

**Quantec  
National  
Efficiency  
Benchmarking  
Study**

**Residential Central Air-  
Conditioning**

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# Outline



- Introduction
- Goals of the Study
- Value Proposition
  - The Three B's
- Methodology
- Timeline

## Goals Of The Study



To measure program impacts on sales and market shares of residential central AC units by efficiency level (SEER/EER) in utility service territories across the United States.

# The Three B's



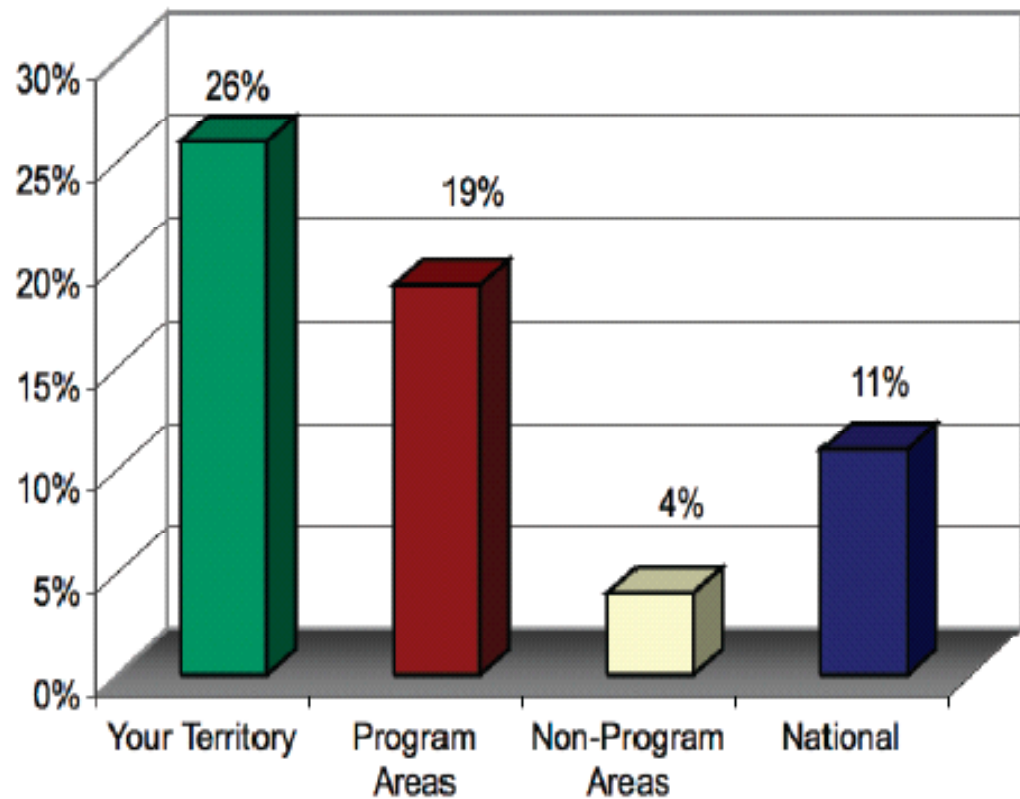
- Benchmark
- Baseline
- Best Practices

# Benchmark



- How does one program compare to others

**Sales of 14+ SEER Units as a Percent of Total Residential CAC Market**

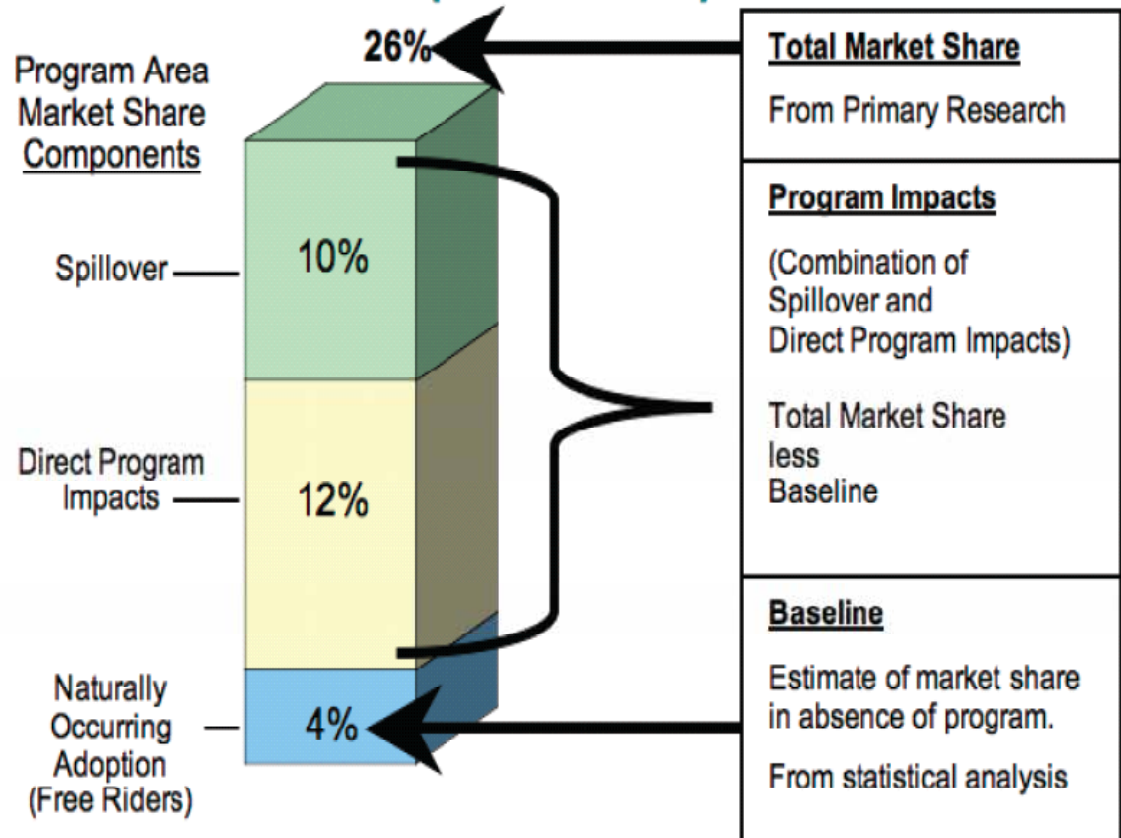


# Baseline



- What would happen in a territory if a program was not running?

## Determination of Program Impacts (Net-to-Gross)



# Best Practices



- What are the optimal features for a program?
- How much/many resources should go into supporting each feature?

Program Design Elements Incorporated in Analysis	Exogenous Elements Incorporated in Analysis
<ul style="list-style-type: none"><li>• Customer incentives</li><li>• Dealer incentives</li><li>• Advertising (radio, TV, newspaper)</li><li>• Bill inserts</li><li>• Web page promotion</li><li>• Internal/outsource implementation</li><li>• Program sizing/installation requirements</li></ul>	<ul style="list-style-type: none"><li>• Electricity rates</li><li>• Manufacturer rebates</li><li>• Tax credits</li><li>• Cooling degree days</li><li>• Economic conditions</li><li>• Home size</li><li>• Average education levels</li><li>• Average income</li><li>• New home construction</li><li>• Green building trends</li></ul>

# Key Researchable Questions



- How do territories rank relative to other territories (with and without programs) in sales of high efficiency residential central air conditioners?
- Are program impacts extending beyond the number of units for which incentives are paid (i.e., is the program creating spillover)?
- What would happen to high efficiency AC sales in our territory if we did not run a program, or if we modified the program?



## Key Researchable Questions (Cont.)



- What are the opportunities for utilities and manufacturers to co-brand or co-market rebate programs?
- What can we do to optimize our existing program, and what components should we include in designing a new program?
- Are manufacturer and program rebates complementing each other, or to what extent are they excessive or redundant?

# Methodology



- Mix of primary and secondary data including:
  - Self sponsored survey of over 1,000 HVAC dealers, distributors and manufacturers
  - Quantec energy efficiency program database
  - Surveys of program sponsors
  - Census data
  - Weather data
- Regression model
  - Builds upon the previous work of Rosenberg (2003) and Wilson-Wright et al. (2005) in evaluating ENERGY STAR<sup>®</sup> promotions.

# Targeted Customers



- Initial plan was to deliver the report in late November/early December
  - Timing was selected so that the report would be relevant to program planners, designers and implementers.
- Found several clients were very interested in reliable numbers for the full calendar year
- Current schedule has report deliveries beginning mid-March 2008.

# Schedule of Findings and Deliverables



- Late January
  - Initial qualitative findings due
- Late February
  - Initial quantitative findings available
- March
  - First reports delivered