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Final Report

**Fast Feedback Pilot:
Existing Buildings and
Production Efficiency Programs**

Funded By:



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FAST FEEDBACK PILOT: EXISTING BUILDINGS AND PRODUCTION EFFICIENCY PROGRAMS



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ACKNOWLEDGEMENTS



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EXECUTIVE SUMMARY

Energy Trust of Oregon, Inc. (Energy Trust) selected Research Into Action, Inc., to conduct a pilot test of a new approach to collecting rapid feedback from program participants on selected issues and to evaluate different survey methods (paper, telephone, and web-enabled). In the past, respondents to participant surveys have been asked to recall details of program-supported projects that had been completed up to two years before. The pilot test was carried out between July 2009 and January 2010 with participants of Energy Trust’s Existing Buildings (EB) and Production Efficiency (PE) programs, which target commercial businesses and industrial facilities, respectively. The primary research questions were whether and how the various methods affect completion rates and responses to the survey questions.

METHOD

Each month, projects that were completed or near completion were assigned to one of three survey methods. All EB projects and those PE projects that did not require on-site verification were randomized to either the phone or web survey method. Only PE projects requiring on-site verification were assigned to the paper survey condition: implementation staff delivered incentive checks to those project owners near the time of project completion, and providing a paper version of the survey with the check was thought likely to induce good response. There were not enough site-verified PE projects to compare the paper method with either of the other methods with adequate precision. However, we delivered the paper survey with privacy envelopes for about half of those recipients to examine the effect of ensuring confidentiality.

The survey instrument was very brief – all questions fit on a single side of a sheet of paper. The instrument covered program satisfaction, indicators of free-ridership, future intentions to work with Energy Trust, and additional services desired from Energy Trust. Additional open-ended comments were solicited.

The goal of the sample plan was to achieve the industry-standard 10% precision, with 90% confidence, for each of the following groups, as defined by survey method and program participation:

- ➔ Paper survey – PE site-verified projects
- ➔ Phone survey – PE and EB unverified projects
- ➔ Phone survey – EB site-verified projects
- ➔ Web survey – PE and EB unverified projects
- ➔ Web survey – EB site-verified projects



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COMPLETION RATES

We achieved high completion rates by telephone (77%) and paper (63% to 86%, depending on the calculation method). Rates for both methods were higher than that for the web survey (33%). To control for the fact that the method (paper, phone, or web) was somewhat confounded with the program, we examined completion rates separately by program; the results confirmed that both paper and phone methods were superior to web surveying. When just the paper method was considered, providing respondents with a privacy envelope did not increase the completion rate.

While a paper version of the survey may still be a viable method of surveying PE participants with site-verified projects, the convenience of using just one method that produces immediate data suggests that using the phone method for all participants may be preferred.

SURVEY RESULTS

The survey responses showed high levels of satisfaction with both the EB and PE program. Satisfaction was particularly high for the equipment covered, installation by vendors, assistance provided by the program representative, and the technical study (when there was one). Satisfaction with the incentive was somewhat higher in the PE than in the EB program. Participants of both programs were least satisfied with information provided about tax credits and with the program application process.

Both programs had a high level of influence on the participants' decision to do the upgrade project, with the incentive showing the greatest influence. For EB, vendors and contractors had the second-highest level of influence, reflecting the program theory of working through trade allies, but the influence of the program representative was nearly as strong; for PE, the technical study had slightly greater influence than the program representative, and vendors and contractors had the least influence. Almost all respondents said that they would contact their program representative again if they were considering installing other equipment.

Respondents' comments largely supported their satisfaction and influence ratings, including the generally lower levels of satisfaction with the application process. Some of the PE participants' comments suggested an orientation to energy planning that goes beyond a project-by-project approach.

In both programs, the most commonly reported outcome without program support would have been cancellation or postponement of the upgrade project, followed by some change retaining energy efficiency features; the least frequently reported outcome would have been continuation of the project with no changes. In both programs, the respondents who said that there was not sufficient budget for the project without program support outnumbered those who said there was sufficient budget, by a margin of two to one.



EFFECT OF SURVEY METHOD

The satisfaction and influence ratings were largely unrelated to survey method. There were two exceptions – among PE participants, paper survey recipients were more satisfied than others with their program representative and reported being more influenced than phone respondents (but not web respondents) by the incentive. The differences between the paper and phone results can be explained by the fact that paper survey recipients had more complex projects, and thus relied more heavily than phone survey responders on the program representative and the incentive. We believe the results also suggest a selection bias among the web survey respondents related to the lower completion rates in that group.

We found more survey method differences in responses to the change question. We believe that most of those differences were caused by a modification made to the phone survey method during the course of the pilot study, combined with selection bias in the web survey sample.

Providing a privacy envelope had no effect at all on survey responses.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion: The pilot study demonstrated that the fast feedback approach is successful with both phone and paper survey methods, but that phone surveys provide more immediate feedback and simplify data collection and management.

- ➔ **Recommendation:** Continue the Fast Feedback approach with the phone method and extend it to other Energy Trust programs.

Conclusion: The survey results indicated that both the EB and PE programs are running smoothly and having good success. The PE program may benefit from providing expanded gas-related services, and both programs – but particularly the PE program – may benefit from providing expanded energy management services, including O&M services.

- ➔ **Recommendation:** Continue both programs and expand gas services in the PE program and energy management services, including O&M services, in both PE and EB. Continue to promote the limited large project pilot.

Conclusion: The current approach to determining how projects would have changed without program support is good but could be improved. It assumes that continuing to use existing equipment implies no equipment upgrade, which may not be justified in all cases.

- ➔ **Recommendation:** Explore modifications to the approach to determine how projects would have changed without program support and test them over several months as the fast feedback approach is extended to other Energy Trust programs.



Conclusion: Failure to incorporate procedures for coordinating distribution of paper surveys with the data management activities made it difficult to track paper survey completions correctly.

- ➔ **Recommendation:** In any future similar survey, establish a methodology to ensure either that those who delivery paper surveys and those who manage the data work from the same list of recipients or that the group delivering the surveys provides accurate and timely information on survey recipients to the group managing the data.



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MEMO

Date: April 8, 2010
To: Board of Directors
From: Sarah Castor, Evaluation Project Manager
Kim Crossman, Industry and Agriculture Sector Lead
Subject: Staff Response to Fast Feedback Pilot Results

The Fast Feedback survey pilot came out of a joint interest between Evaluation and Existing Buildings program staff in obtaining information about participant experience soon after projects are completed. Evaluation desired more accurate information about participant satisfaction and free ridership and program staff wanted to gather feedback on what could be improved so they could respond quickly with program design changes, if needed. After initial discussions, Production Efficiency staff also expressed interest and this program was brought in as another good candidate for the survey pilot.

Despite the simplicity of the survey concept, implementation proved challenging. Each program required distinct considerations in sampling, questions, and delivery. However, results prove that the effort was worth the trouble. Response rates were very high for phone and paper surveys and several participants reported appreciation for our efforts to gather feedback in such a timely manner. Satisfaction with the programs was high and we are confident that free ridership figures are more accurate than estimates gathered from participants a year or more after project completion, as is customary in program evaluations. Savings-weighted free ridership (not given in the report) was comparable to the last program evaluation for the Existing Buildings program and somewhat lower for Production Efficiency.

We plan to continue Fast Feedback and expand the survey to all of our major programs. Research Into Action has been contracted to conduct the roll out. Surveys will begin in May and continue through July for Q2 participants; a draft report for this expansion is expected in September 2010.

We agree with the recommendation to use phone surveys for all programs and participants. The use of one method will greatly simplify processes for this effort. We will also work with Research Into Action to improve the survey question about how the project would have changed without Energy Trust participation.

1

INTRODUCTION

Energy Trust of Oregon, Inc. (Energy Trust) was incorporated as an Oregon nonprofit public benefit corporation in March 2001, and began operation in March 2002 to fulfill a mandate to invest “public purposes funding” for new energy conservation, the above-market costs of new renewable energy resources, and new market transformation in Oregon. It receives funding from a 3% public purposes charge to the rates of the two largest investor-owned electric utilities in the state: Pacific Power and Portland General Electric (PGE). Additionally, under separate agreements with NW Natural and Cascade Natural Gas Corporation, Energy Trust administers funding for gas efficiency. Energy Trust has a responsibility to communicate with the Oregon Public Utilities Commission (OPUC) on how it is spending its funding and what it achieves.

Among Energy Trust’s array of residential and nonresidential energy efficiency programs are the Existing Buildings (EB) program, targeting commercial buildings, and the Production Efficiency (PE) program, aimed at industrial facilities. Both programs have undergone several process and impact evaluations in the seven years since they were launched in 2003. Those evaluations have included participant surveys to assess a variety of process and impact issues, including program satisfaction and free-ridership estimation.

The EB program is implemented through a single Program Management Contractor (PMC). The PE program is implemented by Energy Trust and five Program Delivery Contractors (PDCs), which work directly with program participants.

In the past, evaluations have covered up to a two-year period, so some of the individuals in the participant surveys were being asked to recall details from a program participation that had been completed up to two years previously. Such a long recall period brings into question the reliability of those participants’ recall. Energy Trust, therefore, decided to investigate the feasibility of collecting participant feedback on selected issues shortly after completion of program-assisted projects in a brief survey conducted on a rolling basis throughout the year. This was termed the *Fast Feedback* survey.

Energy Trust selected Research Into Action, Inc., to conduct a pilot test of the new Fast Feedback methodology with the EB and PE programs, and to evaluate different survey methods (paper, telephone, and web-enabled). The primary research issues were whether and how the various methods affect completion rates and responses to survey questions.

This report: documents the methods used and the results of the pilot test and evaluation; describes challenges encountered and how they were resolved; and offers recommendations for the rollout of the Fast Feedback methodology across Energy Trust’s portfolio of energy efficiency programs.



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2 METHODS

RESEARCH DESIGN

The goal of this study was to determine what method of delivering the Fast Feedback survey to program participants would produce the highest response rate. Three methods were considered: paper, phone, and web-enabled.

The study design was shaped by differences in how the EB and PE programs were administered. In both programs, some project types required on-site verification, while others did not, and differences in how the two programs deal with site-verified projects argued against comparing all three methods across all project types.

For PE site-verified projects, implementation staff delivered the incentive check to the project owner near the time of project completion. Providing a paper version of the survey with the check was thought likely to induce good response. Since there were not enough site-verified PE projects to compare with adequate precision the paper method with either of the other delivery methods (see Table 2.2), PE customers with site-verified projects received only the paper survey. To examine whether participants responded differently when they knew implementers would not see their responses, the paper survey was delivered in privacy envelopes for about half of those survey recipients and without envelopes for the remainder.

For EB site-verified projects, there is no time when the paper form of the survey could be delivered that is late enough in the process to obtain reliable information on satisfaction. Therefore, for those project types, as well as for all PE and EB unverified projects, the study design compared phone and web-enabled methods of survey delivery.

The study design is summarized in Table 2.1.

Table 2.1: Study Design

PROGRAM SUBGROUP	CONDITION 1	CONDITION 2
Unverified Projects (PE and EB)	Phone	Web
Site-Verified EB Projects	Phone	Web
Site-Verified PE Projects	Paper – Envelope	Paper – No Envelope



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SURVEY INSTRUMENT

The survey instrument was designed to be very brief – capable of being completed in about five minutes. It was originally created in a paper format (with the goal of all questions fitting on a single side of a sheet of paper), and later programmed for web and phone administration. The instrument covered program satisfaction, indicators of free-ridership, future intentions to work with Energy Trust, additional services desired from Energy Trust, and additional comments (including suggestions for improving current Energy Trust services). The paper versions of the PE and EB survey instruments are provided in Appendix A and B, respectively. (Note, the EB survey was never administered via paper and is included for illustration purposes only.)

Satisfaction

The satisfaction questions covered eight facets of the program experience:

- ➔ Overall program experience
- ➔ Performance of equipment installed
- ➔ Incentive amount
- ➔ Application process
- ➔ Interaction with program representative
- ➔ Quality of the technical study (if one was done)
- ➔ Quality of installation work
- ➔ Information on how to apply for the tax credit (if it was requested)

Satisfaction was rated on a five-point scale, from “1” (not at all satisfied) to “5” (very satisfied).

Project Change without Program Assistance

Respondents were asked how their project would have changed if they had not participated in the program. Responses were coded into one or more of the following categories:

- ➔ Cancelled the project altogether
- ➔ Postponed the project more than one year
- ➔ Repaired existing equipment
- ➔ Kept using existing equipment
- ➔ Purchased less expensive equipment



- ➔ Installed less energy-efficient equipment
- ➔ Reduced the project size or scope
- ➔ Not changed the project at all
- ➔ Don't know

Responses were not necessarily mutually exclusive: for example, someone could have said both “cancelled the project” and “kept using existing equipment.” Respondents who reported that they would have installed less energy-efficient equipment were asked whether the equipment would have been *slightly*, *somewhat*, or *significantly* less efficient.

Availability of Project Funds

Respondents were asked whether their firm would have made available the funds needed to cover the entire project cost if it had not received the Energy Trust incentive; available responses were *yes*, *no*, and *don't know*.

Program Influence

Finally, respondents were asked to rate the influence of several program elements – the incentive, the installation vendor or contractor, the program representative, and a technical study (if one was performed) – on how the project was done. Influence was rated on a five-point scale, from “1” (not at all influential) to “5” (extremely influential).

Additional Questions

Respondents were asked if they would contact Energy Trust if they were considering installing additional equipment; available responses were *yes*, *no*, *don't know*, and *already have*. Those who said they would not were asked why they would not; responses were taken verbatim for later content coding.

There was one slight difference between the PE and EB versions of the survey instrument, relating to the question about additional services desired from Energy Trust. The PE version of the instrument had several pre-coded options (provided by Energy Trust PE program staff), plus an option of *other* (with a space to record the verbatim response). The EB version had no pre-coded options and all responses were taken verbatim for later coding.

Finally, two questions asking for additional comments (including suggestions for improving current Energy Trust services) allowed open-ended responses, recorded verbatim for later coding.



PROGRAMMING PHONE AND WEB SURVEY INSTRUMENTS

Research Into Action programmed phone and web versions of the survey instrument using *Vovici EFM*, an on-line product designed for email survey campaigns that can be adapted for use with phone surveys. (Note the discussion of changes made in the implementation of the phone survey in *Study Implementation*, below.)

FREE-RIDERSHIP CALCULATION

Free-ridership assessment was based on the methodology developed for the evaluation of the Energy Trust 2006-2007 PE program¹ and adapted for the evaluation of the 2006-2007 EB program.² This assessment comprised three elements: 1) how the project would have changed without program assistance; 2) the availability of funds to do the project without program assistance; and 3) the program's influence on the project.

Using algorithms described in Appendix C, we calculated two scores: the *Project Change Score* and the *Program Influence Score*. Both scores ranged from “0” (indicating no free-ridership) to “50” (indicating high free-ridership).

The Project Change Score was based on responses to the *project change* question and the *availability of funds* question. A score of 0 meant that the project would have been cancelled or changed significantly without program influence, indicating no free-ridership; a score of 25 meant that the project would have changed somewhat, but retained some energy efficiency features, indicating moderate free-ridership; and a score of 50 meant that the project would have changed little or not at all, indicating high free-ridership.

The Program Influence Score was based on the highest rated influence from among the program incentive, the program representative, and the technical study, if one was performed. A score of 0 meant high program influence on the project and therefore low free-ridership; a score of 25 meant moderate program influence and therefore moderate free-ridership; and a score of 50 meant low program influence and therefore high free-ridership.

For each individual, we summed the Project Change and Program Influence scores. The resulting sum score ranged in value from 0 to 100 and was interpreted as a percentage, indicated total free-ridership.

¹ *Final Report: 2006 Production Efficiency Program: Process and Impact and Evaluation*. Prepared for Energy Trust of Oregon by Research Into Action, Inc., and Strategic Energy Group with WTR Consulting Engineers, LLC (http://energytrust.org/library/reports/080812_Production%20Efficiency.pdf).

² *Final Report: Impact and Process Evaluation of the 2006-2007 Building Efficiency Program*. Prepared for Energy Trust of Oregon by Research Into Action, Inc., and the Cadmus Group, Inc. (http://energytrust.org/library/reports/Evaluation_2006-2007_EB_Prog.pdf).



Some individuals did not provide sufficient data to calculate either a Project Change Score or a Program Influence Score. For those individuals, we calculated two total free-ridership scores: 1) a *low-scenario* score, which assumed that the missing score (Project Change or Program Influence, whichever we could not calculate) was 0; and 2) the *high-scenario* score, which assumed that the missing score was 50. To allow us to calculate mean free-ridership across all respondents, we also calculated a third free-ridership score, which was the mid-point of the *low-scenario* and *high-scenario* scores.

SAMPLE PLAN

The pilot study began mid-year in 2009 and sampled on a monthly basis from EB and PE projects completed in the last half of 2009. (We also received additional paper survey forms completed in the first half of January 2010; the impact of this on calculation of completion rates is explained below.)

This study's primary research questions were whether and how the various survey methods affect completion rates and responses to the survey questions. The sample plan must therefore yield sample sizes in all of the study conditions (see Figure 2.1, below) that are large enough to produce completion rates and survey response data with good confidence and precision. The targets for this study were the industry-standard – 10% precision and 90% confidence.

For completion rates, the sample is defined as all persons for whom a contact attempt was made while, for survey responses, the sample is defined as all persons who completed the survey. The goal of the sample plan, therefore, was to meet the precision and confidence targets for survey response data, which would ensure that the sample would be large enough to yield precise estimates of completion rates. If possible, we further wished to achieve those precision and confidence levels in the phone and web conditions separately for site-verified and unverified projects.

To compute the sample sizes needed, we used 2008 participation levels as estimates of the eventual 2009 population size. As implementation staff would visit all site-verified PE project owners, there was no reason not to offer them all the survey and so we planned a census of those projects. For all other projects, we first calculated the sample sizes needed to yield final samples with the 90/10 confidence and precision levels in the phone conditions. We conservatively assumed a completion rate of about 25%. All those participants not selected for the phone samples and for whom we had email addresses were put in the web survey condition to be surveyed by census. (There was no reason not to survey this group by census, as there was no marginal cost for each additional survey invitation sent or survey completion.) Table 2.2 shows the expected survey frame and sample sizes for each survey condition, based on the study design described above.



Table 2.2: Planned Sample Sizes and Quotas by Study Condition and Program Subgroup

POPULATION	CONDITION	SAMPLE	QUOTA
SITE-VERIFIED PE PROJECTS			
~120	Paper – Envelope	~60	Census
	Paper – No Envelope	~60	Census
SITE-VERIFIED EB PROJECTS			
~370	Phone	~200	~57
	Web	~80*	Census
UNVERIFIED PE & EB PROJECTS			
~770	Phone	250	~62
	Web	~220*	Census

* The web sample sizes reflect the percentages of participants not selected for the phone sample that provided an email address (47% for EB customers and 22% for PE customers).

Given the small web sample for the site-verified EB projects, it was highly unlikely that there would be a sufficient number of web survey completions to yield the desired confidence and precision levels for that group. Nevertheless, the sample was sufficiently large to yield meaningful data on the completion rate.

STUDY IMPLEMENTATION

Survey-Assignment Protocol

Working with Energy Trust, we established a protocol for implementing the study. The following criteria had to be observed in assigning projects to study conditions:

- ➔ If a project owner had completed the survey for another project in the previous 12 months, all current projects for that participant were not eligible for inclusion in the current sample.
- ➔ If a participant completed more than one project within a given month, only one of those projects could be included in the survey. The others were not eligible for inclusion in the current sample.
- ➔ All site-verified PE projects must be assigned to the paper survey condition.
- ➔ All unverified PE projects – other than those excluded because of contact within the previous 12 months or because they represented additional projects for a single participant – were randomized to the phone or web survey condition.



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- ➔ All EB projects – other than those excluded because of contact within the previous 12 months or because they were duplicate projects for a single participant – were randomized to the phone or web survey condition.

The requirement that a maximum of one project be selected for a single participant requires additional explanation. Survey questions related to a specific project. (As noted in *Sample Plan*, above, sampling was by project, not project owner.) This raised the question, in the case of multiple projects by a single participant, of which project to include in the sample. Working with Energy Trust, we arrived at the following decision rules:

- ➔ If there was a single site-verified project, choose that.
- ➔ If there were multiple site-verified projects, choose the largest site-verified project (defined as that with the highest incentive).
- ➔ If there were no site-verified projects, choose the largest project.

The above process flow is summarized in Figure 2.1.

Data Management

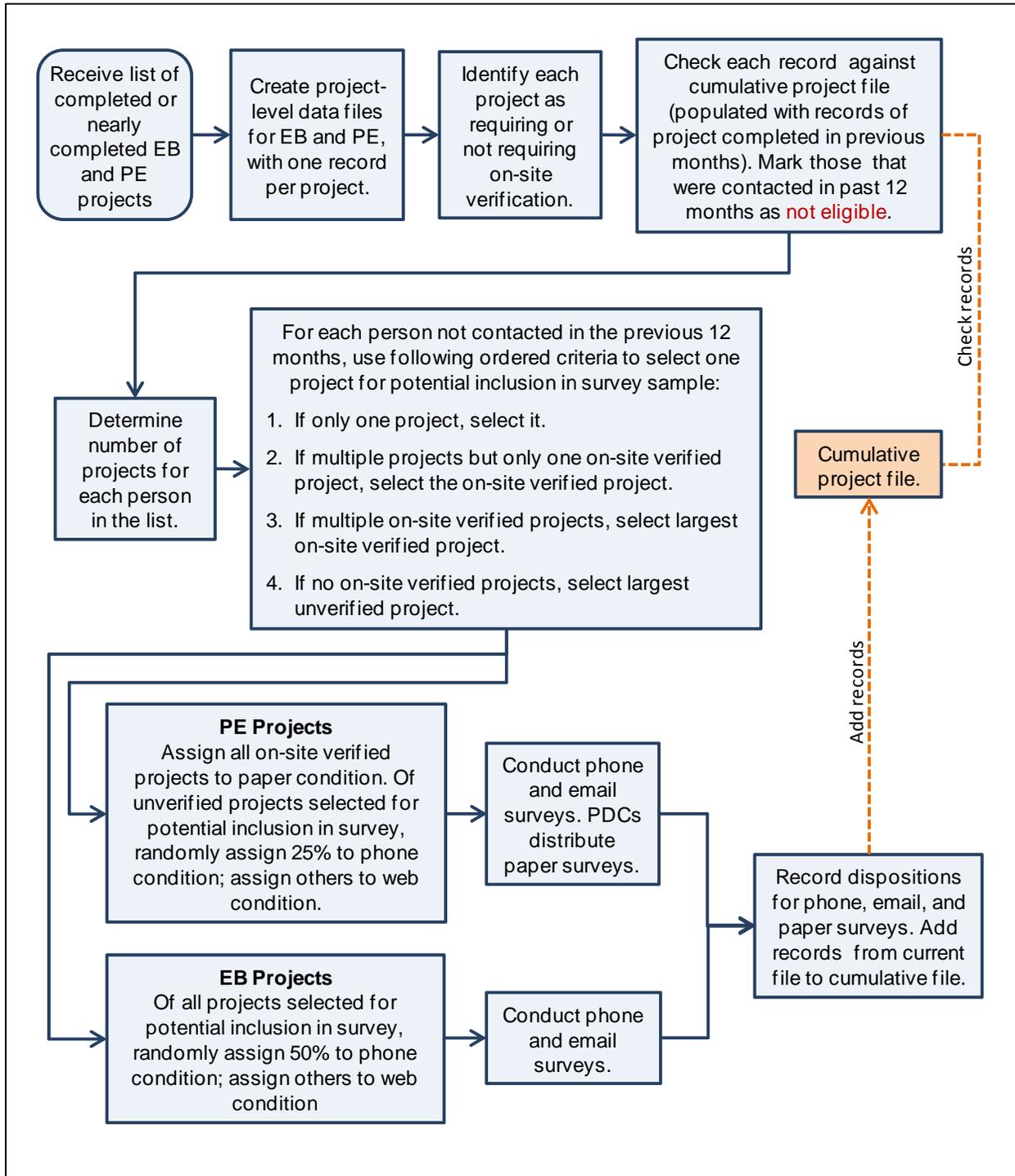
At the beginning of each month, Energy Trust forwarded a Microsoft Excel data file with all EB and PE projects completed the previous month. Each record in the data file represented one measure; projects with multiple measures were represented by multiple data records. The file included projects with no savings, such as technical studies and walk-through inspections conducted to identify energy savings opportunities.

We used *Excel* to create a Project Tracking File to maintain cumulative records of all projects completed during the study period, along with the survey condition assigned to each project and contact dispositions. On a monthly basis, we:

- ➔ Created project-level data files for the EB and PE programs, with a single record for each project in each file. The single project record summed the incentive amounts for each measure installed in that project.
- ➔ Identified each project as requiring or not requiring an on-site verification, based on criteria supplied by the program staff.
- ➔ Identified projects for exclusion if the contact person had been contacted in the previous 12 months. (We did not identify projects for exclusion if a different contact person at the same company or site had been contacted previously.)
- ➔ Identified multiple projects owned by the same participant and, following the above decision rules, identified one as *selected* and the others as *additional projects, not eligible*.



Figure 2.1: Process Flow Diagram



- ➔ Identified as *selected* all projects that were not excluded because of prior contact or excluded because they were *additional projects* for a participant.
- ➔ Assigned all PE site-verified projects to the paper survey condition and randomized all other *selected* projects to either the phone or web survey condition.
- ➔ Assigned *not eligible* codes to those excluded because of prior contact or identified as *additional* projects for a participant.

The Project Tracking File included fields for recording dispositions of completed surveys.

Survey Delivery

After assignments were made to survey conditions, Research Into Action staff carried out the phone surveys and sent email invitations for the web survey. A staff member called each person in the phone condition up to five times or until a final disposition (e.g., complete, refusal, incorrect number, ineligible) was recorded. The caller introduced himself and the survey using the following script:

Hello, my name is _____ and I am calling from Research Into Action, an evaluation contractor, on behalf of Energy Trust. I understand your company recently completed a project with Energy Trust's Existing Buildings [or Production Efficiency] program. I would like to ask you a few questions about your experiences with this recent project. This will take about five minutes of your time. Is now a convenient time to talk or is there a better time to reach you?

The caller offered the name and contact number of the Existing Buildings Evaluation Project Manager to contact for additional information.

The caller recorded the disposition of each call in a call-tracking file and then recorded the final disposition for each contact in the Project Tracking File.

A staff member set up a *Vovici* email campaign for the web survey. An initial email was sent to each person selected for the web survey. The Energy Trust EB or PE Program Manager was shown on the *from* line, and the *subject* line identified the appropriate program. The message explained the purpose of the survey and requested the participant's cooperation. It also explained that all responses were treated confidentially and provided each participant a unique identification number to use to log into the survey. *Vovici* automatically tracked survey completions. If a participant did not complete the survey, up to two additional requests were sent, at one week and two weeks after the initial request. The initial invitation and follow-up messages are shown in Appendix D. A staff member monitored web survey completions through *Vovici* and recorded completions in the Project Tracking File.

As noted above, the PE program implementation staff delivered the paper survey, along with the incentive checks, to PE participants with site-verified projects. The initial plan had been to deliver the survey with the final project paperwork, prior to check delivery, but implementation staff believed that delivering the survey with the check allowed them to ensure that the correct person completed the survey. The persons delivering the survey explained its purpose and the



confidentiality policy to each participant. They asked the participants to complete the survey while they waited. Implementation personnel then forwarded each month's completed surveys in a group to Research Into Action, where completions were recorded in the Project Tracking File.

The paper surveys were delivered to project owners with a privacy envelope in odd-numbered months and without an envelope in even-numbered months. At the beginning of each month, the Energy Trust Evaluation Project Manager sent an email to the implementation staff to remind them to deliver the paper surveys with or without the envelope, as appropriate. The notice to PDCs explaining the paper survey procedure is included as Appendix E.

One aspect of the survey delivery process should be noted. Although Research Into Action assigned projects in the Project Tracking File to the paper survey condition based on the established criteria, the program implementation staff actually determined who received and did not receive a paper survey. The study protocol did not include providing the implementers with a list of projects assigned to the paper survey condition each month. This was thought unnecessary, since we assigned the paper survey condition based on the same conditions that should have resulted in the implementers' delivering the paper survey to participants with completed or nearly completed site-verified PE projects. However, this meant that we did not know for certain who received a paper survey. The implications of this are discussed below.

Changes in Phone Survey Execution

We attempted to maintain the greatest possible similarity among the three methods in terms of survey execution. However, a key difference between the phone method of delivery and the web and paper methods – the fact that phone survey respondents had to listen to multiple-choice response options, while the other respondents could see them listed in front of them – meant that identical execution was not in fact possible.

During the course of the pilot, the effect of the different methods of survey delivery became noticeable for one set of questions in particular – how the project would have changed without program involvement – requiring some adjustment in the execution of this question for the phone survey. Initially, the caller read all possible responses in the same order as they were presented in the web and paper surveys. However, some respondents had difficulty remembering all the options.

To reduce the memory requirement, we revised this question to be a two-stage question for the phone survey. In the first stage, we asked whether respondents would have: a) cancelled the project or postponed it; b) changed it; or c) made no changes. If a respondent indicated they would have changed or postponed the project, the caller then read through the list of possible changes.

We discovered, however, that phone survey respondents and web survey respondents tended to answer the question about project change differently. The phone responders were more likely than the web responders to say that they would have cancelled the project or made no change at all and less likely to say they would have changed or postponed the project. We hypothesized



that this was because they were not prompted with the possible types of change, while the web responders were so prompted.

We therefore revised the phone survey again to retain the two-stage approach, but to provide in the first stage more information on the possible types of changes. After telling them we wanted to know what they would have done if they had not gotten an Energy Trust incentive, the caller said:

“I’m going to describe three possible things you might have done. Please listen to all three before answering:

- The first is cancel the project altogether or postpone it more than one year.
- The second is to reduce the scope or size of the project, or use different equipment.
- The third is to make no change.

Which of those three things would you have done?”

Then, based on how they answered the first stage, the caller asked follow-up questions to clarify the expected action and coded the responses into the categories used in the web and paper surveys. We report on how these changes affected responses in *Section 6*, below.





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3

COMPLETION RATES

This section presents completion rates. For all summary data, we present frequency and percentage data with 90% confidence intervals. We also show the results of significance tests performed to examine whether completion rates differed by survey method or program. We used *chi-square* to test significance. Only statistically significant differences at $p < .05$ are reported. Most of the differences reported were significant at $p < .01$ or $p < .001$.

SAMPLE COUNTS

Table 2.2, above, showed the expected sample and quotas for site-verified PE projects, site-verified EB projects, and all unverified projects. Table 3.1 shows the expected samples and final counts obtained in each of those groups from projects completed or near completion from July through December 2009, the planned period of data collection.

Table 3.1: Expected Sample Size and Final Counts by Study Condition and Program Subgroup for Projects Completed or Near Completion July through December 2009

POPULATION	CONDITION	EXPECTED SAMPLE	FINAL COUNT
SITE-VERIFIED PE PROJECTS			
~120	Paper – Envelope	~60	30
	Paper – No Envelope	~60	29
	Not Eligible	unknown	4
	Subtotal – Site-Verified PE Projects		63
SITE-VERIFIED EB PROJECTS			
~370	Phone	~200	3
	Web	~80	4
	Not Eligible	unknown	1
	Subtotal – Site-Verified EB Projects		8
UNVERIFIED PE & EB PROJECTS			
~770	Phone	250	84
	Web	~220	89
	Not Eligible	unknown	26
	Subtotal – Unverified Projects		199
Total – All Projects			270



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The counts shown in the above table are not survey completions, but the counts of projects forming the respective contact lists,³ plus the counts of projects that were considered ineligible for contact.⁴ The total counts are far lower than the expected sample sizes, even when the *not eligible* projects are included. We discovered it is likely that this is in part because the programs allow project owners to finalize projects in the first two weeks of January following the end of the project year, and that a large number of project owners take advantage of that additional time. Although, as noted above, we did receive some paper survey forms for on-site-verified PE projects completed in January, it is likely also that many 2009 EB and unverified PE projects had not been finalized when we stopped data collection.

COMPLETION RATES BY METHOD AND PROGRAM

We calculated completion rates for the paper, phone, and web survey methods; for the phone and web methods, we calculated completion rates separately by program.

Calculating completion rates for the paper method was challenging. As noted above, although we were able to identify which PE participants should and should not have received paper surveys based on the criteria that we were given, we did not control who did or did not actually receive the paper survey. To complicate matters, because of initial confusion about the study procedures, some PDCs did not distribute and collect all of the paper surveys in July and August. To address this, we distributed lists of all the PE participants assigned to the paper survey condition and asked the PDC staff to indicate whether or not they had delivered a survey. However, we did not receive responses for all cases.

We therefore calculated three sets of completion rates for paper survey recipients:

1. For the first calculated rate, the denominator was the count of all projects completed by the end of December 2009 and for which a PDC verified that a paper survey was delivered (36), and the numerator was the count of all those projects for which the survey was completed (31).
2. For the second rate, the denominator was the count of all projects that we had assigned to the paper survey condition through the end of December 2009 (58) and the numerator was the count of all those projects for which the survey was completed (37).

³ Program implementers submitted an additional 12 completed paper survey forms for projects completed in January 2010. These were included in the analyses of survey results, but are not included in Table 3.1 or in analyses of completion rates, since we do not know the number of survey forms that were distributed in that month.

⁴ Projects were excluded as not eligible either because they represented an additional project for a project owner included on the list or because the project owner had been contacted within the past 12 months. (The duplicate projects were far more numerous than the latter.)



3. For the third rate, the denominator was the count of all projects that we had either assigned to the paper survey condition or for which a PDC later verified that a paper survey was delivered (71), and the numerator was the count of all paper survey completions (49). Both the numerator and denominator for this rate included 12 paper survey forms for projects completed in January 2010, which were not in the list of project completions or near-completions we had received in December, and which we therefore had not assigned to the paper survey method.

It is probable that none of the above is a completely accurate completion rate. Some comparison of the three is therefore in order. It is not possible to tell how accurate the first rate is. The denominator clearly does not accurately reflect all of the paper surveys distributed through December 2009, since it is less than the number of paper survey forms we received through that period (the numerator of the second rate). In addition to the 36 cases that PDCs verified had received the paper survey (31 of whom completed it), we know there are 6 others who completed the paper survey by the end of December. Adding those 6 cases both to the numerator and the denominator would increase the completion rate slightly; however, that would not be legitimate, since it would add only known completions and could not account for unknown non-responses – that is, projects for which we do not know that a paper survey was distributed because the PDC did not verify it and we did not receive a response. In fact, even without the added cases, the first calculated rate does not account for unknown non-responses, so it may overestimate the actual completion rate.

The second rate is the lowest and may be conservative, as it is possible that the paper survey was not distributed for some of the projects counted in the denominator. The third calculated rate is slightly higher than the second one. Again, however, it may be conservative since it counts all projects that we assigned to the paper survey condition, for some of which a paper survey may not have been delivered.

Table 3.2 shows the completion rates calculated for the paper, phone, and web survey methods. The completion rates obtained by telephone (77%) and paper (63% to 86%, depending on the calculation method) were higher than that for web (33%); those for phone were higher than for paper when all PE site-verified projects were included, but they did not differ by *chi-square* when only known paper survey recipients were included. Phone completion rates were superior to web completion rates when examined separately for the PE program (71% vs. 32%) and the EB program (88% vs. 36%).

We also examined the completion rate differences between the EB and PE programs. Combining across all survey methods (phone, web, and paper, $n = 238$), we found the completion rates to be somewhat higher for the EB participants than their PE counterparts (60% vs. 54%), and the difference was statistically significant.



Table 3.2: Completion Rates by Survey Method and Program

GROUP	CONTACTED COUNT	COMPLETED COUNT	COMPLETED PCT	90% CI
PAPER – PE SITE-VERIFIED				
Verified as Distributed by PDC	36	31	86%	± 9%
Assigned to Paper Method Through 12/09	59	37	63%	± 10%
Assigned or Verified Distributed by PDC	71	49	69%	± 9%
PHONE				
PE Unverified	55	39	71%	± 10%
EB Site-Verified and Unverified	32	28	88%	±10%
Subtotal Phone	87	67	77%	±7%
WEB				
PE Unverified	57	18	32%	±10%
EB Site-Verified and Unverified	36	13	36%	±13%
Subtotal Web	93	31	33%	±8%
Total Completions				
Total Paper (PDC-verified), Phone, and Web	216	129	n/a	n/a
Total Paper (assigned), Phone, and Web	239	135	n/a	n/a
Total Paper (all), Phone, and Web	251	145	n/a	n/a

Note that since only PE participants received the paper survey, method of survey delivery is to some degree confounded with program. That is, it is not possible to compare the paper method with either the phone or web method without also comparing PE and EB participants. We addressed this in two ways. First, we compared the completion rates of PE and EB participants, while excluding the PE participants in the paper survey conditions. In this comparison, the EB completion rate continued to be higher than the PE rate (60% vs. 51%; $n = 180$).

Second, we repeated the comparison of paper versus phone and web only for PE participants. In this sub-group, the completion rates for the paper (63% to 86%) and phone (71%) methods were higher than for the web method (32%), while the paper and phone methods did not differ significantly.

The above results show that both the paper and phone survey methods result in higher completion rates than the web method. The phone method was not clearly superior to the paper method. Delivering a paper version of the survey along with the incentive check may still be a viable method of surveying PE participants with site-verified projects. However, the convenience of using just one method, which produces immediate data (as opposed to having to wait to receive and carry out data entry with the paper survey), suggests that using the phone method for all participants may be preferred.



ENVELOPE VERSUS NO ENVELOPE

We examined the completion rates for paper surveys under two conditions: 1) the respondent was given a privacy envelope in which to return the survey; 2) the respondent was not given a privacy envelope and was asked to give the completed survey form back to the program implementer. When all paper surveys were considered, the completion rate was 63% for the *envelope* condition and 59% for the *no envelope* condition. The corresponding completion rates were 88% and 85% when only known survey recipients were considered. Neither difference was statistically significant, suggesting that providing a privacy envelope does not increase the rate of survey completion.





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4

SURVEY RESULTS: EXISTING BUILDINGS PROGRAM

This section summarizes survey responses for participants of the EB program. A total of 41 EB participants responded to the survey: 28 by phone and 13 by web. We first present the quantitative analyses of responses to close-ended questions (satisfaction, influence, project change, budget availability, and intention to re-contact the program representative), followed by the analyses of the open-ended questions. Free-ridership estimates follow the qualitative analyses. For all quantitative analyses, we discuss 90% confidence intervals. Analyses of the possible effects of survey method on responses are discussed in *Section 6*, below.

QUANTITATIVE ANALYSES

Satisfaction

Table 4.1 shows that satisfaction ratings were generally high overall for all program elements. The *n* varied among the satisfaction categories because those responding “not applicable” were not counted toward the sample *n*. The precision for these percentages ranges from ±2% to ±10%, at 90% confidence.

Table 4.1: EB Program Satisfaction Ratings (Phone and Web Methods Combined)

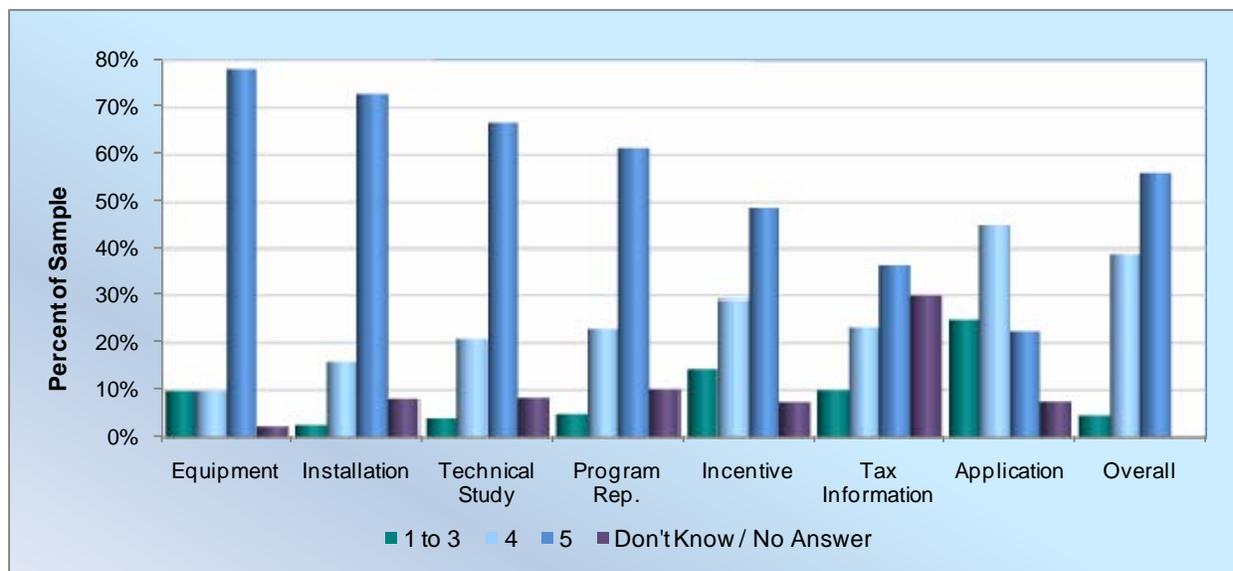
SATISFACTION CATEGORY	SATISFACTION RATING (1 = NOT AT ALL SATISFIED TO 5 = VERY SATISFIED)											
	1		2		3		4		5		DK/NO ANSWER	
	N	Pct*	N	Pct*	N	Pct*	N	Pct*	N	Pct*	N	Pct*
Overall (n = 41)	0	0%	0	0%	2	5%	16	39%	23	56%	0	0%
Equipment (n = 41)	0	0%	0	0%	4	10%	4	10%	32	78%	1	2%
Incentive (n = 41)	0	0%	1	2%	5	12%	12	29%	20	49%	3	7%
Application (n = 40)	0	0%	1	2%	9	22%	18	45%	9	22%	3	8%
Program Rep (n = 39)	0	0%	1	3%	1	3%	9	23%	24	62%	4	10%
Installation (n = 37)	0	0%	0	0%	1	3%	6	16%	27	73%	3	8%
Technical Study (n = 24)	0	0%	0	0%	1	4%	5	21%	16	67%	2	8%
Tax Information (n = 30)	1	3%	2	7%	0	0%	7	23%	11	37%	9	30%

* 90% precision ranges from .02 to .10. For any given *n*, precision is greatest for estimates closest to 0% or 100% and lowest for estimates closest to 50%.



The highest ratings were seen for the equipment covered, equipment installation, the technical study, the program representative, and the incentive. Somewhat more respondents indicated lack of satisfaction with the information given about tax credits and the application process (although the majority still indicated satisfaction with both of these). These findings are seen clearly in Figure 4.1. Because few people offered a rating of “1,” “2,” or “3,” this figure represents all such responses in a single bar for each program element.

Figure 4.1: EB Program Satisfaction Ratings by Program Element



Program Influence

We asked respondents to rate the level of influence that the program incentive, program representative, the equipment vendor or installation contractor, and the technical study (if there was one) had on their decision to do the program-supported project the way they did it. Those responding “not applicable” were not counted toward the sample n .

Table 4.2 shows that all four elements were considered influential by the majority of respondents: for all four items, one-quarter or fewer of the respondents indicated “neutral” or lower influence. The precision for these percentages ranges from $\pm 2\%$ to $\pm 9\%$, at 90% confidence. The table also shows the distribution of each respondent’s maximum influence rating – that is, the highest rating that each respondent gave to any program element. This shows that three-quarters of the respondents indicated that at least one program element was *extremely influential*, and another one-fifth assigned at least one element an influence rating of “4” on the five-point scale. In fact, only two respondents failed to assign at least one element a rating of “4” or greater.



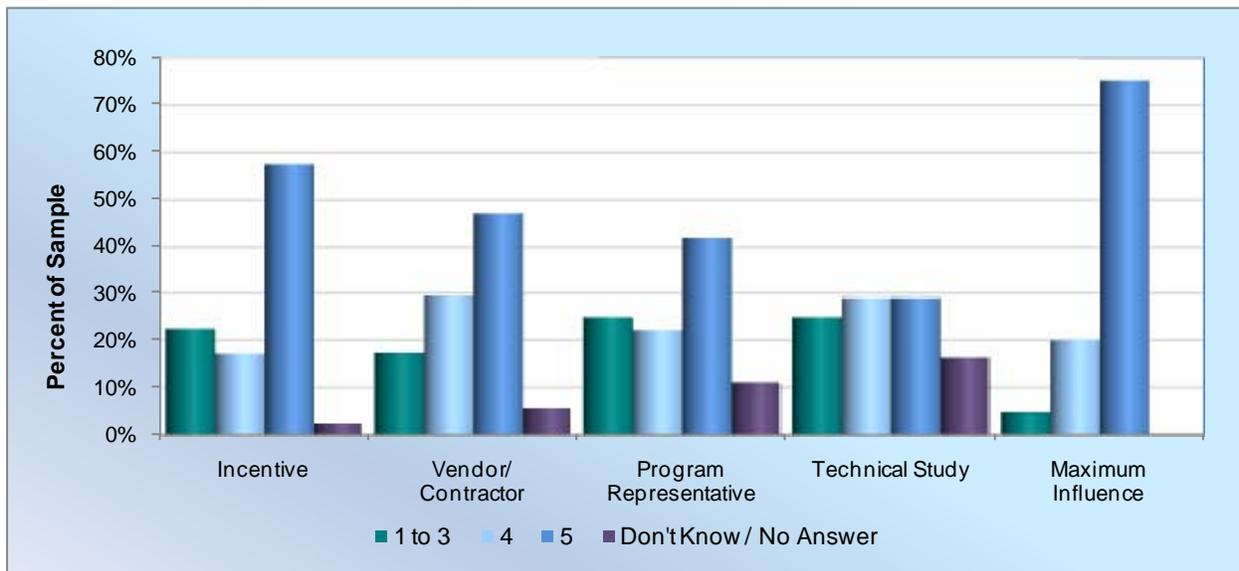
Table 4.2: EB Program Influence Ratings, Across Survey Methods

PROGRAM ELEMENT	INFLUENCE RATING (1 = NOT AT ALL TO 5 = EXTREMELY INFLUENTIAL)											
	1		2		3		4		5		DK/NO ANSWER	
	N	Pct*	N	Pct*	N	Pct*	N	Pct*	N	Pct*	N	Pct*
Incentive (n = 40)	1	2%	3	8%	5	12%	7	18%	23	58%	1	2%
Program Rep (n = 36)	2	6%	2	6%	5	14%	8	22%	15	42%	4	11%
Vendor (n = 34)	0	0%	0	0%	6	18%	10	29%	16	47%	2	6%
Technical Study (n = 24)	0	0%	3	12%	3	12%	7	29%	7	29%	4	17%
Maximum Influence (n = 40)	1	2%	1	2%	0	0%	8	20%	30	75%	0	0%

* 90% precision ranges from .03 to .09. For any given n, precision is greatest for estimates closest to 0% or 100% and lowest for estimates closest to 50%.

The incentive had the greatest rated influence, followed by the vendor or contractor, program representative, and technical study. This is seen in Figure 4.2. Because few people offered a rating of “1,” “2,” or “3,” this figure represents all such responses in a single bar for each program element.

Figure 4.2: EB Program Influence Ratings by Program Element



Project Change

We asked respondents what they would have done if they had not received program assistance. As Table 4.3 shows, 4 in 10 said they would have cancelled the project or postponed it more than one year, about two-thirds of those saying they would have cancelled it altogether. About 2 in 10 said they would have gone forward with the project, but with changes, such as reducing the scale or using less expensive or less energy-efficient equipment. About one in 10 said they would have proceeded with the project with no change.

Table 4.3: How the Project Would Have Changed Without the EB Program (Multiple Responses)

TYPE OF CHANGE	RESPONSES	PERCENT (N = 41)
Cancelled or Postponed > 1 Year	17	42%
<i>Cancelled</i>	11	27%
<i>Postponed > 1 Year</i>	6	15%
Kept Using Existing Equipment	15	37%
Repaired Existing Equipment	6	15%
Some Change	8	20%
<i>Bought Less Expensive Equipment</i>	6	15%
<i>Installed Less Efficient Equipment</i>	6	15%
<i>Reduced Project Size Or Scope</i>	6	15%
No Change	4	10%
Don't Know	1	2%

Nearly 4 in 10 said they would have kept using existing equipment. Note, however, that this response did not exclude other responses. Of the 15 who said they would have continued using existing equipment, 9 would have cancelled or postponed the project and 3 would have made some other modifications to the project; 2 of the 15 did not provide any other response.

Six respondents said they would have repaired existing equipment. All but one of those also said they would have continued using the equipment. We might assume that the last one also would have done so, although it is possible that the intention was to repair the equipment and sell it.

Budget Availability

We asked respondents whether their budget could have accommodated the full project cost without Energy Trust program support. Eleven respondents (27%) said that it could have, 24 (58%) said that it could not have, and 6 (15%) did not know.



Re-Contact Program Representative

We also asked respondents if they would contact the Existing Buildings program representative again if they were considering another project. All 41 said that they would.

QUALITATIVE ANALYSES

Additional Services Desired

We asked respondents if there were any additional services they would be interested in receiving from Energy Trust. Most of the respondents (26 of 41) had no comment. There was no general trend among the 15 who did have suggestions. Five respondents made six mentions of specific types of equipment or applications (three HVAC mentions and one mention each of lighting, refrigeration, and compressed air tuning). Most of those comments related to upcoming projects that appeared to represent existing program services. The one mention of compressed air tuning appeared to be the exception.

Four contacts made a total of five comments indicating an interest in other types of energy-related services – one each mentioned building modeling, general energy management, energy auditing, and operations and management (O&M) services, and one referred simply to “corporate office,” which we took as a request for intervention at the corporate planning level.

Two respondents indicated a general desire to know more about Energy Trust services and incentives. One respondent expressed interest in services relating solar and wind power, and one each indicated a desire for gas services and training.

Other Comments

We gave respondents two opportunities to offer open-ended comments or suggestions – once early in the survey and then in a final request for any additional comments they had. Twenty-four respondents took that opportunity. Half of them offered praise, of which the most frequent type (eight comments) was to generally praise the program or Energy Trust (e.g., “I am pretty pleased with every aspect,” “This is a good program,” “I think Energy Trust is great”). Five respondents praised some particular program staff person in general and one praised the contractor. Other comments (one each) addressed the smoothness of program operations and the program’s support of energy efficiency and/or cost savings.

Fourteen comments offered suggestions for changes or improvements. Five respondents commented on the complexity of the application or other paperwork. Four complained about slow program progress, mostly concerning receipt of the incentive. Three respondents each made negative remarks about the tax credit (forms were not clear, the process was confusing) or about a vendor or contractor (waiting on parts, poor communication). Two respondents noted communication issues with program staff – one of those said the communication between Energy Trust and the vendor was “mediocre” and the other indicated difficulty reaching program staff by phone.



FREE-RIDERSHIP

As described in *Section 2, Methods*, we calculated a *low*-scenario and *high*-scenario free-ridership score for respondents who did not provide sufficient data to calculate a single Project Change or Program Influence score and then computed the mid-point of the *low*-scenario and *high*-scenario scores for those individuals. We calculated the mean free-ridership score across all respondents using the mid-point score. We also calculated mean *low*-scenario and *high*-scenario scores – in those cases, if a respondent provided all the data needed to calculate free-ridership, the same score represented both the *low*-scenario and *high*-scenario (and mid-point) cases.

The mean *low*-scenario, mid-point, and *high*-scenario scores are shown in Table 4.4. Mean free-ridership for the EB program was 19%, with individual scores ranging from 0% to 100%. Mean *low*-scenario free-ridership (i.e., assuming that the cases with missing data would have had low free-ridership) was 14% and mean *high*-scenario free-ridership (i.e., assuming that the cases with missing data would have had high free-ridership) was 24%.

Table 4.4: Mean Free-Ridership Scores for the EB Program

SCORE TYPE	COUNT	MEAN	MINIMUM	MAXIMUM
Low-Scenario Score	41	14%	0%	100%
Mid-Point Score	41	19%	0%	100%
High-Scenario Score	41	24%	0%	100%



5

SURVEY RESULTS: PRODUCTION EFFICIENCY PROGRAM

This section presents survey results for PE participants. A total of 106 PE participants responded to the survey: 39 by phone, 18 by web, and 49 by paper. The 49 paper completions include 37 for projects completed or near completion in July through December 2009, the planned period of the pilot, as well as the 12 paper survey completions submitted by implementation staff for projects completed or near completion in January 2010. These additional 12 completions were included in the analyses of survey responses since they are valid data. However, we excluded two cases from analyses because they represented repeat participation by the same individual. Therefore, the net maximum sample size is 104.

We first present the quantitative analyses of responses to close-ended questions (satisfaction, influence, project change, budget availability, intention to re-contact the program representative, and additional services desired), followed by the qualitative analyses of the single open-ended question. Free-ridership estimates follow the qualitative analyses. For all quantitative analyses, we discuss 90% confidence intervals. For all summary data, we present frequency and percentage data with 90% confidence intervals. Analyses of the possible effects of the survey method on responses are discussed in *Section 6*, below.

QUANTITATIVE ANALYSES

Satisfaction

Table 5.1 shows that satisfaction ratings were generally high overall and across all indices. The n varied among the satisfaction categories because those responding “not applicable” were not counted toward the sample n . The precision for these percentages ranges from $\pm 1\%$ to $\pm 3\%$, at 90% confidence.

The highest ratings were seen for the program representative, the equipment covered, equipment installation, the technical study, and the incentive. Somewhat fewer respondents indicated high satisfaction with the information given about tax credits and the application process, although the majority still indicated satisfaction with both of these. Figure 5.1 illustrates these findings.



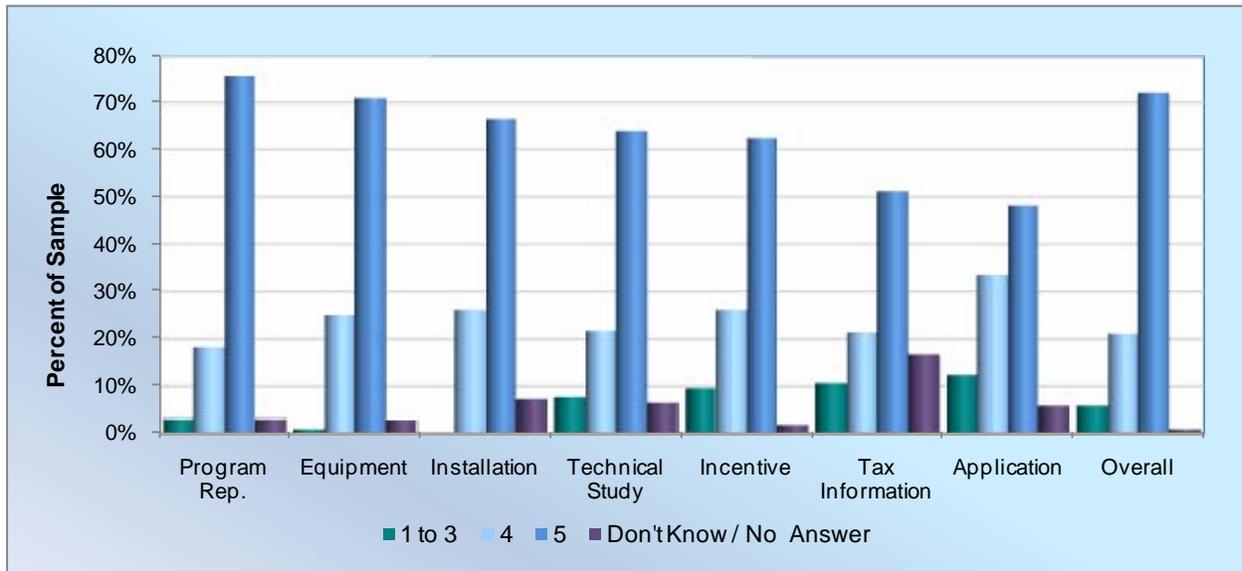
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Table 5.1: PE Program Satisfaction Ratings (Phone, Web, and Paper Methods Combined)

SATISFACTION CATEGORY	SATISFACTION RATING (1 = NOT AT ALL SATISFIED TO 5 = VERY SATISFIED)											
	1		2		3		4		5		DK/No ANSWER	
	N	Pct*	N	Pct*	N	Pct*	N	Pct*	N	Pct*	N	Pct*
Overall (n = 104)	0	0%	1	1%	5	5%	22	21%	75	72%	1	1%
Equipment (n = 103)	0	0%	0	0%	1	1%	26	25%	73	71%	3	3%
Incentive (n = 104)	1	1%	0	0%	9	9%	27	26%	65	63%	2	2%
Application (n = 104)	1	1%	3	3%	9	9%	35	34%	50	48%	6	6%
Program Rep. (n = 99)	0	0%	1	1%	2	2%	18	18%	75	76%	3	3%
Installation (n = 96)	0	0%	0	0%	0	0%	25	26%	64	67%	7	7%
Technical Study (n = 78)	1	1%	0	0%	5	5%	17	22%	50	64%	5	6%
Tax Information (n = 84)	1	1%	1	1%	7	8%	18	21%	43	51%	14	17%

* 90% precision ranges from less than .01 to .05. For any given n, precision is greatest for estimates closest to 0% or 100% and lowest for estimates closest to 50%.

Figure 5.1: PE Program Satisfaction Ratings by Program Element



Program Influence

We asked respondents to rate the level of influence that the program incentive, program representative, the equipment vendor or installation contractor, and the technical study (if there was one) had on their decision to do the program-supported project the way they did it (Table 5.2). Those responding “not applicable” were not counted toward the sample *n*.

Table 5.2: Influence Ratings, Across Survey Methods

PROGRAM ELEMENT	INFLUENCE RATING (1 = NOT AT ALL TO 5 = EXTREMELY INFLUENTIAL)											
	1		2		3		4		5		DK/NO ANSWER	
	N	Pct*	N	Pct*	N	Pct*	N	Pct*	N	Pct*	N	Pct*
Incentive (n = 104)	1	1%	4	4%	7	7%	19	18%	72	69%	1	1%
Program Rep. (n = 95)	4	4%	2	2%	20	21%	24	25%	42	44%	3	3%
Vendor (n = 93)	8	9%	13	14%	19	20%	31	33%	22	24%	0	0%
Technical Study (n = 72)	4	6%	2	3%	5	7%	22	31%	34	47%	5	7%
Maximum Influence (n = 104)	1	1%	3	3%	4	4%	13	12%	83	80%	0	0%

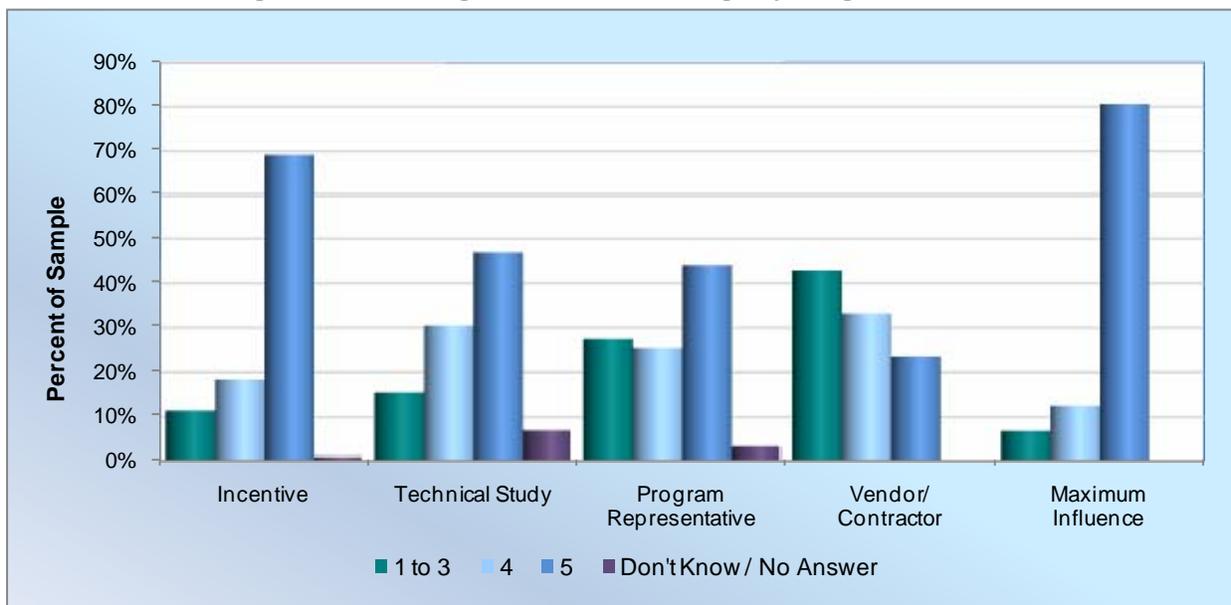
* 90% precision ranges from less than .01 to .06. For any given *n*, precision is greatest for estimates closest to 0% or 100% and lowest for estimates closest to 50%.

The table also shows the distribution of each respondent’s maximum influence rating – that is, the highest rating that each respondent gave to any program element. This shows that four-fifths of the respondents indicated that at least one program element was *extremely influential*, and another one-eighth assigned at least one element an influence rating of “4” on the five-point scale. In fact, only 7 of the 104 respondents failed to assign at least one element a rating of “4” or greater.

Figure 5.2 shows that, although all four sources were considered influential by the majority of respondents, there was considerable variability among them.



Figure 5.2: PE Program Influence Ratings by Program Element



Project Change

We asked respondents what they would have done if they had not received program assistance (Table 5.3).

Table 5.3: How the Project Would Have Changed Without the PE Program (Multiple Responses)

TYPE OF CHANGE	RESPONSES	PERCENT (N = 104)
Cancelled or Postponed > 1 Year	38	37%
<i>Cancelled</i>	29	28%
<i>Postponed > 1 Year</i>	15	14%
Kept Using Existing Equipment	35	34%
Repaired Existing Equipment	16	15%
Some Change	36	35%
<i>Bought Less Expensive Equipment</i>	13	13%
<i>Installed Less Efficient Equipment</i>	25	24%
<i>Reduced Project Size Or Scope</i>	22	21%
No Change	15	14%
Don't Know	2	2%



As Table 5.3 shows, about one-third said they would have cancelled the project or postponed it more than one year, about two-thirds of whom said they would have cancelled it altogether. About one-third said they would have gone forward with the project, but with changes, such as reducing the scale or using less expensive or less energy-efficient equipment. About one in seven said they would have proceeded with the project with no change.

As was the case with the EB program respondents, a significant percentage reported that they would have kept using existing equipment or would have repaired equipment. As we found with the EB program, continuing to use or repairing existing equipment might have been reported either by those who said they would have cancelled or postponed their project, or by those who would have made some changes. A few indicated they would have continued to use or would have repaired existing equipment without indicating anything else.

Budget Availability

We asked respondents whether their budget could have accommodated the full project cost without Energy Trust program support. Twenty-eight respondents (27%) said that it could have, 62 (60%) said that it could not have, and 14 (13%) did not know.

Re-Contact Program Representative

We also asked respondents if they would contact the PE program representative again if they were considering another project. Of the 104 respondents, 98% said either that they would (93, 89%) or already had (9, 9%). Only one each said they would not or that they did not know whether they would.

Additional Services Desired

We asked respondents if there were any additional services they would be interested in receiving from Energy Trust. Most of the respondents (72 of 104) had no comments. Of the 32 who did have suggestions, the most common interest was for gas services (26 mentions), followed by energy management services (19 mentions), O&M services (10), and training (7).

Nine respondents indicated a general desire to know more about Energy Trust services. In addition, seven respondents made a total of nine mentions of specific types of equipment or applications, most of which related to a general interest in additional information rather than to a desire for expanded program services. Two of those comments related to VFD, and one each related to HVAC, lighting, boilers, pumps, digesters, air compressor, and irrigation. The respondent who commented on HVAC equipment wanted additional assistance with power factor correction. One person mentioned renewable energy.



QUALITATIVE ANALYSES

Finally, we offered respondents an opportunity to make additional open-ended comments. Sixty-nine respondents offered comments. Fifty-seven respondents offered praise, most commonly general praise of the program or Energy Trust (37 comments such as “Great program!,” “The Trust was a lot of help,” “We have only had good experiences with RHT Energy and Energy Trust”). Thirteen respondents specifically praised the PDC they worked with, eight praised some particular program staff person in general, and one praised the installation contractor.

Fourteen respondents commented on the smoothness of program operations or the ease involved in participation. Some illustrative remarks:

- *Things seem seamless. Things happened like we envisioned.*
- *For being a state program, I was impressed. It was fairly simple and I could do it easily.*
- *Excellent and understandable!*

Seven contacts commented on the energy or efficiency benefits of the program. Although this is a relatively small percentage of the sample, some of the comments may be particularly interesting for their suggestion of energy planning that goes beyond a project-by-project orientation:

- *We are developing a group in the company to look into efficiency projects. We are working with a group now.*
- *The Energy Trust has allowed us to reduce our energy costs while improving our processes through their incentive process.*
- *They [Energy Trust] provide us with a better long-term outlook on power.*
- *When we save energy, it really improves our profitability.*

There were fewer negative comments, 18 in all. Five respondents commented on the complexity of the application or other paperwork and three complained about slow program progress, mostly concerning receipt of the incentive. Three respondents each made negative remarks about the tax credit (forms were not clear, process was confusing) and about program staff.

Although complaints about the staff were relatively few, the specific topics are noted. Two respondents commented on new or “green” staff, one of whom said that the Energy Trust staff contact “acted like he did not trust us, but things got better.” The second respondent commented on Energy Trust turnover and said that it was difficult getting new Energy Trust staff up to speed on their projects and history with the Trust. Finally, the third respondent indicated that program staff do not fully understand irrigation issues, but that they are “working hard to learn more.”



Two contacts each commented on the procedures for analyzing savings and on difficulties with vendors, and one each said that it was difficult to contact program staff for information and that the energy savings were not as high as expected.

FREE-RIDERSHIP

As described in *Section 2, Methods*, we calculated a *low*-scenario and *high*-scenario free-ridership score for respondents who did not provide sufficient data to calculate a single Project Change or Program Influence score, and then computed the mid-point of the *low*-scenario and *high*-scenario scores for those individuals. We calculated the mean free-ridership score across all respondents using the mid-point score. We also calculated mean *low*-scenario and *high*-scenario scores – in those cases, if a respondent provided all the data needed to calculate free-ridership, the same score represented both the *low*-scenario and *high*-scenario (and mid-point) cases.

The mean *low*-scenario, mid-point, and *high*-scenario scores are shown in Table 5.4. Mean free-ridership for the PE program was 21%, with individual scores ranging from 0% to 100%. Mean *low*-scenario free-ridership (i.e., assuming that the cases with missing data would have had low free-ridership) was 20% and mean *high*-scenario free-ridership (i.e., assuming that the cases with missing data would have had high free-ridership) was 22%.

Table 5.4: Mean Free-Ridership Scores for the PE Program

SCORE TYPE	COUNT	MEAN	MINIMUM	MAXIMUM
Low-Scenario Score	104	20%	0%	100%
Mid-Point Score	104	21%	0%	100%
High-Scenario Score	104	22%	0%	100%





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6

RESULTS: EFFECTS OF SURVEY METHOD

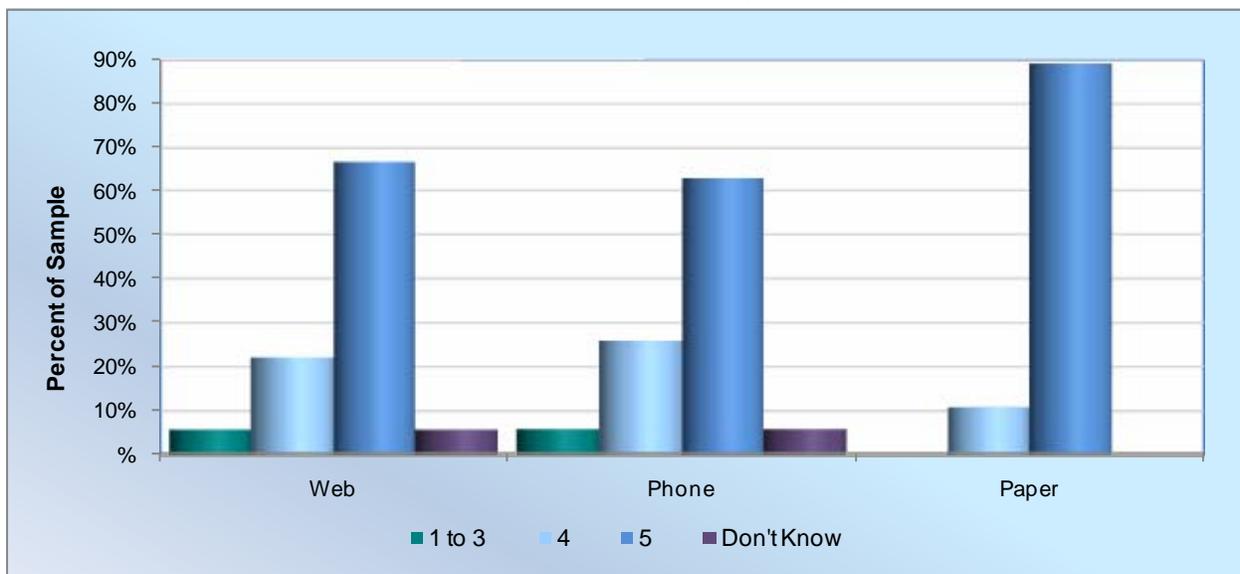
Analysis of the completion rates indicated that the phone and paper survey methods delivered the highest completion rates, potentially providing the most valid program feedback. However, if the survey method affects responses, it is possible that the validity of results could be compromised. We therefore examined the effect of the survey method on responses for both programs combined and separately by program.

PROGRAM SATISFACTION

We used the *Kruskal-Wallis H Test* to examine the effect of survey method (phone, web, or paper) on participants' satisfaction ratings. In the combined data (both programs), none of the ratings showed statistically significant differences between the web and phone methods. For the EB program participants examined separately, we again found no statistically significant effect of method (phone or web).

Examining just PE participants, we did find a statistically significant difference in ratings for satisfaction with the program representative. Although all groups gave high satisfaction ratings to their program representatives, those who received the paper survey (owners of site-verified projects) tended to give higher ratings than other respondents ($p = .036$). This is illustrated in Figure 6.1.

Figure 6.1: Rated Satisfaction with PE Program Representative (1 = Not at all to 5 = Very Satisfied) by Survey Method

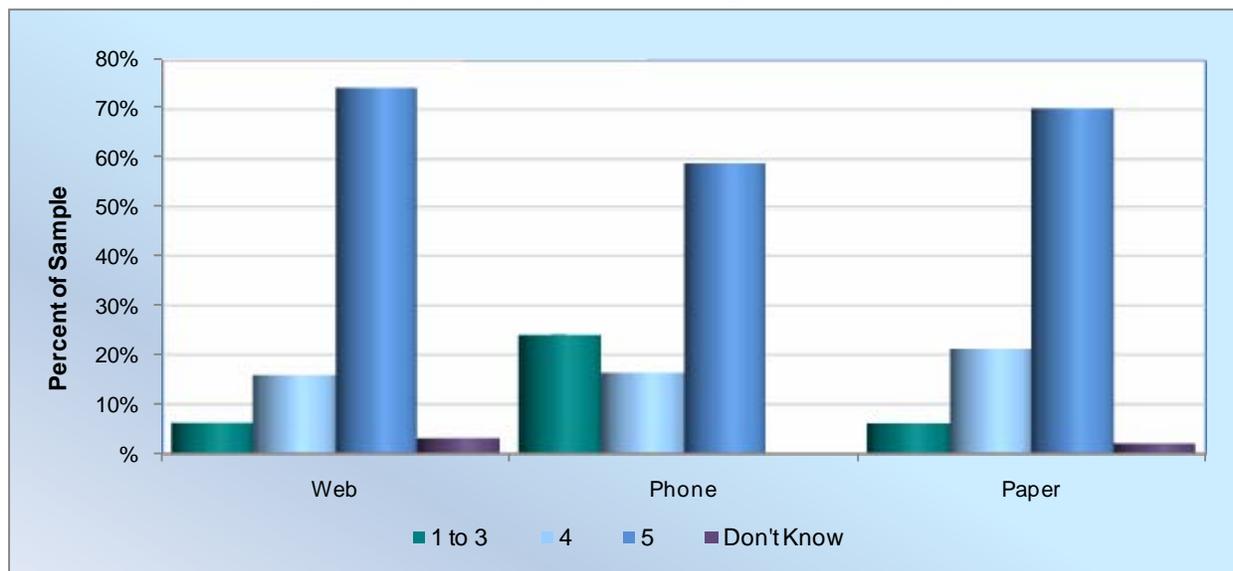


Site-verified projects tend to be larger and more customized, and likely require more extensive interaction between the project owner and the program representative. The generally higher satisfaction levels reported by the paper survey respondents may reflect this higher level of interaction and, perhaps, recognition of a greater level of assistance provided by the representative to get those projects completed.

PROGRAM INFLUENCE

We again used *Kruskal-Wallis H* to test whether the survey method had an effect on influence ratings. In the combined sample, there was a significant effect for the Energy Trust incentive. Phone survey respondents tended to indicate that the incentive had slightly less influence than did paper and web respondents ($p = .039$). This is illustrated in Figure 6.2.

Figure 6.2: Influence of Incentive (1 = Not at All to 5 = Extremely Influential) by Survey Method (EB and PE Programs Combined)



The paper respondents had site-verified projects, which tend to be larger and costlier than unverified projects. It seems reasonable, therefore, that these respondents would indicate a high level of influence for the incentive.

As to why the web respondents reported greater influence by the incentive than the phone respondents, we may speculate that the web results represent a selection bias. The completion rate for the web survey was much lower than for the phone survey, which allows for the possibility of greater selection bias in the former group. It is possible that among the participants who received the web survey invitation, those who were most influenced by the incentive were more likely to respond to the survey. Given the high phone completion rate, it is more likely that the phone survey results are an accurate reflection of overall participant opinions.



We found no statistically significant relationship between method and influence ratings when examined separately for the EB and PE programs.

PROJECT CHANGE

We used *chi-square* to test whether the survey method had an effect on what respondents reported they would have done without the program's assistance. We found that survey method had a statistically significant effect on several responses to the *change* question.

Web and paper survey respondents were far more likely than phone respondents to report that they would have used existing equipment (61% of web and 40% of paper, vs. 18% of phone) and that they would have repaired equipment (35% and 21%, respectively, vs. 2%).

This is almost certainly an artifact of the changes we made to the phone survey method. Recall that we altered the phone survey method to reduce memory burden for respondents (see *Section 2, Methods: Changes in Phone Survey Execution*, above). We first asked whether they would have: 1) cancelled or postponed the project; 2) changed the project; or 3) made no change. We then offered the two options – *kept using existing equipment* and *repaired existing equipment* – only to respondents who said that they would have cancelled or postponed the project, under the assumption that there would be no other reason to keep or repair existing equipment.

As we saw in *Section 4* and *Section 5*, however, several paper and web respondents indicated that they would have kept using existing equipment, as well as made some modifications to the project, such as scaling it down in size or using less expensive or less efficient equipment – but they still would have carried out some equipment upgrade project. Therefore, the assumption that maintaining existing equipment implies no upgrade project is not supported. One implication of this finding is that the phone survey methodology used in the full-scale rollout of the Fast Feedback methodology should be modified so that all respondents are asked whether they would have continued to use and would have repaired existing equipment.

Phone respondents were much less likely than either of the other groups to report that, without program assistance, they would have made some change to the project, but not cancelled it (16% of phone vs. 39% of web and 45% of paper). In particular, they were less likely to say they would have used less efficient equipment (12% vs. 26% and 32%, respectively) and to have reduced the scope (8% vs. 32% and 28%, respectively).

We believe the above results also reflect changes made to the phone survey method. As we noted in *Section 2*, after we first introduced the two-step approach to asking about changes, we discovered that phone respondents were more likely to say either that they would have cancelled or postponed the project, or made no change. We hypothesized that this was because the only other choice given them, *changed the project*, did not offer any specific options and so did not prompt a response indicating a project modification. We then changed the phone survey method again to mention specific changes in the *some change* option.



To test this interpretation, we examined the percentage of respondents who said they would have made “some change” separately for those who responded to the survey before it was modified, after the initial modification time, and after the second modification, and compared those three groups to the web survey and paper survey respondents. The results are shown in Table 6.1.

Table 6.1: “Some Change” Responses by Survey Method

SURVEY METHOD	SAMPLE COUNT	RESPONDENTS INDICATING “SOME CHANGE”	
		RESPONSES	PERCENT
Phone Method 1	22	5	23%
Phone Method 2	20	0	0%
Phone Method 3	25	6	24%
Web	31	12	39%
Paper	47	21	45%

The above table supports our interpretation. Of those who responded to the phone survey after we first modified it, but before we arrived at the final method, none said they would have made *some change* to the project (but not cancelled or postponed it) without program support. When we eliminated this group from the analyses, the relationship between the survey method and type of change no longer was statistically significant.

Finally, web respondents were less likely than others to say that they would have made no change at all (0% vs. 21% of phone and 11% of paper). The phone and paper respondents did not differ by *chi-square* for this response. This may reflect a selection bias in the web survey group.

Strangely, phone respondents were more likely than the others to say they would have cancelled the project altogether (39% phone vs. 23% web and 15% paper), but they were less likely to say they would have postponed the project (5% vs. 33% and 15%, respectively). When the cancellation and postponement responses are considered together (the respondent would have cancelled or postponed the project), the difference among methods was not statistically significant. This pattern of results appears spurious.

OTHER RESPONSES

Reported availability of sufficient budget to carry out the project without Energy Trust program support was not related to survey method in the combined data.

We did not test whether survey method was related to plans to contact the Energy Trust program representative in the future, since nearly all respondents said that they would do so.



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SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The Fast Feedback pilot was successful. It demonstrated that both phone and paper survey methods yielded high completion rates (around 80%), providing participant feedback on program satisfaction and free-ridership-related issues. The high completion rates reduce selection bias, resulting in more accurate feedback – including more accurate computation of free-ridership – compared to traditional participant surveys. Following a brief summary of survey results, we discuss the pilot study implementation and offer recommendations regarding the future implementation of the fast feedback approach.

SUMMARY OF SURVEY RESULTS

High levels of satisfaction were seen with both the EB and PE program, particularly for the equipment, installation, program representative, and technical study (when there was one). Satisfaction was lower for information provided about tax credits and with the program application process. Both programs had a high level of influence on the participants' decision to do the upgrade project. Respondents' comments largely supported their satisfaction and influence ratings, including the generally lower levels of satisfaction with the application process. Some of the PE participants' comments suggested an orientation to energy planning that goes beyond a project-by-project approach.

In both programs, lack of program support would most likely have led to cancellation or postponement of the upgrade project and least likely to have resulted in continuation of the project with no changes. Respondents were twice as likely to say there was not sufficient budget for the project, without program support, than to say there was sufficient budget.

The satisfaction and influence ratings were largely unrelated to survey method. In two cases where method was related to satisfaction with the program representative and influence by the incentive, the differences are explained by paper survey recipients' having more complex and expensive projects, combined with selection bias regarding the web survey respondents. Survey method differences in responses to the change question were likely caused by a modification made to the phone survey method during the course of the pilot study, combined with selection bias in the web survey sample. Provision of privacy envelopes to paper survey recipients had no effect on survey responses.

IMPLEMENTATION ISSUES

Implementation of the pilot study generally went smoothly. However, the procedures for distributing paper surveys resulted in some confusion as to which project owners received a survey form. Although Research Into Action assigned projects in the Project Tracking File to the



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paper survey condition, the study protocol did not include providing the implementers with a list of those projects; the program implementation staff delivered the paper survey to whichever project owners they visited with final paperwork. As a result, we did not know for certain who received a paper survey. Some PE participants that we had assigned to the paper survey condition did not receive a survey because the incentive check was mailed to them rather than hand-delivered. In contrast, the implementers delivered paper surveys to some that we had not assigned to the paper survey because they did not meet the criteria. As a result, some participants were asked to complete the survey by phone or web, as well as receiving a paper survey.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion: The pilot study demonstrated that the Fast Feedback approach is successful with both phone and paper survey methods, but that phone surveys provide more immediate feedback and simplify data collection and management.

→ **Recommendation:** Continue the Fast Feedback approach with the phone method and extend it to other Energy Trust programs.

Conclusion: The survey results indicated that both the EB and PE programs are running smoothly and having good success. The PE program may benefit from providing expanded gas-related services, and both programs – but particularly the PE program – may benefit from providing expanded energy management services, including O&M services.

→ **Recommendation:** Continue both programs and expand gas services in the PE program and energy management services, including O&M services, in both PE and EB. Continue to promote the limited large project pilot.

Conclusion: The current approach to determining how projects would have changed without program support is good but could be improved. It makes assumptions that continuing to use existing equipment implies no equipment upgrade, which may not be justified in all cases.

→ **Recommendation:** Explore modifications to the approach to determine how projects would have changed without program support and test them over several months as the fast feedback approach is extended to other Energy Trust programs.

Conclusion: Failure to incorporate procedures for coordinating distribution of paper surveys with the data management activities made it difficult to track paper survey completions correctly.

→ **Recommendation:** In any future similar survey in which implementation or other third-party staff deliver participant surveys, but a different group manages the survey data, a methodology should be established to ensure either that both groups work from the same list of recipients or that the group delivering the surveys provides accurate and timely information on survey recipients to the group managing the data.





APPENDICES

APPENDIX A: PAPER SURVEY INSTRUMENT – PRODUCTION EFFICIENCY PROGRAM

APPENDIX B: PAPER SURVEY INSTRUMENT – EXISTING BUILDINGS PROGRAM

APPENDIX C: FREE-RIDERSHIP METHOD

APPENDIX D: EMAIL INVITATIONS FOR WEB SURVEY

APPENDIX E: NOTICE TO PROGRAM DELIVERY CONTRACTORS



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FAST FEEDBACK PILOT: EXISTING BUILDINGS AND PRODUCTION EFFICIENCY PROGRAMS



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PAPER SURVEY INSTRUMENT – PRODUCTION EFFICIENCY PROGRAM

Project ID _____

Company/site _____

SURVEY QUESTIONS

1. Thinking of your participation with Energy Trust, please circle the number that corresponds to your satisfaction with the following elements, with 1 indicating *not at all satisfied* and 5 indicating *very satisfied*.

<i>How satisfied:</i>	<i>Not at all</i>					<i>Very</i>		
Overall program experience	1	2	3	4	5	Don't know	N/A	
Performance of equipment installed	1	2	3	4	5	Don't know	N/A	
Incentive amount	1	2	3	4	5	Don't know	N/A	
Application process	1	2	3	4	5	Don't know	N/A	
Interaction with program representative	1	2	3	4	5	Don't know	N/A	
Quality of technical study (if you had one, else "N/A")	1	2	3	4	5	Don't know	N/A	
Quality of installation work	1	2	3	4	5	Don't know	N/A	
Information on how to apply for the tax credit (if you did not get a tax credit, answer "N/A")	1	2	3	4	5	Don't know	N/A	

2. Do you have any other feedback about your experience with Energy Trust or suggestions on how to improve our services? _____

3. How would your project have changed, if at all, if your business had not participated with Energy Trust? Please select all that apply. Would you have:

- | | |
|---|--|
| <input type="checkbox"/> Postponed the project more than 1 year | <input type="checkbox"/> Installed less energy-efficient equipment (please specify): |
| <input type="checkbox"/> Cancelled the project altogether | <input type="checkbox"/> Slightly <input type="checkbox"/> Somewhat <input type="checkbox"/> Significantly |
| <input type="checkbox"/> Repaired existing equipment | <input type="checkbox"/> Reduced project size or scope |
| <input type="checkbox"/> Kept using existing equipment | <input type="checkbox"/> Not changed your project at all |
| <input type="checkbox"/> Purchased less expensive equipment | <input type="checkbox"/> Don't know |

4. If your firm had not received the incentive, would it have made available the funds needed to cover the entire cost of the project? Yes No Don't know

5. How influential were the following elements on your decision to go forward with the project? Please circle your answer on a scale of 1 to 5, with 1 indicating *did not have any influence on your decision* to do the project the way that you did it and 5 indicating *had a great influence on your decision* to do the project the way that you did it.

<i>How influential:</i>	<i>Not at all</i>					<i>Extremely</i>		
Energy Trust incentive	1	2	3	4	5	Don't know	N/A	
Installation vendor/contractor	1	2	3	4	5	Don't know	N/A	
Energy Trust program representative	1	2	3	4	5	Don't know	N/A	
Energy Trust-funded technical study	1	2	3	4	5	Don't know	N/A	



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6. Would you contact Energy Trust if you were considering installing additional equipment? If not, why not _____
 Yes No Don't know _____
 Already have _____

7. Are there any additional services you would be interested in receiving?
 Compressed air tuning Gas efficiency incentives
 Energy management services Training
 O&M measures Other: _____

8. Any additional comments?

If you would like to contact your PDC or Energy Trust about another project or to provide additional feedback, please contact us at (503) 445-7643 or production@energytrust.org.



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PAPER SURVEY INSTRUMENT – EXISTING BUILDINGS PROGRAM

Project ID _____

Company/site _____

SURVEY QUESTIONS

1. Thinking of your participation with Energy Trust, please circle the number that corresponds to your satisfaction with the following elements, with 1 indicating *not at all satisfied* and 5 indicating *very satisfied*.

<i>How satisfied:</i>	<i>Not at all</i>					<i>Very</i>		
Overall program experience	1	2	3	4	5	Don't know	N/A	
Performance of equipment installed	1	2	3	4	5	Don't know	N/A	
Incentive amount	1	2	3	4	5	Don't know	N/A	
Application process	1	2	3	4	5	Don't know	N/A	
Interaction with program representative	1	2	3	4	5	Don't know	N/A	
Quality of technical study (if you had one, else "N/A")	1	2	3	4	5	Don't know	N/A	
Quality of installation work	1	2	3	4	5	Don't know	N/A	
Information on how to apply for the tax credit (if you did not get a tax credit, answer "N/A")	1	2	3	4	5	Don't know	N/A	

2. Do you have any other feedback about your experience with Energy Trust or suggestions on how to improve our services? _____

3. How would your project have changed, if at all, if your business had not participated with Energy Trust? Please select all that apply. Would you have:

- | | |
|---|--|
| <input type="checkbox"/> Postponed the project more than 1 year | <input type="checkbox"/> Installed less energy-efficient equipment (please specify): |
| <input type="checkbox"/> Cancelled the project altogether | <input type="checkbox"/> Slightly <input type="checkbox"/> Somewhat <input type="checkbox"/> Significantly |
| <input type="checkbox"/> Repaired existing equipment | <input type="checkbox"/> Reduced project size or scope |
| <input type="checkbox"/> Kept using existing equipment | <input type="checkbox"/> Not changed your project at all |
| <input type="checkbox"/> Purchased less expensive equipment | <input type="checkbox"/> Don't know |

4. If your firm had not received the incentive, would it have made available the funds needed to cover the entire cost of the project? Yes No Don't know

5. How influential were the following elements on your decision to go forward with the project? Please circle your answer on a scale of 1 to 5, with 1 indicating *did not have any influence on your decision* to do the project the way that you did it and 5 indicating *had a great influence on your decision* to do the project the way that you did it.

<i>How influential:</i>	<i>Not at all</i>					<i>Extremely</i>		
Energy Trust incentive	1	2	3	4	5	Don't know	N/A	
Installation vendor/contractor	1	2	3	4	5	Don't know	N/A	
Energy Trust program representative	1	2	3	4	5	Don't know	N/A	
Energy Trust-funded technical study	1	2	3	4	5	Don't know	N/A	



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6. Would you contact Energy Trust if you were considering installing additional equipment? If not, why not _____
 Yes No Don't know _____
 Already have _____

7. Are there any additional services you would be interested in receiving?

8. Any additional comments?

If you would like to contact your PDC or Energy Trust about another project or to provide additional feedback, please contact us at (503) 445-7643 or production@energytrust.org.



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FREE-RIDERSHIP METHOD

Free-Ridership (FR) has two components: *Program Influence* and *Change*. Using the method developed for the Energy Trust programs, each component is scored from 0% to 50%; the sum of the two components is the *Total FR Score*, which ranges from 0% to 100%.

INFLUENCE SCORE

As in the 2006-07 Existing Buildings evaluation, there are three possible sources of program influence: the incentive, a program representative, or a technical study. Each is scored on a 0 (no influence) to 5 (critical influence) scale. Two *Program Influence FR* scores are calculated – a *low* one and a *high* one – based on the highest score recorded for any one of the three items. The low and high scores differ only if the response to all influence questions is “don’t know.” The Program Influence FR scores are assigned a value from 0% to 50%, according to the following scheme:

- ➔ Highest influence score is “5” → Program Influence FR score = 0%
- ➔ Highest influence score is “4” → Program Influence FR score = 12.5%
- ➔ Highest influence score is “3” → Program Influence FR score = 25%
- ➔ Highest influence score is “2” → Program Influence FR score = 37.5%
- ➔ Highest influence score is “1” → Program Influence FR score = 50%
- ➔ Highest influence score is “don’t know” → low Program Influence FR score = 0% and high Program Influence FR score = 50%

CHANGE SCORE

As in the 2006-07 Existing Buildings evaluation, respondents are asked how their project would have changed if their business had not participated in the program. Several of the options are the same as those used previously, but some are revised or new:

- ➔ Cancelled the project altogether (same)
- ➔ Postponed the project more than one year (slight change)
- ➔ Repaired existing equipment (new)
- ➔ Kept using existing equipment (new)



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- ➔ Purchased less expensive equipment (same)
- ➔ Installed less energy-efficient equipment (slight change)
- ➔ Reduced project size or scope (same)
- ➔ Not changed your project at all (same)

Items that were eliminated are: changed the project design (too general) and installed standard efficiency equipment (partially redundant with both *less energy-efficient equipment* and *less expensive equipment*).

As noted above, two items had slight changes to them: *postponed more than one year* and *less energy-efficient equipment*. Previously, one option was *postponed the project to another year*. If that was selected, respondents were asked how long they would have postponed the project.

The other changed item was *less energy-efficient equipment*. Previously, respondents were asked only whether or not they would have used less energy-efficient equipment. In the current evaluation, those who reported that they would have used less energy-efficient equipment were asked whether that equipment would have been *slightly*, *somewhat*, or *significantly* less efficient. (This change has implications for how the Change FR scores are calculated.)

In the previous evaluation, each respondent was assigned two Change FR scores – a high score and a low score – each with one of three possible values:

1. **Project would have changed significantly** (cancelled, postponed more than one year or for unknown duration) → Change FR = 0%
2. **Project would have partially changed**, retaining some energy efficiency (postponed one year or less, changed project design, reduced project size or scope, used less efficient equipment) → Change FR = 25%
3. **Project would not have changed** → Change FR = 50%

If the respondent could not say how the project would have changed, then the low Change FR score = 0% and high Change FR score = 50%.

If respondent stated they would not change the project at all but also said there would not have been a sufficient budget without the incentive, then project change was counted as partial.

The current evaluation will continue to calculate Change FR scores with three possible values, as above:

1. **Significant change**: respondent would cancel, postpone more than one year, repair, or continue using existing equipment (without specifying other changes, such as reducing the project scope or using less expensive or less efficient equipment), or use significantly less efficient equipment.



2. **Partial change:** respondent would reduce the scope of the project or use less expensive or somewhat less efficient equipment, or indicated some change, but did not indicate what would have been done.
3. **No change:** respondent would do the project exactly the same or would use slightly less efficient equipment.

In the current evaluation, there is no option for *postponed with unknown duration*.





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EMAIL INVITATIONS FOR WEB SURVEY

INITIAL EMAIL INVITATION – PRODUCTION EFFICIENCY PROGRAM

From Name: Kim Crossman, Sr. Industrial Sector Manager

From Address: *sarah.castor@energytrust.org*

Reply To Address: *sarah.castor@energytrust.org*

Subject: Energy Trust Production Efficiency Program

Dear [NAME],

Your company recently participated in Energy Trust’s Production Efficiency Program, which provides financial incentives for energy efficient investments. As part of its commitment to continuous improvement and providing value to Oregon ratepayers, Energy Trust is conducting an evaluation of this program for which your feedback is important. We would greatly appreciate your responses to just eight short questions about your satisfaction with the program, any influence it may have had on your investment decisions, and any suggestions you may have for program improvement.

Your responses will be treated completely confidentially. This survey is being carried out by an independent, third-party research firm, Research Into Action, which will report summary data from the survey but will not disclose the responses of any particular participant (unless that participant specifically requests them to do so).

Please take a few minutes and click the link below to answer our questions. Enter your own ID (provided below) to begin the survey – be sure to click the button rather than press the Enter key. You can re-enter the survey as many times as you want until you have completed and submitted it.

Survey: [SURVEYNAME]

Your ID: [UNIQUEID]

If you have any questions, please feel free to contact:

Sarah Castor
Evaluation Project Manager
Energy Trust of Oregon
(503) 445-7619.

Sincerely,
Kim Crossman
Sr. Industrial Sector Manager



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FAST FEEDBACK PILOT: EXISTING BUILDINGS AND PRODUCTION EFFICIENCY PROGRAMS

EMAIL REMINDER – PRODUCTION EFFICIENCY PROGRAM

Dear [NAME],

Last week a link to a survey about the Energy Trust Production Efficiency Program was sent to you. This survey is designed to allow you to provide feedback and comments on this program, which will assist Energy Trust in providing you with additional quality programs.

Please visit the link below and enter your unique ID (provided below) to begin the survey. You may re-enter it as needed to complete it until you submit the survey. Once you have entered your ID you must click on the button rather than hitting the ‘enter’ key to begin the survey.

Survey: [SURVEYNAME]

Your ID: [UNIQUEID]

Your feedback will be greatly appreciated. If you have any questions please feel free to contact Sarah Castor, Energy Trust Project Manager, at 503-445-7619.

Thank You,
Kim Crossman
Sr. Industrial Sector Manager
Energy Trust of Oregon



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INITIAL EMAIL INVITATION – EXISTING BUILDINGS PROGRAM

From: Greg Stiles, Energy Trust of Oregon
From Address: *sarah.castor@energytrust.org*
Reply: *sarah.castor@energytrust.org*
Subject: Energy Trust Existing Buildings Program Feedback

Dear [NAME],

Your company recently participated in Energy Trust's Existing Buildings program, which provides financial incentives for energy efficient investments. As part of its commitment to continuous improvement and providing value to Oregon ratepayers, Energy Trust is conducting an ongoing evaluation of this program. Your feedback on your program experiences is a valuable part of that evaluation. We would greatly appreciate your responses to just eight short questions about your satisfaction with the program, any influence it may have had on your decision to invest in energy efficiency, and any suggestions you may have for improving the program.

Your responses will be treated completely confidentially. This survey is being carried out by an independent, third-party research firm, Research Into Action, which will report summary data from the survey but will not disclose the responses of any particular participant (unless that participant specifically requests them to do so).

Please take a few minutes and click the link below to answer our questions. Enter your own ID (provided below) to begin the survey - be sure to click the button rather than press the Enter key. You can re-enter the survey as many times as you want until you have completed and submitted it.

Survey: [SURVEYNAME]
Your ID: [UNIQUEID]

If you have any questions, please feel free to contact:
Sarah Castor
Project Manager
Energy Trust of Oregon
503-445-7619

Sincerely,
Greg Stiles
Sr. Business Sector Manager
Energy Trust of Oregon



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EMAIL REMINDER – EXISTING BUILDINGS PROGRAM

Dear [NAME],

Last week a link to a survey about the Energy Trust Existing Building Program was sent to you. This survey is designed to allow you to provide feedback and comments on this program, which will assist Energy Trust in providing you with additional quality programs.

Please visit the link below and enter your unique ID (provided below) to begin the survey. You may re-enter it as needed to complete it until you submit the survey. Once you have entered your ID you must click on the button rather than hitting the 'enter' key to begin the survey.

Survey: [SURVEYNAME]

Your ID: [UNIQUEID]

Your feedback will be greatly appreciated. If you have any questions please feel free to contact Sarah Castor, Energy Trust Project Manager, at 503-445-7619.

Thank You,
Greg Stiles
Sr. Business Sector Management
Energy Trust of Oregon



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NOTICE TO PROGRAM DELIVERY CONTRACTORS

As you know, Energy Trust is evaluating the best method for delivering a brief survey to obtain fast feedback on program satisfaction and related issues from participants in the Production Efficiency program. You reviewed a draft of the survey several months ago. Research Into Action, a Portland-based research firm, has been hired to pilot the survey through January 2010 and report on results.

The final survey form is attached to the current email. For participants with projects that require site-verification, we would like you to deliver a paper version of the survey to each participant for completion at the same time as the participant's final program documents.

Please print a copy of the survey each time you visit a participant to for site-verification and fill in the Project ID and the Company Name and/or site information. This information is critical for tracking survey completions.

We would like to know whether returning the paper survey in a sealed envelope versus without an envelope has any effect on responses. To test this, we will ask you to deliver the survey with an envelope marked "Confidential" in alternate months, beginning next month, and to deliver it without an envelope in the other months, including this month. This schedule is summarized here for the evaluation period:

Sealed envelope: September, November, January

No envelope: August, October, December

When a participant is given a survey with an envelope, please instruct them to fill out the survey at that time and put it in the sealed envelope; their survey will only be viewed by evaluation staff.

We will make arrangements to provide you with envelopes. Please set aside completed surveys until the end of the month and be sure not to open the ones in sealed envelopes. We will contact you at the end of each month to ask you to return the completed surveys to Research Into Action and remind you of how to deliver the survey for the next month (with envelope or without).

Participants whose projects do not require site-verification may be invited by Research Into Action to participate in either a phone or web survey.

Once the pilot is complete and results are available, Energy Trust will decide whether and how to continue this fast feedback approach.

Your assistance in this effort is greatly appreciated. If you have any comments, please contact me at 503-445-7619 or sarah.castor@energytrust.org.



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FAST FEEDBACK PILOT: EXISTING BUILDINGS AND PRODUCTION EFFICIENCY PROGRAMS



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