Maintaining Cost Effective New Homes Programs in Light of More Stringent Building Energy Codes

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SWEEP SW Regional EE Workshop
APS ENERGY STAR Homes Program

• Launched in 2006
• Currently promotes Arizona homebuilders who meet ENERGY STAR "V3" requirements
  – Marketing support
  – Training assistance
  – Advertising
  – Tiered incentives
    • $600/home = ENERGY STAR V3
    • $1500/home = ENERGY STAR V3 + HERS ≤60
The (ironic) Challenge

- Above-code EE programs help to drive more efficient homebuilding.....
- Which over time helps increase building codes.....
- Which over time makes it more difficult for above-code EE programs to be cost effective.....
Questions?

• Statewide vs local codes jurisdiction?
  – APS serves ~62 different jurisdictions with different building codes

• What code?
  – We have them all in AZ!

• Which cost effectiveness test(s)?
  – Does the customer incremental cost matter?
Total Resource Cost (TRC) Test

Asks: Will the total costs of energy in the utility service territory decrease?

Compares: Program administrator AND customer costs to the utility resource savings.

Benefits of DSM

- Tax Credits
- Avoided Cost of Demand (kW - Generation, T&D)
- Avoided Cost of Energy (kWh - Fuel and O&M)

Costs of DSM

- Program Costs
  - Participant Costs

NPV $
Arizona’s Inherent Cost Effectiveness Advantages for a New Homes Program

• Production builder market
• Slab on grade construction
• Large subcontracting companies
• Construction concentrated in 1 metro area
• Extreme summer climate/significant electric savings potential
1. Consider the True Baseline for Measuring Program Savings Against

- Do not evaluate savings based on comparing to the code ‘on paper’
- What is the level of code compliance?
- What is the real performance as installed in the field?
  - Complete inspections and field testing of non-participant homes
  - Compare test results of non-participant vs program homes to determine the measured performance level difference
2. Adjust Incremental Costs

- Have incremental costs been adjusted to the new baseline you are using?
- Are they based on an accurate assessment of current costs in your market?
- What is the driver for incremental cost?
  - Lack of knowledge/education on new process?
  - Product availability?
  - Labor?
- Are there opportunities for programs to influence incremental costs?
  - Training
  - Making tools/products available
  - Work specifications to reduce labor costs?
- Particularly important for TRC and SC tests
3. Consider Savings Available in New Homes That are Outside of the Building Codes

• Equipment Efficiencies
  – AC SEER Level
  – Water Heating
  – Furnace
  – Appliances

• HVAC Quality Install
  – Airflow
  – Refrigerant Charge

• Thermal bypass checklist items

• Lighting (some)
4. Move to Tiered Incentive Levels

- APS launched Tier 2 incentives in 2011
- Tiered incentives can:
  - Drive higher savings and market transformation
  - Prepare the market for higher efficiency requirements
  - Encourage builders to strive for the next level of efficiency
    - Make the next incremental rebate level a stretch for a significant incentive increase
    - Change the relative pricing between incentives to drive participation to the higher savings tier
5. Capture All of the Savings You Are Creating

- Cloud based program database
- Tracks detailed EE info about participating homes
  - Better program tracking and reporting
  - Streamlines process with program partners
- Capture savings beyond the minimum requirements
  - Production builder market - builders were making models pass at the ‘worst case’ orientation
- Better QA/QC to Maintain Savings Realization Rates
6. Drive Builder Participation – Go Beyond Rebates

• ‘Push/Pull’ Strategy
• Drive Homebuyer Traffic
  – Reach new home shoppers at ‘point of sale’
• Streamline builder participation
  – Easy to Receiving Incentives
  – Easy to Access Information - Cloud based program database
  – Easy to Work with Subcontractors – comprehensive program training efforts
  – Easy to Get Certified – extensive work with Raters
  – Easy to Get Value – work with Realtors and Lenders to drive value of program homes
Questions/Discussion

Thank You!

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