Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

New Jersey ENERGY STAR Homes Impact Study – Design, Progress, Schedule

2008 ACI Home Performance Conference

David Carroll, APPRISE

4/11/2008

Presentation Outline

Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

- Disclaimer
- Study Goals
- Program Design Context
- Measurement Approach
- Measurement Issues
- Study Design
- Study Progress/Schedule
- Summary

Disclaimer & Promise

Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

- Do not sit here for 30 minutes to get the study results. They won't be presented today.

- But … at the end of the session I will collect business cards from those still here and will send the published report when it is made public.

Study Goals

- Measure Gross Impacts
- Assess Variations by Market Segment
- Assess Variations by Measure Package
- Measure Freeridership
- Measure Spillover
- Propose Revisions to Deemed Savings Protocols

Program Design Context

- NJ New Homes Market – Dominated by development home (25 – 250 homes)
- Smart Growth – State designates growth areas and has eliminated program incentives for areas not designated for growth
- Residential HVAC Program – Allows builders to get incentives for HVAC upgrades

Program Design Context

- Builder Types
  - ENERGY STAR / All Homes / Certified
  - ENERGY STAR / All Homes / Not Certified
  - ENERGY STAR / Some Homes
  - Not ENERGY STAR / Residential HVAC
  - Nonparticipant

Measurement Approach

- Projected to Actual
  - Compare REMRate projections to billing data
- Participants to Nonparticipants
  - Compare billing data for participants to billing data for nonparticipants
- Segment Analysis
  - Compare usage data for matching homes (type, size, price, demographics)

Measurement Issues

- Projected / Actual
  - Homeowners are not participants
  - Utilities are not study sponsors
  - Billing data release requires signature
- Participant / Nonparticipant
  - Levels of participation
  - Spillover to nonparticipating projects
- Segment Level Analysis
  - Information on nonparticipating homes

Study Design

- Data Collection / Participants
  - Sample Frame: Program Databases
  - Sample: Two-Stage Sample: Projects/Homes
  - Mail Survey: Housing Unit Data, Household Data, Energy Behaviors, Authorization Form
  - Utility Data Retrieval
  - REMRate Data Retrieval

Study Design

- Data Collection / NonParticipants
  - Sample Frame: Hanley-Wood Database
  - Sample Selection:
    - Identify ENERGY STAR projects
    - Match nonparticipating projects (Purposive Sample)
    - Balance participating/nonparticipating builders
    - Identify project addresses
    - Assess Residential HVAC participation
  - Mail Survey / Utility Data Retrieval

Study Design

- Free Riders
  - Rating of Initial Submission
  - Some Potential / Limited Success
- Spillover
  - Analysis
    - Certified ENERGY STAR
    - Noncertified by ENERGY STAR builders
    - Nonparticipating Builders
  - Note: Partially dependent on Free Rider analysis

Study Progress

- Complete
  - ENERGY STAR Mail Survey
  - ENERGY STAR Utility Data
  - REMRate Data
- In Process
  - ENERGY STAR Analysis
  - Nonparticipating Mail Survey

Study Progress

- Scheduled
  - Nonparticipating Utility Data
  - Comparison Analysis
- Target Dates
  - Data Collection Complete – 5/1
  - ENERGY STAR Analysis – 5/15
  - Comparison Analysis – 6/1
  - Draft Report – 6/15

Summary

- Limited Information – There have been few ENERGY STAR Homes Impact Studies / Available studies have ambiguous results.
- Importance of Context – An ENERGY STAR homes impact study has to be designed in the context of program implementation and available resources for development of comparisons

Summary

- Study Accomplishments – We have demonstrated that one can implement this study design.
- Open Question – We have yet to demonstrate that all of these carefully designed procedures will yield the information that we seek.

David Carroll

APPRISE

609-252-8010

david-carroll@appriseinc.org