research/into/action inc

Final Report

Fast Feedback Program Roll-out: Nonresidential and Residential Program Portfolio

Funded By:

EnergyTrust of Oregon

Prepared By:

research/into/action inc

Jane S. Peters, Ph.D.
Ryan E. Bliss
Research Into Action, Inc.

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ES EXECUTIVE SUMMARY

Energy Trust selected Research Into Action to assist in the roll-out of the new Fast Feedback methodology for collecting participant feedback shortly after completion of program-assisted projects. This roll-out was implemented in May through July, 2010, across several nonresidential and residential energy efficiency programs. Research Into Action adapted and expanded the data tracking methodology it had developed for the 2009 pilot study of the Fast Feedback methodology[1], to draw monthly samples and track survey results across the programs. Research Into Action also carried out a portion of the surveys and coordinated with Energy Trust's call center, which carried out the majority of the surveys.

METHODS

Energy Trust identified 23 participant groups to survey. Each of the five nonresidential programs constituted a single survey group, as did the Home Performance, Solar Water Heating, and Residential Solar Electric programs. The samples for the Existing Buildings, New Buildings, and Production Efficiency programs were stratified: in Existing Buildings and Production Efficiency, each sample included roughly equal proportions of lighting, standard non-lighting, and custom projects; in New Buildings, each sample included about equal proportions of standard and custom projects.

In the Existing Single Family program and the Home Products program, 13 survey groups were defined by type of participation (usually, type of measure installed). Sample sizes were computed to achieve 10% precision at 90% confidence for Q2 2010 participation, with populations estimated from Q2 2009 data and revised over the course of the roll-out.

We adapted the pilot survey instrument to each survey group. For most survey groups, the instrument covered program satisfaction and two sets of investment/purchase decision questions designed to produce estimates of free-ridership: ratings of program influence and likely actions the respondent would have taken regarding the energy-efficiency measures in absence of the program. In all surveys, respondents were read a list of possible actions, and the respondent was allowed to select as many as were applicable. Some of the possible alternative actions would not necessarily have reduced the energy savings (e.g., performing air sealing or insulation oneself, without a contractor, or installing a different heating system rather than a heat pump), but we assumed those would result in a moderate reduction in savings as a conservative approach.

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1 *Fast Feedback Pilot: Existing Buildings and Production Efficiency Program*. Prepared by Research Into Action for Energy Trust of Oregon, March 10, 2010. Available on Energy Trust of Oregon website: http://energytrust.org/library/reports/100310_FastFeedback.pdf

The instrument for the Existing Single Family program Home Energy Review did not include free-ridership questions as the Home Energy Review did not include equipment installation or a service cost. This survey asked about program satisfaction and about recommended improvements that had been carried out or were planned.

ROLL-OUT IMPLEMENTATION

In total, Research Into Action and the Energy Trust call center completed the survey with 942 program participants, meeting or exceeding the precision goals in most cases.

The implementation of the roll-out generally went smoothly. In some cases, the precision goals were not met because the data tracking system did not calculate revised sample sizes correctly over the course of the roll-out. The issue was identified and corrected.

RESULTS

Nonresidential Programs

All nonresidential programs produced generally high satisfaction. To the degree that satisfaction varied among program elements, respondents were most satisfied with installation quality and (except for New Buildings participants) with the equipment itself (Table ES.1).

Table ES.1: Program Satisfaction and Influence in Nonresidential Energy Efficiency Programs

PROGRAM ELEMENT	PERCENT RATING SATISFACTION / INFLUENCE "4" OR "5" ON 5-POINT SCALE BY PROGRAM			
	EXISTING BUILDINGS	NEW BUILDINGS	MULTIFAMILY	PRODUCTION EFFICIENCY
SATISFACTION				
Overall Program Satisfaction	91%	87%	72%	91%
Installation	94%	86%	94%	95%
Equipment	87%	50%	83%	96%
Tenant Comfort	n/a	n/a	89%	n/a
Program Representative	86%	84%	78%	93%
Incentive	85%	68%	78%	93%
Technical Study	76%	34%	88%	74%
Application Process	77%	65%	56%	82%
Tax Information	68%	n/a	75%	71%
INFLUENCE				
Incentive	85%	38%	89%	91%

Technical Study	76%	38%	88%	82%
Contractor / Design Professional	71%	65%	65%	54%
Program Representative	52%	52%	65%	72%
Maximum Influence (Of All Sources)	95%	82%	89%	93%

Some variability existed among programs, but those in the New Buildings program differed most from the others in terms of what they were most and least satisfied with; they also had generally the lowest levels of program satisfaction.

The majority of respondents in all nonresidential programs said that one or more element of the program had a strong influence on their actions. Program influence was weakest in the New Buildings program, but even there, 82% the respondents gave at least one element an influence rating of "4" or "5" on a five-point scale.

Mean weighted free-ridership was 8% for Production Efficiency, 13% for Existing Buildings – Multifamily, 11% for Existing Buildings, and 38% for New Buildings.[2] The high free-ridership rate in New Buildings was driven largely by a high percentage of respondents who indicated that they would have done the new building project the same way without the program. It is possible that high percentage, in turn, was influenced by the wording of the question and response options. We address this in the body of the report.

Residential Programs

The Home Products, Home Performance, and Solar Water Heating programs produced generally high satisfaction. Satisfaction varied from moderate to high in the Existing Single Family program: it was generally highest for quality of installation and the installation contractor and lowest for the information that the program provided. (Table ES.2[3])

Table ES.2: Program Satisfaction and Influence in Residential Energy Efficiency Programs

PROGRAM ELEMENT	PERCENT RATING SATISFACTION / INFLUENCE "4" OR "5" ON 5-POINT SCALE BY PROGRAM			
	EXISTING SINGLE FAMILY[1]	HOME ENERGY REVIEW	HOME PRODUCTS	HOME PERFORMANCE
SATISFACTION				
Overall Program Satisfaction	84%	93%	89%	90%

2 The Solar Electric program is not evaluated on the basis of free-ridership, so no savings-weighted values are reported. However, the unweighted free-ridership was 11%.

3 Results for the Solar Water Heating group are not shown in the table, as the number of respondents was small and it would be misleading to report percentages.

Information about Energy Savings	66%	80%	54%	82%
Information about Incentives	65%	64%	55%	n/a
Application Process	68%	n/a	77%	80%
Incentive Turnaround Time	67%	n/a	72%	72%
Installation Quality	83%	n/a	n/a	96%
Equipment Performance / Comfort	77%	n/a	89%	96%
Overall Satisfaction with Contractor	86%	n/a	n/a	n/a
INFLUENCE				
Incentive	62%	n/a	50%	83%
Contractor / Salesperson / Retailer	56%	n/a	56%	81%
Information from Energy Trust	59%	n/a	31%	71%
Maximum Influence (Of All Sources)	80%	n/a	75%	92%

[1] Percentages in this column are computed on the combined responses of the multiple survey groups representing this program; they therefore do not reflect the variability in influence ratings found among the survey groups, as discussed in the text.

Many respondents had difficulty rating the satisfaction the information that the program provided, possibly because they did not recall the information they received. Revising the wording of that question to first ask respondents if they recall receiving information may produce more reliable responses.

Among all residential groups, satisfaction with the incentive turnaround time was most consistent among all survey groups (56% to 80% of respondents rated satisfaction as “4” or “5”) and satisfaction with information received about incentives was most variable (36% to 85% rated satisfaction as “4” or “5”).

Program influence was more variable among the residential survey groups than among the nonresidential groups. Influence was generally high for the Home Performance and Solar Water Heating groups. Influence levels varied among the groups surveyed for the Existing Single Family program, with the percentage of program participants giving at least one program element an influence rating of “4” or “5” ranging from 68% to 93% – 80% when the multiple survey groups are considered together (see Table ES.2, above). In the Home Products program, 67% of clothes washer purchasers and 60% of refrigerator purchasers rated the influence of at least one program facet as a “4” or “5”.

Free-ridership varied greatly among the residential programs and in the survey groups within programs. It was greatest among individuals who purchased appliances (61% for refrigerator and 46% for clothes washer in the Home Products program, 49% for water heater and 46% for heat pump in the Existing Single Family program). It was least in the Solar Water Heating program (16%), Home Performance program (18%), with the air and duct sealing groups (23%) in the Existing Single Family program, and for refrigerator recycling (28%) in the Home Products program.

Some survey respondents indicated both that without program support they would have cancelled or postponed a project and also that they would have done something else short of cancelling it. We interpreted this as meaning that the person would not have done the project in 2010 and then would have done something with lower savings later.

CONCLUSIONS AND RECOMMENDATIONS

- **Conclusion:** In the Existing Single Family and Home Products programs, the wording of the questions about satisfaction with delivery of program information about energy savings and about incentives produced unreliable results.
  - **Recommendation:** Revise the questions about delivery of information about energy savings and incentives. First ask respondents if they recall being given any information about energy savings and incentives; ask satisfaction questions only of respondents who can recall being given information.
- **Conclusion:** Seemingly inconsistent descriptions of what would have been done without program support can have a variety of meanings, with different implications for calculation of free-ridership.
  - **Recommendation:** Either revise the survey to require respondents to indicate *either* that they would have cancelled or postponed the project *or* that they would have done something else, but not both or train callers to probe for clarification with respondents who give both answers.
- **Conclusion:** Some response options describing actions that might have been taken if program assistance had not been available (e.g., performing air sealing or insulation oneself, without a contractor, or installing a different heating system rather than a heat pump) do not provide clear implications about differences in energy savings that the changes would have caused, requiring that assumptions be made to calculate free-ridership.
  - **Recommendation:** Review all survey instruments to determine how each response option contributes to estimation of free-ridership. Eliminate or revise any response option that does not provide a clear interpretation of change in energy savings.
- **Conclusion:** The wording of the "project change" question and/or response options for the New Buildings program may leave some ambiguity whether the question pertains to the entire construction project or just that equipment covered by the Energy Trust incentives.
  - **Recommendation:** Consider rewording the "project change" question and/or response options for the New Buildings survey. In particular, one response option should specify installing less energy efficient equipment <u>in place of the equipment that received program incentives</u>, and the "no change" option should indicate "not changed the <u>equipment or systems you installed in your construction project</u> at all."

MEMO

Date: November 4, 2010
To: Board of Directors
From: Sarah Castor, Evaluation Project Manager
Subject: Staff Response to Fast Feedback Rollout Report

Following the successful implementation of Fast Feedback for two commercial programs in 2009, Evaluation and program staff agreed to expand the survey to virtually all Energy Trust programs. We are pleased with the results so far. Findings from the surveys are already being used to adjust program and communications strategies.

Survey results showed less satisfaction with information from Energy Trust than most other aspects of the residential participant experience. In discussing this finding with call center staff who conducted the surveys, it became clear that the low satisfaction was a result of respondents not understanding the question fully and choosing a neutral rating. We have since changed the question to ask specifically about information from our website and printed brochures, and will monitor responses to see if the new wording clears up confusion.

The questions about how the project would have changed in absence of the program need further revision for simplification. These changes will be made once surveys are complete for Q3 participants.

In addition to these changes, we have expanded the survey to commercial solar water heating and small wind participants, and participants from our NW Natural Washington territory. Results for these groups will be reported with Q3 results in January 2010.

We are in the process of analyzing the open-ended responses, categorizing them, and providing pre-coded options for common responses such as “advertize more” or “took a long time to receive incentive” for survey takers to record. This will provide high-level information on respondent feedback while still leaving room for individual comments.

The survey will continue to receive fine tuning as needed and at the end of Q2 2011 we will evaluate Fast Feedback to determine whether changes are needed to the frequency or volume of surveys and reporting.