOU) Study
- Umbrella Marketing End-User Tracking Study





## Lessons Learned: C&I Mid-Sized Customer Needs Assessment

- Mid-sized C&I customers (300-750 kW):
  - Save less as a percentage of total population-wide consumption than any other C&I size category
  - Have more complex needs than small customers, but fewer resources than large customers
  - May need more targeted services, marketing, and/or efforts to build supply-side market
- Clear patterns across size categories in both participation rates and outcomes for participants
  - The larger you are, the more frequently you participate
  - The smaller you are, the higher your percentage savings when you participate
  - Mid-sized customers neither participate as often as do large ones, nor save as much energy when they participate as do small ones
- For more detail, please join webinar March 6, 1:00-2:00



## Lessons Learned: Residential Lighting HOU Study

- Consumers use their lighting at least as much as we thought, and perhaps more
- This adds to the body of recent EM&V results showing that residential lighting remains a substantial savings opportunity
  - CFL saturation stagnating
  - No signs as of yet that EISA is eliminating the savings opportunity
- This study done because:
  - Last lighting operating hours study done five years ago
  - Persistent concerns that we might be over-stating operating hours
  - Residential lighting remains a large part of the portfolio, and HOU directly drives savings
- Multistate study involving NY, CT and RI along with MA
- May be the most comprehensive study of residential lighting usage patterns ever done in the US





## Lessons Learned: RNC Net-to-Gross Study

- The net impacts of the RNC program may be much larger than we thought
- Purpose of this study was to assess the net savings when long-term effects on the broader market are included
  - Builder survey (both participants and non-participants)
  - Drew on results of several baseline studies of construction practices, done over many years
  - Delphi panel (diverse members)
  - Detailed engineering analysis of the effects of changes in construction practices attributed to the program
- Program appears to have produced long-term improvements in air infiltration and duct leakage in overall population of new homes
- Overall net-to-gross ratio: 187% (mostly due to spillover)



And What Are We Hoping To Learn In  
The Remainder of 2014?







## Some Anticipated 2014 Results Bearing on Program Design and Implementation: Residential

- Residential Customer Profile study will characterize overall patterns of participation for all programs by segment and region
- HES Program Delivery study will use data-mining to:
  - Assess conversion rates and other key performance metrics
  - Analyze linkages between HES and other programs
- HEAT Loan study will:
  - Assess the incremental contribution to savings being made by financing
  - Examine pricing effects
- HEHE/CoolSmart Impact Evaluation will refine estimates of gross savings from HVAC equipment
- Minisplit participant survey will improve our understanding of how this technology is being used





## Some Anticipated 2014 Results Bearing on Program Design and Implementation: Non-Residential

- Non-Residential Customer Profile study will characterize patterns of participation by size, business type and region
- Existing Buildings study will:
  - Characterize overall population of buildings
  - Provide targeted market profiles for commercial offices, smaller healthcare facilities, and smaller food stores
- PA Differences study will improve our understanding of the extent to which differences in savings across PAs are due to differences in service territories vs what the PAs do
- Learning From Successful Projects study will look at samples of successful and less successful projects and seek to find useful lessons



# Some Cross-Cutting Results Anticipated for 2014

## Codes and Standards

- Related EM&V activity in all three research areas (Res, Non-Res, Cross-Cutting)
  - Better understand code compliance patterns
  - Support design of initiatives now about to be fielded
  - Prepare to document net impacts

## Top-Down Net-to-Gross Research Program

- Instead of trying to understand net impacts of individual programs, use econometric methods to understand global net impacts at sector level
- Compare overall trends in energy consumption and overall program activity across regions and cities
- At >2% annual savings, can we see the signal in statewide consumption patterns?



Thanks!

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## Appendix: More Detail on Current Status

- 2013-2014 Evaluation Plan released in October described 56 planned or in-progress studies
- 53 studies now in progress (Since October, several completed and a few more started)
- Breakdown by study type:
  - Impact evaluation: 14 studies
  - Process evaluation/data-mining: 12 studies
  - Market assessment: 17 studies
  - Other: 10 studies
- Breakdown by stage:
  - Planning: 20 studies
  - Implementation: 30 studies
  - Reporting: 3 studies
- Because of where we are in the evaluation implementation cycle, relatively few reports coming in right now