



What Makes a Difference? Getting the Most from an On-line Audit & Feedback Program

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What You'll Learn Today

- About Oklahoma Gas & Electric's Custom Energy Reports program
- Objectives of the study
- Analysis approach
- Overall program effects
- What aspects of the program design & delivery make a difference in its effectiveness and/or could improve it



Custom Energy Reports (CER) Program

Program overview

- Web-based energy use audit and report(s), customized for homes in Oklahoma
- Designed to reduce help OG&E's residents reduce energy use by providing information
- Opt-in program, open to all residential customers
- More than 23K participants since 2008
- Program has undergone changes over time
 - Periodic promotional campaigns
 - On-site to on-line audits
 - Paper to on-line reports



About This Study

Study Objectives

Purpose:

- Help OG&E decide whether to claim savings and/or modify program delivery
- Obtain indicators rather than specific savings estimates

Research Questions:

- Has the CER program had an impact on electricity use?
- Do the savings vary by program year?
- What is the nature of that impact across months since enrollment?
- What do customers say about their actions & satisfaction?

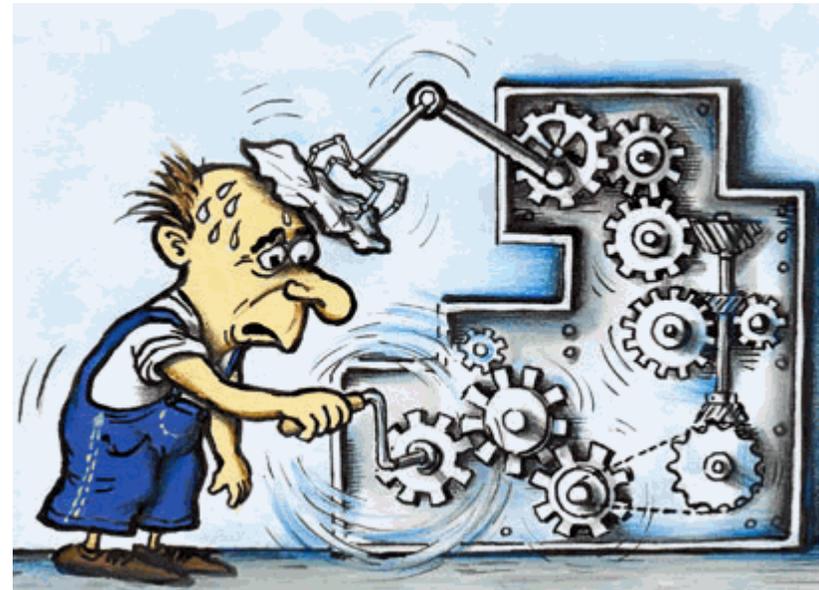
Approach We Used

- Participant surveys
 - 111 participants via phone and on-line
 - Used to assess satisfaction and identify actions taken
- Fixed-effects regression models
 - Multi-year model to determine overall savings
 - Separate models to compare results by program year & pattern of savings over months since report received
- Sample Frame
 - 23,176 participants with at least one year of pre- and post-participation billing data
 - Participation 2008 through 2012

Savings Model Specification

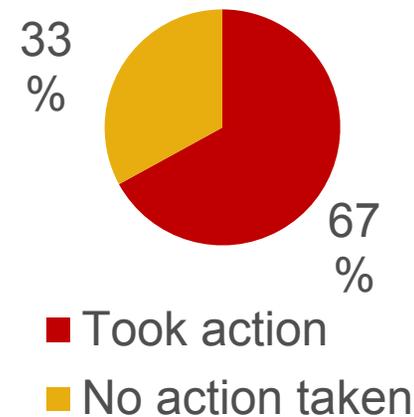
Regression Analysis

- Participant data only (own control group)
- Dependent variable: 30-day normalized monthly kWh
- 12 months pre- thru 12 months post-participation bills
- Simple specification
 - Weather
 - Monthly dummies
 - Customer-specific constant
 - Participation dummy



Overall Program Results

- Statistically significant per-participant savings of 13.0 kWh per-month, 1.3% of baseline use
- Participation and results vary a lot by participation year
 - Participation highest in years with active promotion
 - Savings estimates most significant and credible in years with high participation
- Vast majority took 1 audit and report; 3% of participants asked for more than 1 report
- 67% of surveyed participants said they took action after receiving the recommendations



Savings Vary Across Program Years

Results

- Savings estimates significant and reasonable in years with most participants
- Savings not reliably measurable, by this method, in low-participation years

Average Per-Participant Savings by Participation Year

	2008	2009	2010	2011	2012
Average Monthly Savings (kWh)	16.303	15.442	27.286	3.399	59.370
Savings % of Usage	1.2%	1.2%	1.9%	0.2%	4.0%
Statistical significance	**	**	*		**
Number of Participants	7,519	14,240	458	261	156

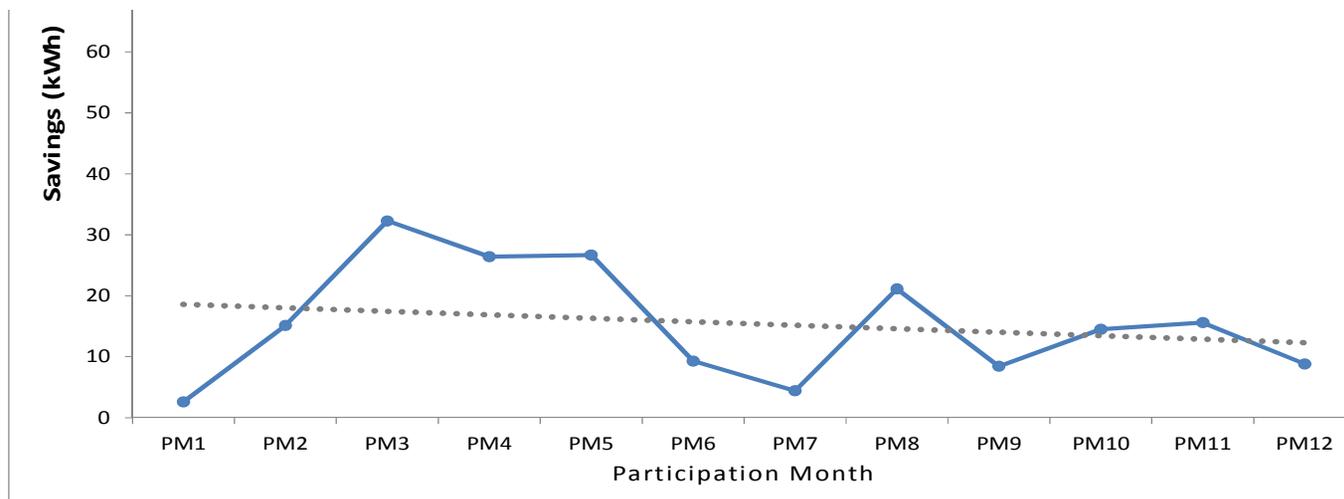
** 95% confidence * 90% confidence

Savings Vary Within Program Year

Results

- Statistically significant savings in 8 of 12 months, in program years with promotional campaigns & many participants
- No savings until 2 months after enrollment, all years
- Degradation pattern visible

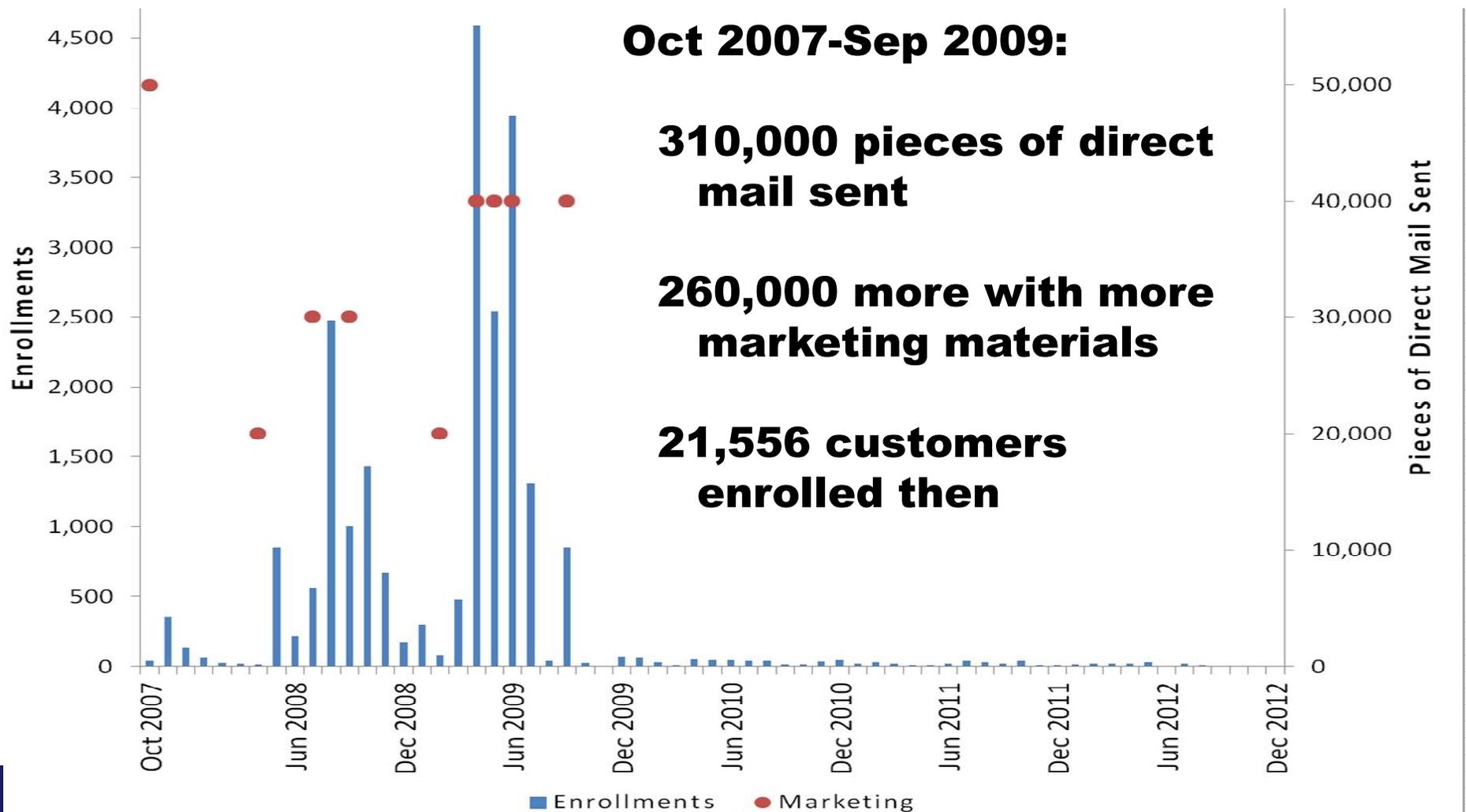
Average Monthly Savings, PY 2009 Participants



Marketing Matters A Lot

Results

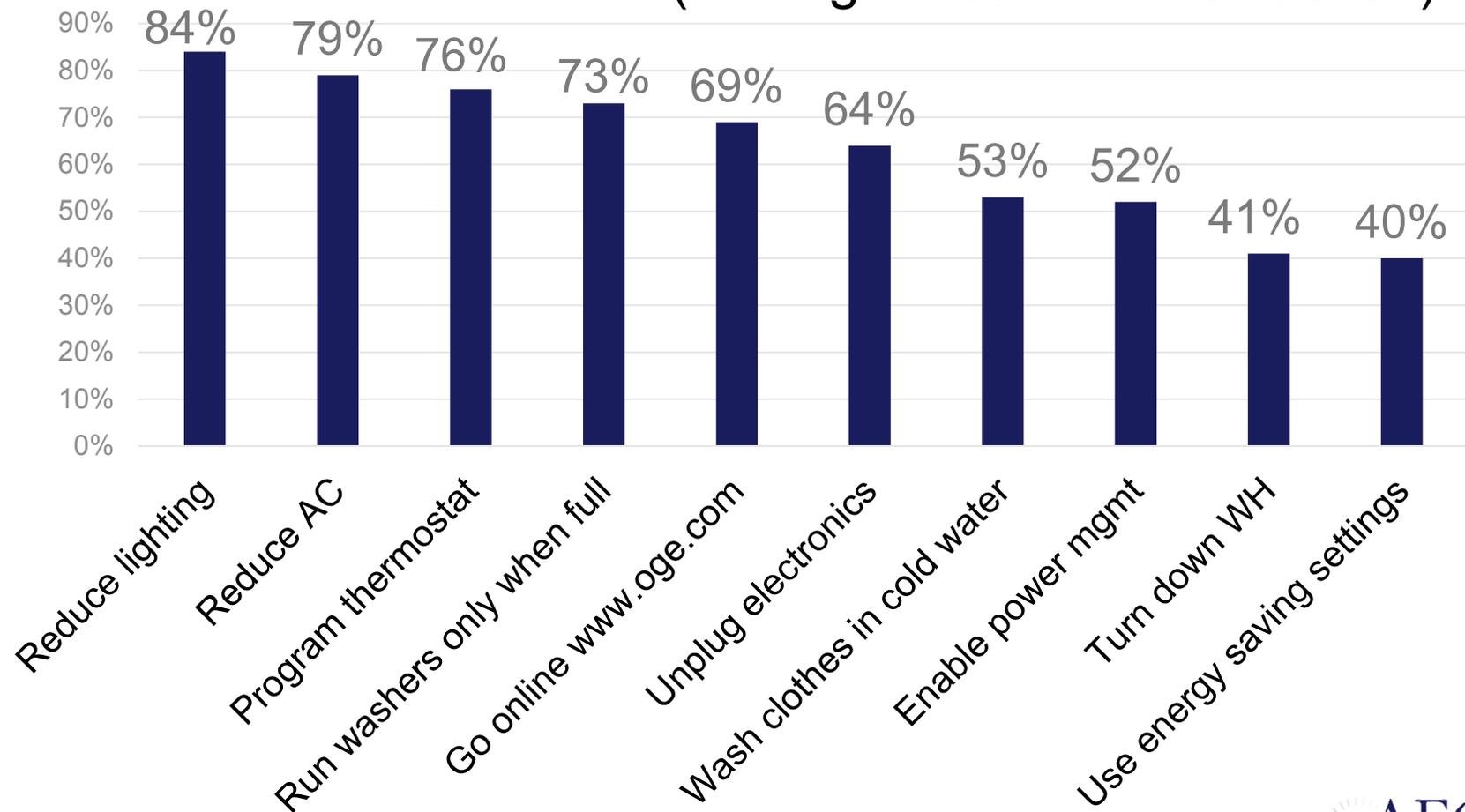
- 93% of enrollment occurred during mail campaigns



Actions Participants Reported Taking

Immediate Actions

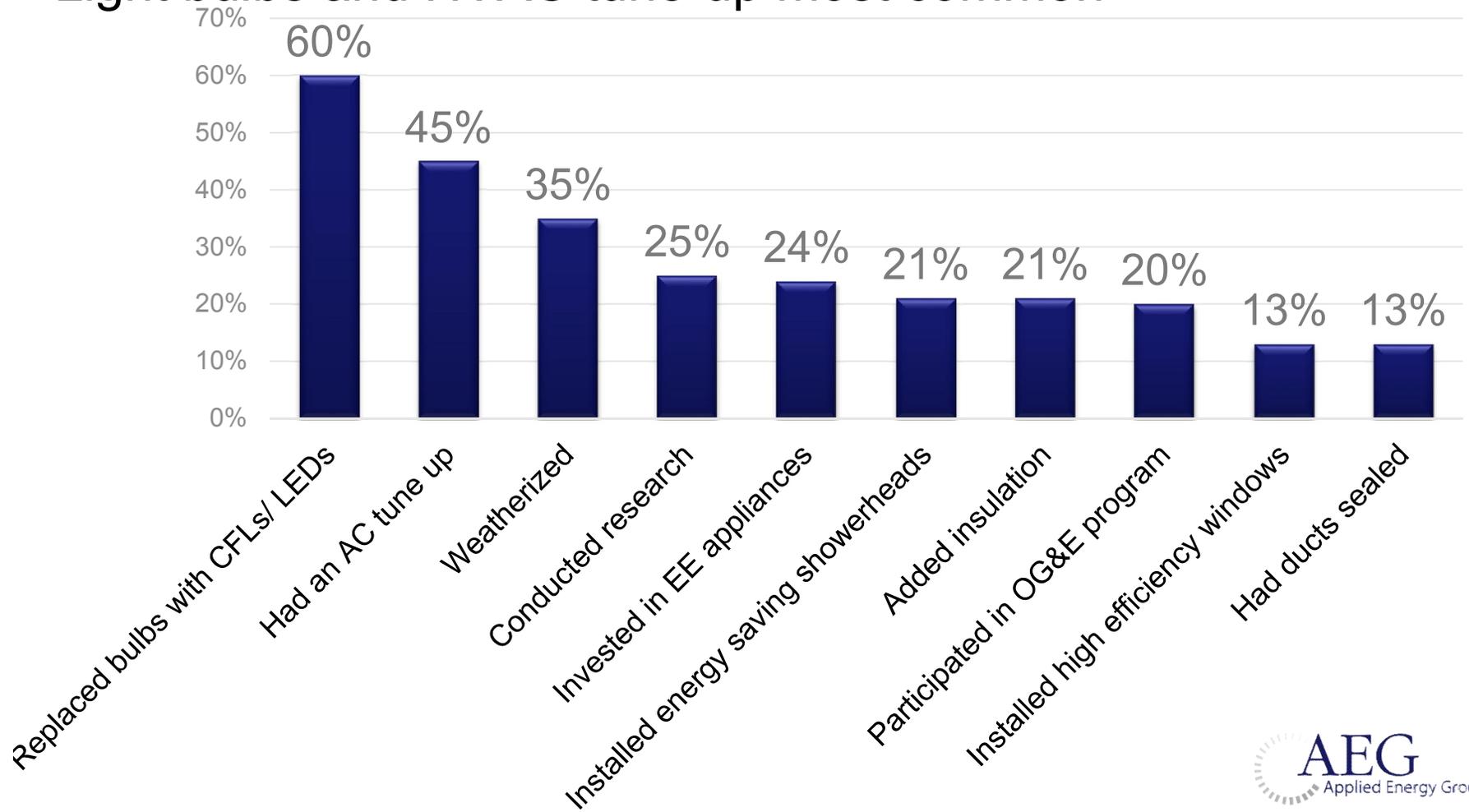
- Lighting usage and temperature adjustments most common (among those who took action)



Actions Participants Reported Taking

Longer-Term Actions

- Almost 80% said they took longer-term actions
- Light bulbs and HVAC tune-up most common



Customer Satisfaction

Survey Results



- About 65% of participants said Custom Energy Report was *extremely* useful; 13% said not useful
- More than 80% rated satisfaction with OG&E very high
- Customer recommendations for program improvement:
 - Provide more customer-specific info in reports
 - Have utility rep follow up on recommendations
 - Offer a phone app with the recommendations
 - Almost half would like opportunity to set energy saving goals for their household and to receive regular emails or direct mail encouraging them to reach those goals

Summary of Findings

- **Savings?** Yes, this opt-in audit/feedback program has generated energy savings, and of the same magnitude as many opt-out programs
- **Patterns?** Savings vary considerably by program year (promotion level) and across months within each year
- **Customer Satisfaction?** Customers value the information; would like more, and more active, interaction with both the program and the utility

Conclusions and Recommendations

- 1. Strong promotion matters a lot for opt-in program.** Marketing has had a positive impact on both enrollment and savings. And high participation seems necessary for reliable estimation of savings.
- 2. Follow-up information may help customers maintain savings.** Participants said they would like more feedback about their energy use and ways in which they could save.
- 3. On-line delivery of reports makes sense.** Setting default option for reports to web access matches trends in customer preferences, probably saves money, and can also facilitate the tracking of previous recommendations.



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