



Evaluation of the Massachusetts PowerCost Monitor™ Pilot Program

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Presentation Outline

- Background
- Results
- Recommendations

Product Background

- The PowerCost Monitor™ (PCM) is a wireless energy monitor for your home
- The PCM provides real-time information on:
 - The amount of electricity your home is using
 - The total amount of money you are spending on electricity
- Feedback to generate energy savings:
 - The difference in electricity consumption (and cost) caused by turning on and off the various electrical appliances in your home

Source: BlueLine Innovations website



Pilot Program Background

- Separate but coordinated pilot programs by three Massachusetts utilities:
 - National Grid
 - NSTAR Electric
 - Western Massachusetts Electric Company (WMECO)
- Distributed over 3,500 PCMs to customers
- Installation of PCMs between May and November 2007
- Used different distribution/marketing strategies and price points

Pilot Program Background

Utility	Marketing Strategy	Customers Targeted	Installation Method	Price	# Customers Targeted	# PCMs Distr.
National Grid	Audit Program	Audit participants	MassSave contractor	Free	111	100
	Direct Mail	General public	Customer	\$9.99	4,745	272
				\$49.99	1,795	5
NSTAR	Press release, media	General public	Customer	\$29.99	General public	2,628
	Direct mail				9,978	475
WMECO	Direct mail to previous audit participants	Previous audit participants	MassSave contractor	Free	234	32

Evaluation Background

- Opinion Dynamics Team, consisting of ODC and subcontractor Megdal & Associates
- Process and Impact Evaluation
- Key Research Objectives: Assess...
 - the success of the different PCM marketing strategies;
 - customer responses to different PCM price points;
 - short-term and long-term behavioral changes among participating customers as a result of using the PCM;
 - energy savings attributable to the pilot programs.

Evaluation Background

- Key research efforts
 - Two-phase survey of participants
 - Dec. '07/Jan. '08: 2-6 months after PCM distribution (n=478)
 - June/July '08: 8-12 months after PCM distribution (n=348)
 - Survey of non-participants
 - January '08 (n=266)
 - Billing analysis
 - Pre/post analysis included 243 participants
 - Excluded participants through audit program

Results

- Installation and Use
- Maintenance and Reliability
- Marketing Strategies
- Price Points
- Behavioral Changes
- Energy Savings

Results: Installation and Use

- Installation rate (at 2-6 months after distribution): 76%
 - Reason for not installing
 - Have not gotten around to it: 62%
 - Couldn't attach transmitter to meter: 28%
 - Couldn't program display unit: 14%
 - Difficulty with installation (1-3 on 10-point scale)
 - Attaching transmitter difficult: 19%
 - Programming display unit: 8%

Results: Installation and Use

- Use rate
 - After first getting PCM: 73%
 - After 2-6 months: 49%
 - After 8-12 months: 35%
- Reasons for no longer using PCM
 - Didn't work well: 40%
 - Batteries died: 23%
 - PCM broke: 22%
 - Don't need it anymore: 9%

Results: Maintenance and Reliability

- Technical problems in first 2-6 months: 40%
 - Dead batteries
 - Not working correctly
 - Not working in cold/rain
- Problem resolution (6 months later)
 - 17% resolved
 - 42% tried to resolve but failed
 - 40% didn't try to resolve

Results: Marketing Strategies

- Media campaign most successful - 75% of PCMs
- Adoption rates
 - During audit (free): 94%
 - Direct mail to previous audit participants (free): 14%
 - Direct mail:
 - \$9.99: 6%
 - \$29.99: 5%
 - \$49.99: 0.3%

Results: Marketing Strategies

- Net cost per installed PCM:
 - Audit: \$150
 - Media campaign: \$180
 - Direct mail: \$192 - \$223
- Differences driven by:
 - Installation rate
 - Price charged by BlueLine
 - Price paid by customers

Results: Marketing Strategies

- Non-participant recall of offer: 23%
- Reasons for not participating
 - No need for PCM: 23%
 - Don't want another gadget: 15%
 - Costs too much: 13%
 - Already save all electricity I can: 12%
- 83% say no additional information would have made them more likely to participate
- Best way to reach customers
 - Participants: 54% bill inserts
 - Non-participants: 50% direct mail

Results: Price Points

- Price points offered: free, \$9.99, \$29.99, \$49.99
- Retail value: \$145 (at time of survey)
- Most participants would have paid one price point more than they did
- Non-Participants who did not recall the offer were evenly split between four price points
- Low willingness to pay full retail price

Results: Behavioral Changes

- Increase in awareness (significant and somewhat) of actions to save energy: 75%
- Increase in electricity-saving behavior: 46%
- Additional steps taken after first using PCM
 - Turn off lights when leaving a room: 41%
 - Turn off the TV when not watching: 23%
 - Turn off your computer when not in use: 18%
 - Unplug chargers when not in use: 17%
 - Limit use of AC/increase temperature setting: 14%
- Equipment purchases due to PCM use: 3%*

**Of non-audit participants*

Results: Behavioral Changes

- Longevity of behavioral changes
 - Still taking all additional steps
 - After 2-6 months: 48%
 - After 8-12 months: 60%
 - Counter-intuitive results likely due to changing economic conditions between two surveys
 - Long-term impact of PCM uncertain

Results: Energy Savings

- 60% of participants who changed behavior noticed bill savings, about half of 5-10%
- Annual savings based on billing analysis
 - Per PCM used: 318 kWh; 2.9% of annual usage
 - Per PCM distributed: 202 kWh; 1.9% of annual usage
 - Pilot program total: 790 MWh

Recommendations

- Installation and Use
 - Place follow-up calls
- Maintenance and Reliability
 - Provide technical support to all customers
 - Determine cause for low resolution to technical issues
- Marketing Strategy
 - Include media coverage in marketing strategy
 - Use bill inserts or direct mail for targeted marketing

Recommendations

- Price Points
 - Continue with a price point of \$29.99
- Behavioral Changes/Energy Savings
 - Provide information on energy saving behaviors with the PCM



Thank you!