



EVALUATION OF REENERGIZE LINCOLN PROGRAM

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Prepared by:

The Public Policy Center
University of Nebraska
215 Centennial Mall South, Suite 401
Lincoln, NE 68588 – 0228
Phone: 402-472-5678
FAX: 402-472-5679
Email: ppc@nebraska.edu

Evaluation of reEnergize Lincoln

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215 Centennial Mall South, Suite 401, Lincoln, NE 68588-0228

Ph: 402-472-5678 | Fax: 402-472-5679

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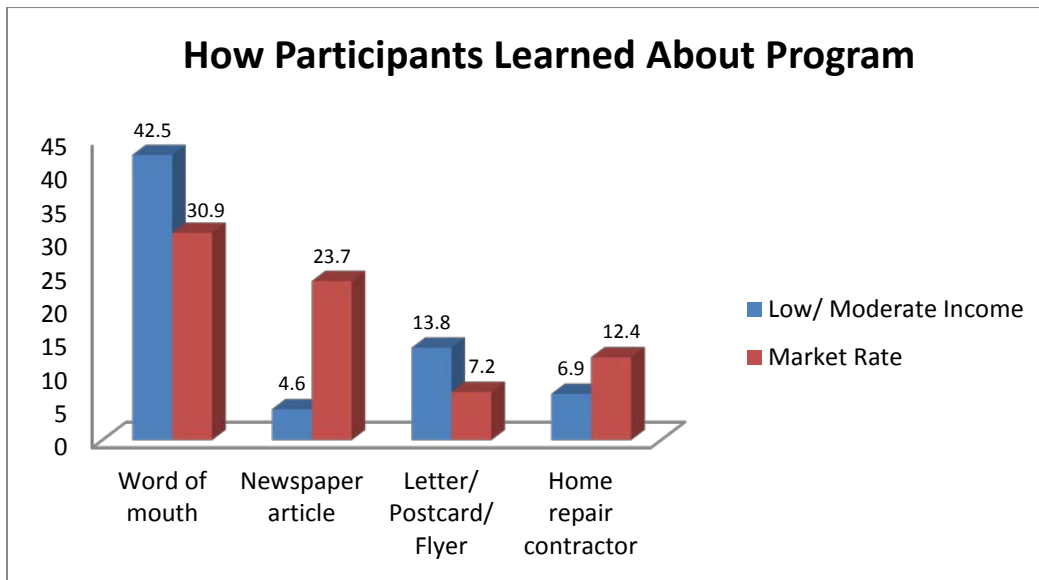
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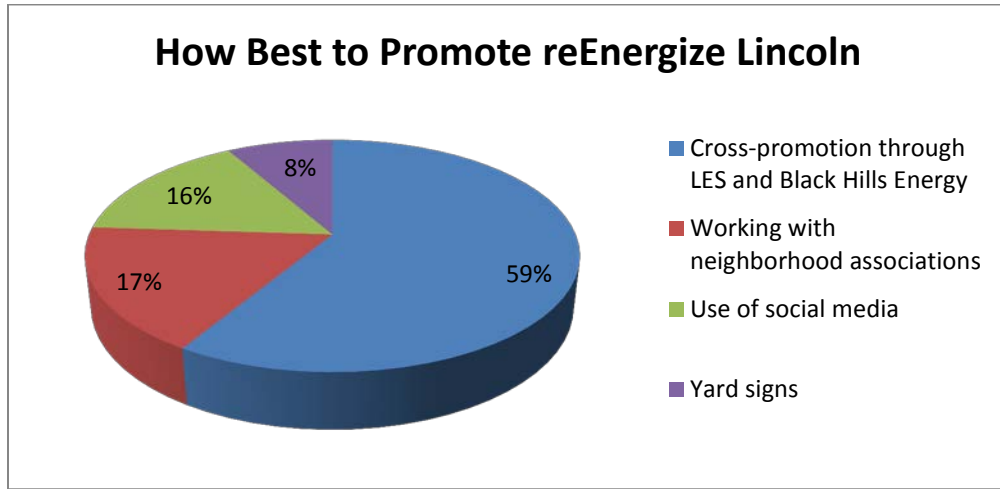
SUMMARY

The University of Nebraska Public Policy Center conducted a study of the *reEnergize Lincoln* program during Spring 2013. The purpose of the study was to determine satisfaction with the program and to identify ways to improve services. Surveys were completed by 184 *reEnergize Lincoln* participants who had either completed the program or dropped out of the program; 87 participants in the survey were in the Low/Moderate Income Pathway and 97 participants were in the Market Rate Pathway. Respondents included a mix of participants who 1) signed up for the program but did not complete the energy efficiency evaluation, 2) completed the energy evaluation but did not complete some or any of the energy upgrades, or 3) completed both the energy evaluation and all the recommended energy upgrades. There were a number of significant findings.

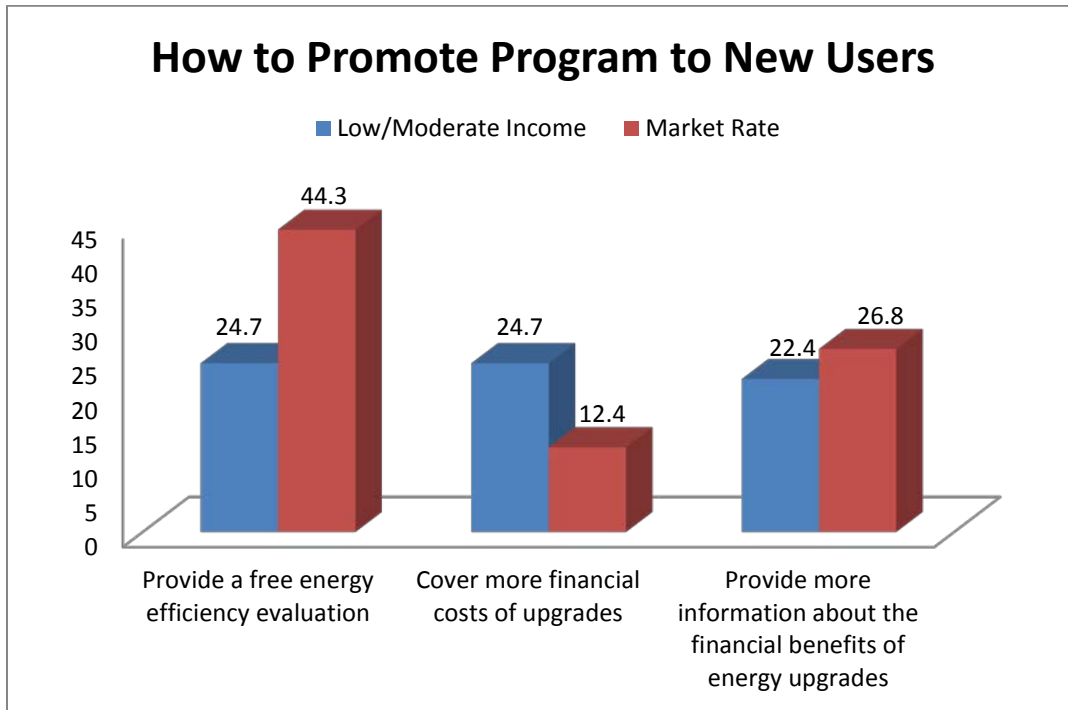
The most common way participants found out about *reEnergize Lincoln* was through word of mouth, indicating improved efforts in advertising may be productive. There were differences based on pathway. Low/Moderate Income participants were more likely to learn about the program through word of mouth and letters/postcards/flyers, while Market Rate participants were more likely to learn about the program through newspaper articles and contractors. These results suggest targeting outreach by pathway may be productive. Participants were motivated to participate in *reEnergize Lincoln* primarily to save money on utility bills and to help conserve energy. Promotions that focus on these messages are likely to be effective for potential participants in both pathways.



Survey results indicate some opportunities to promote *reEnergize Lincoln* to potential participants. Respondents suggested promoting the program in partnership with Lincoln utility companies, working more closely with neighborhood associations, using social media, and using yard signs in front of participating homes.

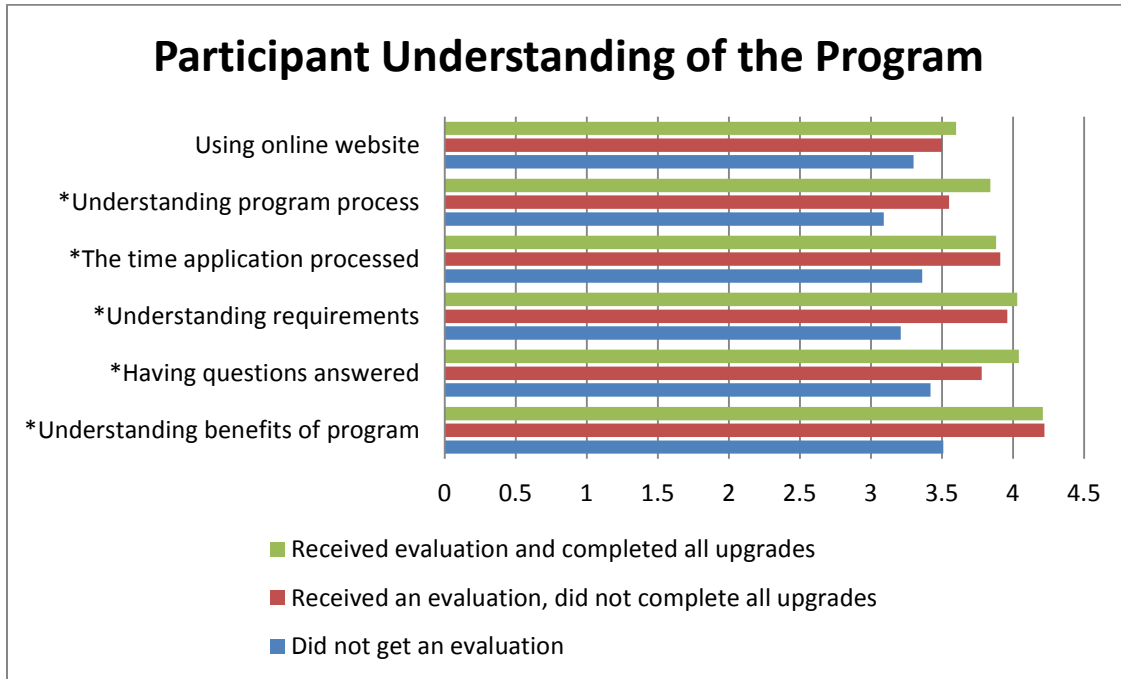


Participants suggested changes in the program to increase participation by new users, including free evaluations, covering more costs of upgrades, and providing more information about the financial benefits of energy upgrades. Market Rate participants were more likely to suggest free evaluations while Low/Moderate Income participants were more likely to suggest covering additional costs of upgrades.



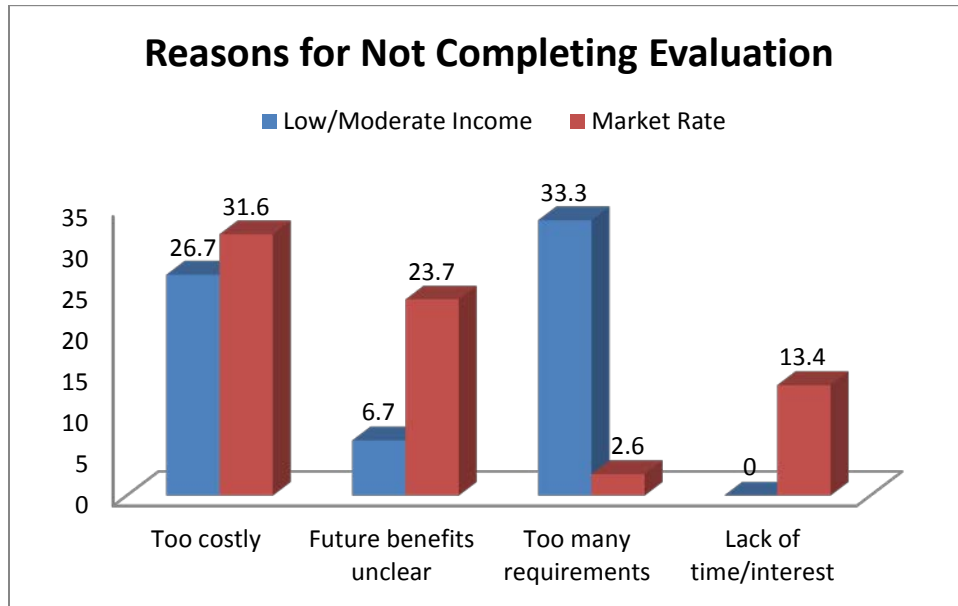
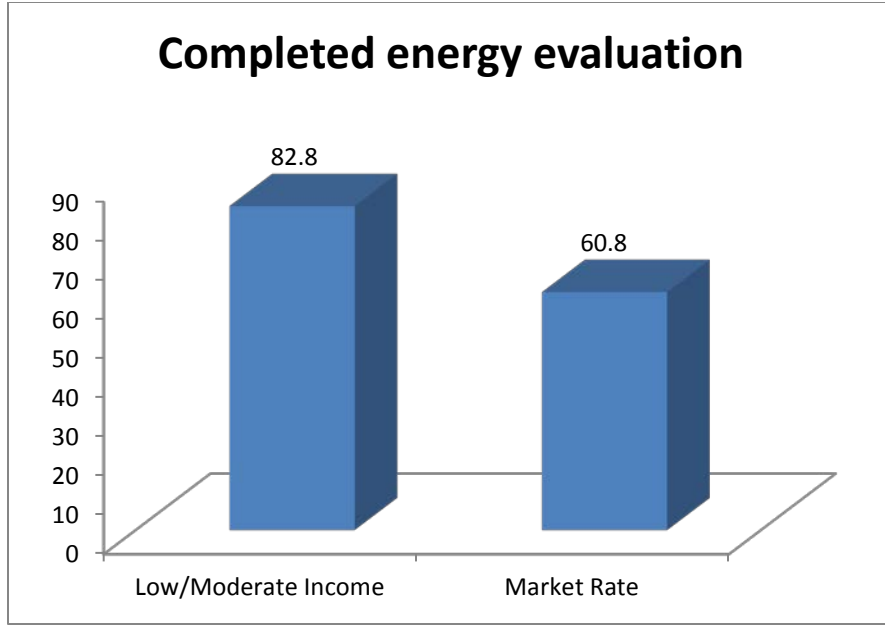
Participants in *reEnergize Lincoln* were satisfied with the application process. They were less satisfied with using the web site and understanding the overall program process than other aspects of the program. Individuals who signed up for the program but failed to complete an energy

evaluation tended to be less satisfied with understanding the benefits of the program, the requirements to join the program, the overall process, and the time to process the application. Improvements in these program components would likely lead to more participants completing the evaluation. Significantly more participants in the Low/Moderate Income Path completed energy evaluations, suggesting focused efforts to increase energy evaluations for Market Rate participants may be beneficial. Participant recommendations for improving the application process included posting online reviews of contractors/evaluators from previous program users, making it clear which property conditions might disqualify a participant from proceeding (such as the presence of vermiculite insulation), and further clarifying the process for rental properties.

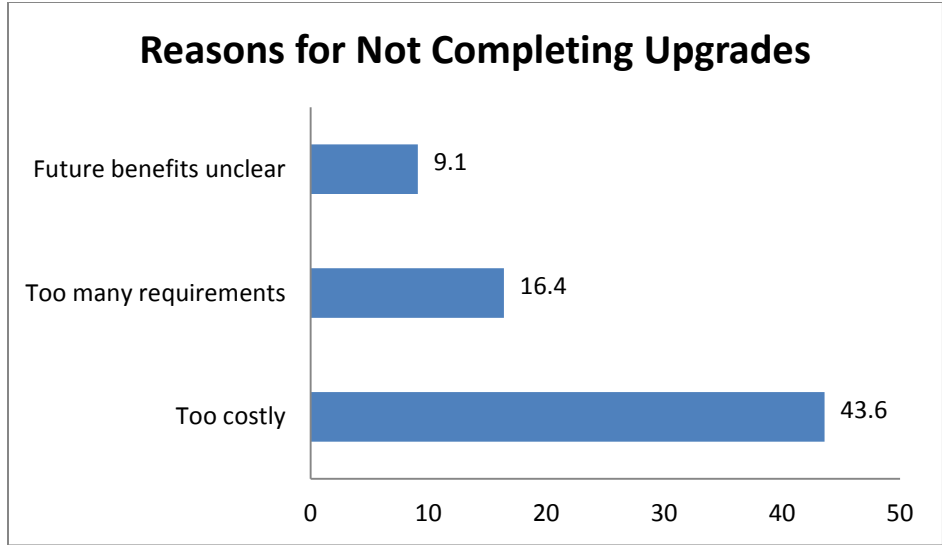


* $p < .05$

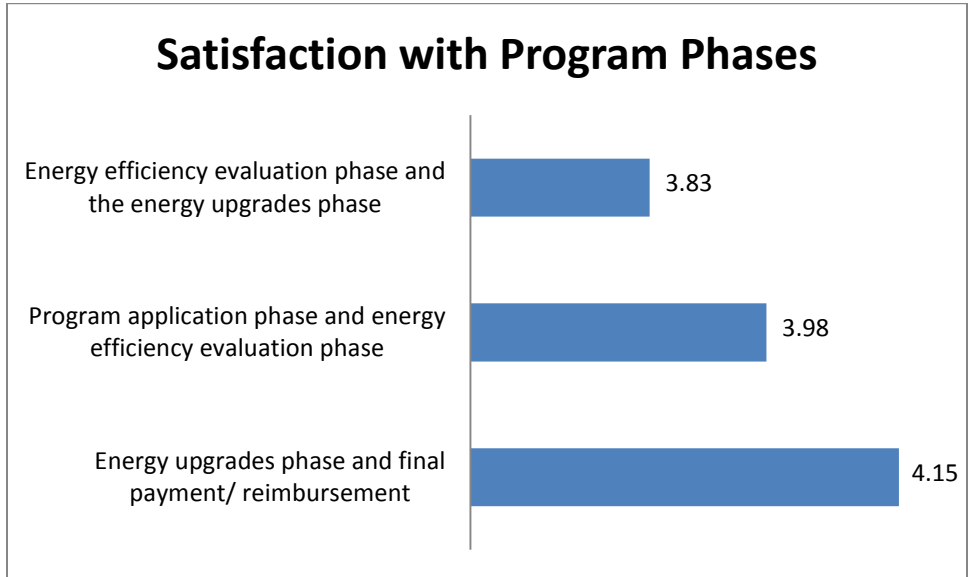
Reasons for not completing the energy evaluation included the cost of the evaluation, the participant was unclear about future benefits, and too many requirements to participate. Participants in the Low/Moderate Income Path were more likely to identify program requirements as a barrier to energy evaluation completion (in particular, the presence of asbestos in property insulation, lack of coverage for mobile homes, or the need to ask tenants to reveal their personal financial information), suggesting targeted changes may be beneficial. Other reasons cited as to why some participants did not complete an energy evaluation included: their house was too new to be considered energy inefficient, the presence of asbestos in property insulation, and being unable to qualify for the Low/Moderate Income assistance pathway.



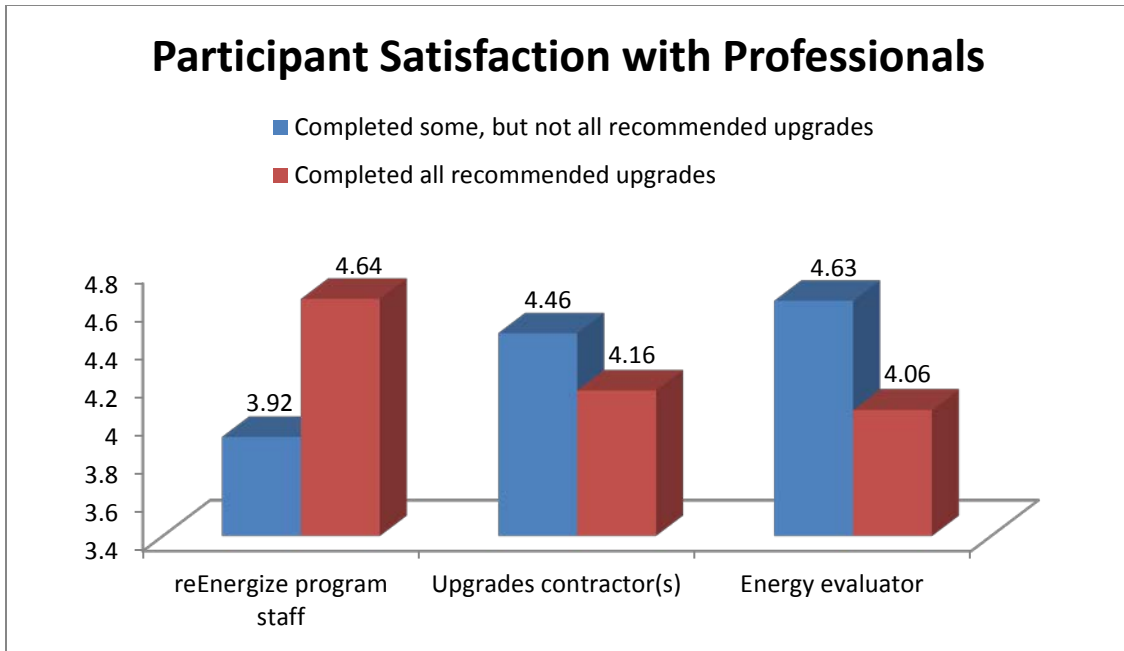
Participants in the Low/Moderate Path were more likely to make all recommended upgrades than participants in the Market Rate Path. The most frequent reasons identified for not making energy improvements included costs, too many requirements, and not understanding the benefits of the upgrades. Participants who made some but not all of the energy upgrades were more likely to refer to cost as a factor in their decision. Other reasons for not making all recommended energy upgrades included: the estimated savings were too low to justify the installation costs, they were not eligible to continue in the program due to the presence of asbestos in property insulation, and the evaluation revealed that no new upgrades were needed.



There was high satisfaction with the coordination between program phases. There was a lower level of satisfaction with coordination between the energy evaluation phase and the energy upgrade phase.



Participants were satisfied with professionals involved in *reEnergize Lincoln*, particularly reEnergize program staff. Participants who made some, but not all energy upgrades, were less satisfied with *reEnergize Lincoln* program staff. These results indicate having all three professionals working in unison was important to a satisfactory process.



EVALUATION QUESTIONS AND METHODS

The City of Lincoln, Nebraska contracted with the University of Nebraska Public Policy Center to conduct an evaluation of the *ReEnergize Lincoln* program for the City of Lincoln. The program is designed to reduce energy use throughout the community through energy efficiency upgrades in single and multifamily homes and commercial buildings by providing incentives to property owners and renters to make these upgrades. The study includes two parts: Study 1 addresses questions related to participation in the program, and Study 2 addresses broader questions pertaining to perceptions of involved stakeholders. This report presents the results of Study 1.

The evaluation questions for Study 1 include the following:

1. Why do some individuals sign up for the program but do not follow through on obtaining the energy evaluation?
2. Why do some individuals obtain an energy evaluation but do not follow through on getting energy upgrades?
3. For all three groups (ReEnergize Program completers, Energy Evaluation Completers but no energy upgrades, and Sign ups but no energy evaluation) for both paths (market rate/low and moderate):
 - a. What are the characteristics of participants (e.g., age, race/ethnicity, family composition, # people, gender, income)?
 - b. What are the characteristics of structures (e.g., location, rent/own, valuation, type (e.g., single family), size, age)?
 - c. What energy improvements were made?
 - d. What is the level of satisfaction by program component (e.g., application process, energy evaluation, energy upgrade, checkout)?
 - e. How did they become aware of the ReEnergize program?
 - f. What was their motivation for participating?
 - g. How could the program be improved?
 - h. How do responses to the above differ between participants in the Market Rate and the Low/Moderate Programs?
 - i. How do responses to the above differ based on how far they progressed in the program (completers, those that just had an energy evaluation, and those that signed up but had no evaluation)?

To answer these questions, we conducted a survey of participants in the *reEnergize Lincoln* program. To inform the survey, we conducted a literature review on factors associated with successful community energy programs (Attachment A). Using the study questions and information from the literature review, we constructed a draft interview and vetted the questions with program implementers. We employed a cognitive interviewing approach to developing the evaluation survey. We constructed a draft survey protocol and conducted telephone interviews with a sample of 19 respondents to assess completeness of response options and comprehension of question wording. Based on responses from the pilot testing, the survey was then modified and

placed online using Qualtrics© survey software, a secured survey service (the survey can be found in Attachment B). Emails and postcards were sent to all participants in the *reEnergize Lincoln* program who had completed or dropped out of the program; current program participants were not surveyed. Respondents received unique links to the online survey, and were thus allowed to complete the survey only one time to prevent multiple responses from the same respondent. We sent periodic reminders via email and after two weeks, and we attempted to contact participants by telephone to reach those individuals who may have preferred completing the survey through an interview format. After the surveys were complete, participant responses were imported to SPSS statistical software for analysis. For open-ended questions, we coded responses into existing categories where appropriate. In addition, we used the qualitative information to help explain quantitative responses and to identify areas for improvement. Where tests of statistical significance were appropriate, Pearson's chi-square or between-groups Multivariate Analysis of Variance (MANOVA) were used.

RESULTS

SAMPLE

Out of 433 residents contacted, 184 responded to the survey (42.5% response rate). Three hundred seventy-two (372) potential participants were contacted by email. Those contacts who did not have email and those who received an email but did not respond within a certain time were contacted by phone; there were 300 people who were called. Efforts to contact by phone were discontinued after three attempts.

Of those contacted, 199 were in the Low/Moderate Income path and 234 were in the Market Rate path. Eighty-seven (43.7%) of the Low/Moderate Rate contacts participated, while 97 (41.5%) of the Market Rate contacts participated. There is no significant difference in the participation rates of the two income pathways ($\chi^2(1)=.24, p= .999$).

The 184 participants who responded to our survey were divided in two ways. The first was by income path: whether a participant qualified for the Low/Moderate Income Path or whether they used the Market Rate Path instead. The second was by their level of participation. For most of the below analyses, there were three participation groupings: 1) signed up for the program, but did not complete an energy evaluation, 2) completed an energy evaluation, but installed only some or none of the recommended energy upgrades, and 3) completed both the energy evaluation and *all* of the recommended upgrades (different participation groupings were used for some analyses and are explained in the relevant sections). There were few participants in the survey who had completed the energy evaluation but had made not energy improvements; we combined this group with participants who had made some but not all recommended energy improvements so we would have adequate sample size to determine statistical differences across groups. The division of participants into these categories is presented in Table 1.

Table1: Number of Survey Respondents by Category

Level of Participation	Frequency (% of Column)		
	Low/Moderate Income	Market Rate	Overall
Signed up, no evaluation	15 (17.2%)	38 (39.2%)	53 (28.8%)
Completed evaluation, but only some or none of the recommended upgrades	21 (24.1%)	34 (35.1%)	55 (29.9%)
Completed evaluation and all recommended upgrades	51 (58.6%)	25 (25.8%)	76 (41.3%)
Totals	87 (100%)	97 (100%)	184 (100%)

FIRST HEARD ABOUT REENERGIZE

We asked how participants heard about the *reEnergize Lincoln* program. Most people heard about *reEnergize Lincoln* through word of mouth. Specific sources mentioned for this word of mouth promotion included: NeighborWorks, Climate Masters volunteers, reEnergize staff, realtors, and LES. The other most common methods of hearing about the program included newspaper articles, home repair contractors, and program letters, postcards, and flyers (Table 2). Thus, there were a variety of ways in which program participants first heard about reenergize.

“I believe our realtor told us about it. Her daughter had used the program.”

“I think I read about it in the insert with the LES bill.”

“I heard about it at a neighborhood association meeting.”

Table 2: How Participants Heard about ReEnergize

How did you first hear about reEnergize Lincoln?		
	Frequency	Percent
Word of mouth	67	36.4%
Newspaper article	27	14.7%
Letter/Postcard/Flyer	19	10.3%
Home repair contractor	18	9.8%
Radio advertisement	9	4.9%
Place of business	7	3.8%
Community orientation meeting	6	3.3%
Home improvement show	5	2.7%
Internet/Web	5	2.7%
E-mail announcement	4	2.2%
Television news	3	1.6%
Social media	3	1.6%
Television advertisement	2	1.1%
Other	9	4.9%
Totals	184	100%

Potential differences based on the pathway and participation groupings regarding how participants first heard of the program were examined using Pearson chi-square tests (Table 3). There is a significant difference between the income paths ($\chi^2(13) = 24.42, p = .032$), with those on the Market Rate path more likely to have heard about the program from a newspaper article than those on the Low/Moderate Income Path. There were no significant differences among the participation groupings based on progress through the program ($\chi^2(26) = 18.38, p = .862$). Potential differences based on interaction between the pathway and participation groupings were

examined using a loglinear regression. The interaction was not significant ($\chi^2(28) = 23.90, p = .69$).

Table 3: How Participants Heard about ReEnergize Lincoln by Pathway

How did you first hear about reEnergize Lincoln?	Frequencies (% of Column)		
	Low/Moderate Income	Market Rate	Overall
Word of mouth	37 (42.5%)	30 (30.9%)	67 (36.4%)
*Newspaper article	4 (4.6%)	23 (23.7%)	27 (14.7%)
Letter/Postcard/Flyer	12 (13.8%)	7 (7.2%)	19 (10.3%)
Home repair contractor	6 (6.9%)	12 (12.4%)	18 (9.8%)
Radio advertisement	3 (3.4%)	6 (6.2%)	9 (4.9%)
Place of business	4 (4.6%)	3 (3.1%)	7 (3.8%)
Community orientation meeting	5 (5.7%)	1 (1%)	6 (3.3%)
Home improvement show	1 (1.1%)	4 (4.1%)	5 (2.7%)
Internet/Web	3 (3.4%)	2 (2.1%)	5 (2.7%)
E-mail announcement	2 (2.3%)	2 (2.1%)	4 (2.2%)
Television news	2 (2.3%)	1 (1%)	3 (1.6%)
Social media	1 (1.1%)	2 (2.1%)	3 (1.6%)
Television advertisement	1 (1.1%)	1 (1%)	2 (1.1%)
Other	6 (6.9%)	3 (3.1%)	9 (4.9%)
Totals	87 (100%)	97 (100%)	184 (100%)

**Significant difference between groups.*

REASONS FOR SIGNING UP

We asked how important different considerations were in motivating them to sign up for the program. Participants rated “to save money on utility bills” and “to help conserve energy” as the two most important reasons for signing up for the program; helping the environment and improving the values of their property were rated as a bit less important (Table 4). Other reasons participants gave for signing up included replacing outdated heating and cooling equipment and upgrading rental properties. Feedback from program participants included the following:

“Because I’m an engineer, I talk to other people all the time about being green. I wanted to live by example.”

“The bottom line: Money.”

“To help our tenants save money.”

“I thought our air conditioner was broken, and was told that this program might help.”

Potential differences between groups regarding the reasons why participants first signed up for the program were examined using a MANOVA. The differences were not significant for any of the following: the income path ($F(4,79) = .61, p=.657$), the participation groupings ($F(8,79) = .50, p= .858$), or the interaction between the two variables ($F(8,79) = .62, p= .763$).

Table 4: Reasons for Signing Up by Response

Reasons for signing up	Frequencies (Percent)					Mean (SD)
	Not at all important 1	Very Unimportant 2	Neither Important nor Unimportant 3	Very Important 4	Extremely Important 5	
To save money on utility bills	1 (1.3%)	0 (0%)	5 (6.3%)	33 (41.3%)	41 (51.3%)	4.4 (.72)
To help conserve energy	1 (1.3%)	0 (0%)	10 (12.5%)	26 (32.9%)	42 (53.2%)	4.4 (.80)
To help the environment	2 (2.5%)	10 (12.5%)	20 (25%)	21 (26.3%)	27 (33.8%)	3.8 (1.13)
To improve the value of my property	2 (2.5%)	11 (13.8%)	21 (26.3%)	23 (28.8%)	23 (28.8%)	3.7 (1.11)

SATISFACTION WITH APPLICATION PROCESS

We asked program participants how satisfied they were with different components of the program. Participants expressed the greatest amount of satisfaction with “understanding the *benefits* of the program” and the least amount of satisfaction with “using the online website in general,” although the majority of participants were satisfied with each component (Table 5). Among the recommendations participants made for how to improve the application process were: streamline the application process generally, post online reviews of contractors/evaluators from previous program users, make it clear which property conditions might disqualify a participant from proceeding (such as the presence of vermiculite insulation), and further clarify the process for rental properties. Some of the suggestions related to the application process included the following:

“If you choose to do the program for rental property, the criteria for qualification and requirements should be different than if you are a homeowner, and the application process should be easier. Especially for the older houses with more tenants.”

“I’m a landlord and I have a duplex. I was interested in doing this with one apartment and not the other apartment. But when filling out the forms I had to provide information for both tenants. But I did not want to ask the other tenant for their tax information, so I decided not to proceed. I was not comfortable asking the other tenant for their financial information.”

“It would be great to be able to rate the evaluators and/or contractors to help identify the good ones.”

“The process, although not complicated, should be presented in a "bullet" format: 1st, 2nd, etc... Contractor lists should be part of an ongoing evaluation throughout the length of the program. Contractors should be checked for timeliness, number of evaluations, number of projects under contract, amount of work allotted on their timeline to balance work with workers, and a follow up survey with all of those taking part in the upgrades to determine their satisfaction.”

“I have no recommendations. The application process was expedited. The program and guidelines were very clear and concise. I am so happy to have qualified for the program and the assistance given to me. I hope others will take advantage of the program for their household needs and/or improvements.”

“After my application was submitted and I had to choose an energy auditor and contractor is when the program seems to get a little "loose." I got my energy audit done, but then it took the winter to get things finalized with a contractor. It was as if the process got disconnected for awhile. One contractor seemed eager to do business so I went with that contractor. I didn't hear from others until the work was done.”

Table 5: Satisfaction with Different Program Components

Satisfaction with:	Frequencies (Percent)					Mean (SD)
	Very Dissatisfied 1	Dissatisfied 2	Neutral 3	Satisfied 4	Very Satisfied 5	
Understanding the benefits of the program	3 (1.6%)	12 (6.5%)	25 (13.6%)	84 (45.7%)	60 (32.6%)	4.0 (.94)
Having questions answered from program staff	8 (4.3%)	14 (7.6%)	43 (23.4%)	64 (34.8%)	55 (29.9%)	3.8 (1.09)
Understanding requirements to join the program	6 (3.3%)	20 (10.9%)	24 (13%)	94 (51.1%)	40 (21.7%)	3.8 (1.02)
The time your application was reviewed and processed	14 (7.6%)	15 (8.2%)	30 (16.3%)	71 (38.6%)	54 (29.3%)	3.74 (1.19)
Understanding the overall program process	7 (3.8%)	28 (15.2%)	39 (21.2%)	79 (42.9%)	31 (16.8%)	3.5 (1.06)
Using the online website in general	7 (3.8%)	15 (8.2%)	69 (37.5%)	74 (40.2%)	19 (10.3%)	3.5 (.92)

Potential differences between groups regarding their satisfaction with the application process were examined using a MANOVA. Table 6 shows these results. Satisfaction differed significantly within the participation grouping ($F(12,184) = 2.79, p = .001$). These differences were driven by five of the six satisfaction items (all except satisfaction with using the online website). For satisfaction with having questions answered by program staff, those who made all upgrades were more satisfied than either those who did not receive an audit or those who received an audit but did not make all upgrades; these last two groups did not differ from each other. For the remaining four items, those who did not get an audit were less satisfied than either of the groups that received an audit, which did not differ from each other. There were no significant differences for either the income path ($F(6,184) = .47, p = .831$), or the interaction ($F(12,184) = 1.48, p = .130$).

Table 6: Satisfaction with Different Program Components by Participant Grouping

Satisfaction with:	Did not get an evaluation	Received an evaluation, did not complete all upgrades	Received evaluation and completed all upgrades	Overall
*Understanding the benefits of the program	3.5 [^] (1.03)	4.2 (.94)	4.2 (.72)	4.0 (.94)
*Having questions answered from program staff	3.4 (1.08)	3.8 (1.13)	4.0 [^] (1.00)	3.8 (1.09)
*Understanding requirements to join the program	3.2 [^] (1.13)	4.0 (.98)	4.0 (.78)	3.8 (1.02)
*The time your application was reviewed and processed	3.4 [^] (1.13)	3.9 (1.16)	3.9 (1.20)	3.7 (1.19)
*Understanding the overall program process	3.1 [^] (1.10)	3.55 (1.086)	3.8 (.91)	3.5 (1.06)
Using the online website in general	3.3 (.78)	3.5 (.98)	3.6 (.96)	3.5 (.92)

*Significant difference among groups.

[^]Different from other two groups.

IMPORTANCE OF MORE INFORMATION

When asked how important information would have been when they first applied for the *reEnergize Lincoln* program, participants assigned the greatest importance to “more information about the *home improvement contractors*” and the least importance to “more information about *how to qualify for the program*,” although a majority of participants indicated it is important to have information on each item (Table 7). Some participants suggested an improvement would be to provide information about the quality of contractors such as a rating system or testimonials by participants. Other information that participants expressed a desire to have when first applying included: the types of upgrades that were and were not eligible for program funds, the amount of time the entire process typically required, and a list of complementary programs available from other providers. Suggestions regarding sources of helpful information included the following:

“I wanted to know more about the process and what you had to pay up front before committing to the process. It seemed like you were locked into the program if you signed up. That is where I backed out.”

“More information about the process, a case study would have been nice. Like a sample timeline.”

“It was a little ambiguous who the evaluators and contractors were.”

“We were OK knowing an estimated amount for our contribution, but there are a lot of people who would not be OK with an estimate. There should have been an amount given to them as an absolute maximum. It would be good for consumers to have a better understanding of the time line in which everything would happen.”

“I had the whole program explained before I signed up. I wound up getting much more benefit than I could have imagined.”

Potential differences between groups regarding importance of more information were examined using a MANOVA. The relationship was not significant for any of the following: the income paths ($F(6,184) = 1.50, p = .182$), the participation groupings ($F(12,184) = 1.47, p = .135$), or the interaction between the two variables ($F(12,184) = .59, p = .849$).

Table 7: Importance of Types of Information about the Program

Importance of having...	Frequencies (Percent)					Mean (SD)
	Not at all important 1	Very Unimportant 2	Neither Important nor Unimportant 3	Very Important 4	Extremely Important 5	
More information about the home improvement contractors	4 (2.2%)	8 (4.3%)	41 (22.3%)	63 (41.3%)	68 (37%)	4.0 (.98)
More information about the financial costs of potential upgrades	7 (3.8%)	10 (5.4%)	43 (23.4%)	61 (33.2%)	63 (41.3%)	3.9 (1.06)
More information about the energy efficiency evaluators	3 (1.6%)	13 (7.1%)	42 (22.8%)	70 (38%)	56 (30.4%)	3.9 (.98)
More information about the overall program process	7 (3.8%)	9 (4.9%)	39 (21.2%)	75 (40.8%)	54 (29.3%)	3.89 (1.02)
More information about the benefits of the program	9 (4.9%)	8 (4.3%)	60 (32.6%)	72 (39.1%)	35 (19%)	3.6 (1.00)
More information about how to qualify for the program	9 (4.9%)	19 (10.3%)	57 (31%)	63 (41.3%)	36 (19.6%)	3.5 (1.07)

COMPLETION OF AN ENERGY EVALUATION

We looked at which participants completed the energy evaluation after signing up for the program (Table 8). Differences between the two income paths in terms of frequency of participants having an energy efficiency evaluation of their property conducted under the *reEnergize Lincoln* program were tested using a Pearson chi-square test. This difference was significant ($\chi^2(1) = 10.76, p = .001$), with those who qualified for the Low or Moderate Income Path were more likely to have an evaluation completed.

Table 8: Completion of Energy Evaluation by Path

	Frequency (% of Column)		
	Low/Moderate Income	Market Rate	Overall
Did not complete energy evaluation	15 (17.2%)	38 (39.2%)	53 (28.8%)
Completed energy evaluation	72 (82.8%)	59 (60.8%)	131 (71.2%)
Overall	87 (100%)	97 (100%)	184 (100%)

The most frequently cited reason for why participants did not have an energy evaluation completed on their property was “*it was too costly for me*” followed by “*I was unclear what the future benefits of participating in the program were*” and “*There were too many requirements or things for me to do to participate.*” Table 9 shows the results. Other reasons cited as to why some participants did not complete an energy evaluation included: their house was too new to be considered energy inefficient, the presence of asbestos in property insulation, and being unable to qualify for the Low/Moderate Income assistance pathway. Program participant feedback included the following:

“After lots of discussions, my house was too new and I’d already done many of the energy saving steps. Thus, the costs out-weighed the savings.”

“Benefits were clear. Requirements were fine. But I couldn’t get any idea of whether I would qualify before spending hundreds of dollars.”

“The contractor thought my house was too new to be energy efficient.”

“Our home already had most of the improvements made; with the exception of insulation in the walls. We could not do that due to the wiring, so we did not continue with the program.”

Table 9: Reasons for not Completing Energy Evaluation

Why didn't you complete an energy evaluation?		
	Frequency	Percent
It was <i>too costly</i> for me	16	30.2%
I was unclear what the <i>future benefits</i> of participating in the program were	10	18.9%
There were too many requirements or things for me to do to participate	6	11.3%
I lacked the time or interest to continue the program	5	9.4%
My circumstances changed	5	9.4%
I <i>never heard back</i> from the program on how to continue	3	5.7%
Other	8	4.3%
Totals	53	100%

Differences between the two income paths in terms of *reasons* why some participants did not have an energy efficiency evaluation of their property conducted under the reEnergize program were tested using a chi-square test. These differences were significant ($\chi^2(6) = 16.16, p = .013$); those who qualified for the Low/Moderate Income Path were more likely to say that there were too many requirements for them to participate (Table 10).

Table 10: Reasons for No Energy Evaluation by Participant Grouping

Why didn't you complete an energy evaluation?	Frequencies (% of Column)		
	Low/Moderate Income	Market Rate	Overall
It was <i>too costly</i> for me	4 (26.7%)	12 (31.6%)	16 (30.2%)
I was unclear what the <i>future benefits</i> of participating in the program were	1 (6.7%)	9 (23.7%)	10 (18.9%)
*There were too many requirements or things for me to do to participate	5 (33.3%)	1 (2.6%)	6 (11.3%)
I lacked the time or interest to continue the program	0 (0%)	5 (13.4%)	5 (9.4%)
My circumstances changed	2 (13.3%)	3 (7.9%)	5 (9.4%)
I <i>never heard back</i> from the program on how to continue	2 (13.3%)	1 (2.6%)	3 (5.7%)
Other	1 (6.7%)	7 (18.4%)	8 (4.3%)
Totals	15 (100%)	38 (100%)	53 (100%)

*Significant difference between groups.

SATISFACTION WITH THE EVALUATION

For participants who received an energy evaluation, we asked about their level of satisfaction with the evaluation experience. Table 11 shows the results. Overall, participants were satisfied with all aspects of the energy evaluation. Participants expressed the greatest amount of satisfaction with “*the thoroughness of the energy evaluation of your property*” and the least with “*identifying and selecting an evaluator.*” Recommendations made to improve the energy evaluation process included: providing more information on the available evaluators (such as their location, availability, and reviews from previous program users), a greater selection of evaluators to choose from, having the contractor also present at the time of the evaluation, and providing greater quality assurance in general:

“Have more evaluators doing the evaluation. The evaluator was booked for weeks, so it took a long time to have them come to my home.”

“Have energy evaluator provide a check-off list of items evaluated and a point by point rating or narrative about the efficiency of each item and what can be done to improve the efficiency, and what the gains would be. Ensure the evaluator shows up on time and spends enough time at the property to do a thorough evaluation.”

Potential differences between groups regarding the reasons their satisfaction with the application process were examined using a MANOVA. The relationship was not significant for any of the following: the income path ($F(4,131) = 1.16, p = .331$), the participation groupings ($F(4,131) = .30, p = .876$), or the interaction between the two variables ($F(4,131) = .56, p = .694$).

Table 11: Satisfaction with the Energy Evaluation

Satisfaction with	Frequencies (Percent)					Mean (SD)
	Very Dissatisfied 1	Dissatisfied 2	Neutral 3	Satisfied 4	Very Satisfied 5	
The thoroughness of the energy evaluation of your property	5 (3.8%)	5 (3.8%)	16 (12.2%)	46 (35.1%)	59 (45.0%)	4.1 (1.03)
The time it took to schedule and complete the energy evaluation	3 (2.3%)	12 (9.2%)	15 (11.5%)	51 (38.9%)	50 (38.2%)	4.0 (1.04)
The energy evaluator’s explanation of the results of your evaluation	4 (3.1%)	13 (9.9%)	17 (13.0%)	40 (30.5%)	57 (43.5%)	4.0 (1.12)
Identifying and selecting an evaluator	5 (3.8%)	13 (7.1%)	24 (18.3%)	48 (36.6%)	41 (31.3%)	3.8 (1.10)

COMPLETION OF ENERGY UPGRADES

The majority (58.0%) of participants who had an energy evaluation completed all of the recommended upgrades, while 32.8 percent made some but not all of the upgrades, and 9.2% made none of the upgrades. The difference between the two income paths in terms of frequency of participants completing some or all of the energy upgrades recommended by the evaluation were tested using a Pearson’s chi-square test. This difference was significant ($\chi^2 (2) = 11.65$, $p=.003$), with those who qualified for the Low or Moderate Income Path more likely to have all of the recommended upgrades completed, and those in the Market Rate Path more likely to complete only some of the recommendations (Table 12).

Table 12: Completion of Energy Improvements by Path

Did you complete energy upgrades as a result of the evaluation?	Frequency (% of Column)		
	Low/Moderate Income	Market Rate	Overall
No, I made <i>none</i> of the recommended changes	6 (8.3%)	6 (10.2%)	12 (9.2%)
*Yes, I made <i>some</i> but not all of the recommended changes	15 (20.8%)	28 (47.5%)	43 (32.8%)
*Yes, I made <i>all</i> of the recommended changes	51 (70.8%)	25 (42.4%)	76 (58.0%)
Overall	72 (100%)	59 (100%)	131 (100%)

**Significant difference between groups.*

We asked why participants had not made energy upgrades (Table 13). The most frequently cited reason for why participants did not have all of the recommended energy upgrades completed as a result of the evaluation was “*it was too costly for me*” followed by “*There were too many requirements or things for me to do to participate.*” Several participants complained that the contractor elected on their own to complete some, but not all, of the recommended upgrades but did not offer a sufficient explanation for this decision. Other reasons cited as to why some participants did not complete all of the recommended energy upgrades included: the estimated savings were too low to justify the installation costs, they were not eligible to continue in the program due to the presence of asbestos in property insulation or other structural barriers, and the evaluation revealed that no new upgrades were needed.

“My attic is lacking proper installation. I live in an older home, and because of the wiring there are new guidelines in place which did not allow me to add insulation to the attic.”

“I was told they would not support the cost of adding wall insulation in homes with old electrical wiring.”

Table 13: Reasons for Not Completing Energy Upgrades

Why didn't you complete [any/some] of the energy upgrades?		
	Frequency	Percent
It was <i>too costly</i> for me	24	43.6%
There were too many requirements or things for me to do to participate	9	16.4%
I was unclear what the <i>future benefits</i> of participating in the program were	5	9.1%
My circumstances changed	3	5.5%
I lacked the time or interest to continue the program	2	3.6%
There was a program time deadline I could not meet	1	1.8%
I <i>never heard back</i> from the program on how to continue	1	1.8%
Other	10	18.2%
Totals	55	100%

Potential differences based on the income and participation variables were examined using Pearson's chi-square tests. The results were not significant for the income paths ($\chi^2(7) = 6.89, p = .440$). A slight modification was made to the participation grouping for the analysis of this question so that participants who completed some, but not all, of the recommended upgrades were compared against those who made no upgrades at all. There were significant differences between these two groups ($\chi^2(7) = 15.01, p = .036$), with those who made *some but not all* of the recommended changes more likely to say the upgrades were too costly (Table 14). Potential differences based on interaction between these income and participation variables were examined using a loglinear regression. The interaction was not significant ($\chi^2(16) = 15.90, p = .460$).

Table 14: Reasons for not Completing Energy Upgrades by Participants Who Made Some Upgrades Compared to Participants Who Made No Upgrades

Why didn't you complete [any/some] of the energy upgrades?	Frequency (% of Column)		
	No upgrades	Some but not all	Overall
*It was <i>too costly</i> for me	2 (8.3%)	22 (51.2%)	24 (43.6%)
There were too many requirements or things for me to do to participate	4 (33.3%)	5 (11.6%)	9 (16.4%)
I was unclear what the <i>future benefits</i> of participating in the program were	0 (0%)	5 (11.6%)	5 (9.1%)
My circumstances changed	2 (16.7%)	1 (2.3%)	3 (5.5%)
I lacked the time or interest to continue the program	1 (8.3%)	1 (2.3%)	2 (3.6%)
There was a program time deadline I could not meet	0 (0%)	1 (2.3%)	1 (1.8%)
I never heard back from the program on how to continue	1 (8.3%)	0 (0%)	1 (1.8%)
Other	2 (16.7%)	8 (18.6%)	10 (18.2%)
Totals	12 (100%)	43 (100%)	55 (100%)

*Significant difference between groups.

SATISFACTION WITH THE UPGRADES PROCESS

We asked participants about their satisfaction with the energy upgrade process (Table 15). This analysis includes those who made all the upgrades and those who made some of the upgrades recommended by the energy evaluation. Participants were satisfied with all aspects of the upgrade process. Participants expressed the greatest amount of satisfaction with “*the payment and reimbursement process for the upgrades*” and the least with “*the communication of information from the energy efficiency evaluator to the upgrades contractor.*” Recommendations made to improve the upgrade process included: scheduling a meeting between the evaluator, contractor, and property owner to coordinate a plan of action; covering the cost of new windows; and improving the selection and vetting of contractors.

Potential differences between groups regarding their satisfaction with the application process were examined using a MANOVA. The relationship was not significant for any of the following: the income path ($F(6,119) = .52, p = .794$), those who made only some of the recommended upgrades as opposed to those who made all of the recommended changes ($F(6,119) = .54, p = .775$), or the interaction between these two variables ($F(4,119) = .76, p = .605$).

Table 15: Satisfaction with Aspects of the Energy Upgrade Process

Satisfaction with	Frequencies (Percent)					Mean (SD)
	Very Dissatisfied 1	Dissatisfied 2	Neutral 3	Satisfied 4	Very Satisfied 5	
The payment and reimbursement process for the upgrades	3 (2.5%)	0 (0%)	22 (18.5%)	30 (25.2%)	64 (34.8%)	4.3 (.94)
The quality of the upgrades made	3 (2.5%)	3 (2.5%)	13 (10.9%)	56 (47%)	44 (37%)	4.1 (.89)
Working with the contractor(s) in general	7 (5.9%)	8 (6.7%)	6 (5%)	44 (37%)	54 (45.4%)	4.1 (1.14)
Identifying and selecting an upgrades contractor(s)	11 (9.2%)	9 (7.6%)	17 (14.3%)	42 (35.3%)	40 (33.6%)	3.8 (1.25)
The time it took to schedule and complete the upgrades process	11 (9.2%)	9 (7.6%)	13 (10.9%)	52 (28.3%)	34 (18.5%)	3.8 (1.22)
The communication of information from the energy efficiency evaluator to the upgrades contractor	13 (10.9%)	9 (7.6%)	19 (16%)	39 (32.8%)	39 (32.8%)	3.7 (1.30)

PERCEPTION OF MONEY ON UTILITY BILLS?

For participants who made some (43) or all (76) of the energy upgrades, we asked their perceptions about the impact on their energy bills (Table 16). The most frequent response to the question “Have you saved money on your monthly utility bills as a result of the energy upgrades made on your property?” was “I don’t know.” Among those who answered affirmatively, the most common estimate was that they saved somewhere between 11-25% on their monthly utility bills.

Table 16: Perceived Energy Savings as a Result of the reEnergize Program

Have you saved money on your utility bills as a result of the reEnergize Lincoln program?	Frequency	Percent
No	7	5.9%
Yes, I have saved maybe 0-10% on my monthly bills	16	13.4%
Yes, I have saved maybe around 11-25% on my monthly bills	30	25.2%
Yes, I have saved maybe around 25% or more on my monthly bills	10	8.4%
I don't know	56	47.1%
Total	119	100%

Potential differences based on the income and participation variables were examined using a Pearson chi-square test (Table 17). There was a significant difference between the two income paths ($\chi^2(4) = 10.93, p = .027$), with those in the Market Rate Path more likely to estimate that they saved 25% or more on their monthly utility bills. There was no significant difference between those who completed all recommended upgrades and those who completed only some of them ($\chi^2(4) = 2.93, p = .570$). Potential differences based on interaction between these income and participation variables were examined using a loglinear regression. The interaction was not significant ($\chi^2(8) = 9.13, p = .332$).

Table 17: Perceived Energy Savings by Path

Have you saved money on your utility bills as a result of the reEnergize Lincoln program?	Frequency (% of Column)		
	Low/Moderate Income	Market Rate	Overall
No	6 (9.1%)	1 (1.9%)	7 (5.9%)
I don't know	28 (42.4%)	28 (52.8%)	56 (47.1%)
Yes, I have saved maybe 0-10% on my monthly bills	9 (13.6%)	7 (13.2%)	16 (13.4%)
Yes, I have saved maybe around 11-25% on my monthly bills	9 (17%)	21 (31.8%)	30 (25.2%)
*Yes, I have saved maybe around 25% or more on my monthly bills	2 (3%)	8 (15.1%)	10 (8.4%)
Total	66 (100%)	53 (100%)	119 (100%)

*Significant difference between groups.

SATISFACTION WITH PROGRAM COORDINATION AND COMPONENTS

We asked participants who had made some or all energy upgrades about their satisfaction with coordination between the program phases. Table 18 shows the results. Overall, participants were satisfied with coordination across all program phases. Participants expressed the greatest satisfaction with the coordination between the energy upgrades phase and final

payment/reimbursement, and the least satisfaction with the coordination between the evaluation and the energy upgrades. There was some criticism of the various contractors involved with the program, but most participants distinguished between the contractors and the program. A significant number of participants suggested that the program should have a role in providing quality assurance or coordination of the contractors' work. Program participant feedback included the following:

“Somebody objective needs to review the work of the contractors. It would behoove the government to pay somebody and check the work of the contractor. There needs to be quality assurance of the contractors. It’s a big risk for the homeowner. The contractors look at it as a giveaway program.”

“A scheduled meeting with the evaluator, contractor and property owner all at one time to discuss the evaluation, explain possible fixes, cost options and payback benefits. The connection between the program office, evaluator, contractor and property owner appears too tenuous. Having someone from the program office track individual projects to keep them on track, keep questioned answered and keep work on time would aid in the completion of more projects.”

“Have one contractor do everything. I had to find someone else to remove the old insulation first. The contractor would only install the new insulation after the old insulation had been taken out.”

“Screen your contractors better, also make sure that they follow up in a timely fashion. I didn't do everything I wanted because working with Krieser Insulation was too painful and time consuming.”

Potential differences between groups regarding their satisfaction with program coordination were examined using a MANOVA. The relationship was not significant for any of the following: the income path ($F(3,119) = .84, p = .476$), those who made only some of the recommended upgrades as opposed to those who made all of the recommended changes ($F(3,119) = .05, p = .984$), or the interaction between these two variables ($F(3,119) = 1.86, p = .140$).

Table 18: Satisfaction with Program Coordination

Satisfaction with coordination between	Frequencies (Percent)					Mean (SD)
	Very Dissatisfied 1	Dissatisfied 2	Neutral 3	Satisfied 4	Very Satisfied 5	
The energy upgrades phase and final payment/reimbursement	3 (2.5%)	4 (3.4%)	15 (12.6%)	47 (39.5%)	50 (42%)	4.2 (.95)
The program application phase and energy efficiency evaluation phase	3 (2.5%)	5 (4.2%)	21 (17.6%)	52 (28.3%)	38 (31.9%)	4.0 (.95)
The energy efficiency evaluation phase and the energy upgrades phase	7 (5.9%)	11 (9.2%)	15 (12.6%)	48 (40.3%)	38 (31.9%)	3.8 (1.15)

We asked participants about satisfaction with different professionals in the *reEnergize Lincoln* process (Table 19). Participants were satisfied with all three groups of professionals. Participants expressed the greatest overall satisfaction with the *reEnergize Lincoln* program staff and the least with energy efficiency evaluators (although evaluators still received high marks). These results indicate all three groups were important to achieving program satisfaction.

Table 19: Satisfaction with Professionals participating in the reEnergize Lincoln Program

Overall Satisfaction with	Frequencies (Percent)					Mean (SD)
	Very Dissatisfied- 1	Dissatisfied 2	Neutral 3	Satisfied 4	Very Satisfied 5	
reEnergize program staff	1 (2.6%)	1 (2.6%)	2 (5.3%)	12 (31.6%)	22 (57.9%)	4.4 (.92)
The energy upgrades contractor(s)	2 (5.3%)	0 (0%)	5 (13.2%)	10 (26.3%)	21 (55.3%)	4.3 (1.06)
The energy efficiency evaluator	3 (7.9%)	2 (5.3%)	3 (7.9%)	10 (26.3%)	20 (52.6%)	4.1 (1.25)

Potential differences between groups regarding their overall satisfaction were examined using a MANOVA (Table 20). The relationship was not significant for the income path ($F(3,38) = .08, p=.456$). There was a significant difference between those who made only some of the recommended upgrades and those who made all of the recommended changes ($F(3,38) = 3.47, p=.027$), with the group who only made some of the upgrades less satisfied with the reEnergize program staff. There was no significant interaction between these two variables ($F(3,38) = 2.53, p=.074$). Although the results were not statistically significant, they were close to significance (Table 21). Participants on the Market Rate income path who made only some energy upgrades

appear to be more satisfied with reEnergize Lincoln Program staff than participants who made all of the upgrades, and more satisfied than Low/Moderate income path participants.

Table 20: Satisfaction with Professionals by Upgrade Completion Status

Satisfaction with:	Mean (SD)		Overall
	Completed some, but not all recommended upgrades	Completed all recommended upgrades	
*reEnergize program staff	3.9 (1.26)	4.6 (.57)	4.4 (.92)
The energy upgrades contractor(s)	4.5 (.78)	4.2 (1.18)	4.3 (1.06)
The energy efficiency evaluator	4.6 (.74)	4.1 (1.12)	4.1 (1.25)

**Significant difference between groups.*

Table 21: Satisfaction with Professionals by Upgrade Completion Status

Satisfaction with reEnergize program staff	Mean (SD)		Overall
	Completed some, but not all recommended upgrades	Completed all recommended upgrades	
Low/Moderate Income Path	4.4 (0.74)	4.6 (0.63)	4.5 (0.66)
Market Rate Path	3.2* (1.64)	4.8 (0.44)	4.2 (1.25)
Overall	3.9 (1.26)	4.6 (0.57)	4.4 (0.92)

**Significant difference from other cells.*

BEST METHODS OF PROMOTION

We asked all participants about methods of promotion. The most popular recommendation for promoting the program is working with Lincoln Electric System (LES) and Black Hills Energy followed by working with neighborhood associations, use of social media, and use of yard signs (Table 22). In addition to promotion methods presented in the survey, other methods participants identified of promoting the program included: working with social agencies to promote the program to low-income families, offering a commission to previous program users for signing up new participants, and having stories written in the *Lincoln Journal Star*. Potential differences based on the income and participation variables were examined using a Pearson chi-square test. The results were not significant for either the income paths ($\chi^2(8) = 11.06, p = .198$) or the participation groupings ($\chi^2(16) = 16.78, p = .400$). Potential differences based on interaction between the income and participation groupings were examined using a loglinear regression. The relationship was not significant for the interaction ($\chi^2(40) = 42.30, p = .372$).

Table 22: Recommendations for Promoting the reEnergize Lincoln Program

How best to promote reEnergize Lincoln to new users?		
	Frequency	Percent
Cross-promotion through LES and Black Hills Energy	71	38.8%
Working with neighborhood associations	21	11.4%
Use of social media	19	10.4%
Yard signs	10	5.5%
Online reviews from previous users	7	3.8%
Working with home improvement stores	6	3.3%
Working with senior citizen groups	5	2.7%
Non-English language promotion	1	.5%
Other	43	23.4%
Totals	183	100%

Among all participants, the most popular suggestion for a programmatic change that might encourage more people to use *reEnergize Lincoln* was providing a free energy efficiency evaluation followed by providing for information about the financial benefits of upgrades and covering more of the financial costs of upgrades (Table 23). Other recommendations included: paying to replace old windows, providing more clarification of the program process for rental properties, and improving coordination between the contractors, evaluators, and program staff. Input from participants included the following:

“Articles in the Lincoln Journal Star. Yes, some people still do read a paper newspaper.”

“Work with social agencies that work with low income individuals/renters.”

“Advertise to the core of the city, and older homes.”

“They need to use different avenues of promotion for different income levels.”

“Promote this with real estate agents. They are potential buyers and sellers.”

Table 23: Recommendations for Promoting reEnergize to New Users

How best to promote reEnergize Lincoln to new users?		
	Frequency	Percent
Provide a free energy efficiency evaluation	64	35.2%
Provide more information about the financial benefits of energy upgrades	45	24.7%
Cover more financial costs of upgrades	33	18.1%
Provide more information about the environmental impacts of saving energy	3	1.6%
Other	37	20.3%
Totals	182	100%

Potential differences based on the income and participation variables were examined using a Pearson chi-square test. The results were significant for the income paths ($\chi^2(4) = 12.03, p = .017$), with those who qualified for the Low-Moderate Income Path more likely to recommend covering more of the financial costs of upgrades, and those who used the Market Rate Path more likely to recommend providing a free evaluation (Table 24). There were no significant differences among the participation groupings ($\chi^2(8) = 11.90, p = .156$). Potential differences based on interaction between the income and participation groupings were examined using a loglinear regression. The interaction was not significant ($\chi^2(16) = 21.15, p = .173$).

Table 24: Recommendations for Promoting reEnergize to New Users by Path

How best to promote reEnergize Lincoln to new users?	Frequency (% of Column)		
	Low/Moderate Income	Market Rate	Overall
*Provide a free energy efficiency evaluation	21 (24.7%)	43 (44.3%)	64 (35.2%)
*Cover more financial costs of upgrades	21 (24.7%)	12 (12.4%)	33 (18.1%)
Provide more information about the financial benefits of energy upgrades	19 (22.4%)	26 (26.8%)	45 (24.7%)
Provide more information about the environmental impacts of saving energy	2 (2.4%)	1 (1%)	3 (1.6%)
Other	22 (25.9%)	15 (15.5%)	37 (20.3%)
Totals	85 (100%)	97 (100%)	182 (100%)

*Significant difference between groups.

DISCUSSION

The evaluation of the *reEnergize Lincoln* program yielded a number of interesting findings:

1. The largest number of respondents indicated they heard about the *reEnergize Lincoln* program through Word of Mouth, suggesting improvements could be made in advertising the program to prospective participants. It may be beneficial to target advertising based on the pathway: Significantly more Market Rate participants, compared to Low/Moderate Income participants, learned about *reEnergize Lincoln* from newspaper articles. Participants thought effective strategies to promote *reEnergize Lincoln* should include the following:
 - Cross-promotion through LES and Black Hills Energy
 - Working more with neighborhood associations
 - Use of social media
 - Yard signs
2. Participants were motivated to join the program to save money on their energy bills and to conserve energy. This was the case for both pathways. Marketing strategies may be most productive by focusing on these messages. Suggestions for promoting the program to new users included providing a free energy evaluation, providing more information about the financial benefits of energy upgrades, and covering more costs of the upgrades. Market Rate participants were more likely to suggest free energy evaluations as an incentive while Low/Moderate Income participants were more likely to suggest covering more financial costs of upgrades. Other suggestions for promotion included working with social agencies to promote the program to low-income families, offering a commission to previous program users for signing up new participants, and having stories in the *Lincoln Journal Star*.
3. Overall, there was a high level of satisfaction with the program. The program component with the most satisfaction was “understanding the benefits of the program.” The components with the lowest satisfaction ratings were: 1) using the online website, and 2) understanding the overall program process. Improvements could be made in these two areas. Individuals who signed up for the program but failed to get an energy evaluation rated the following components significantly lower than did participants who progressed further in the program: 1) understanding the benefits of the program, 2) understanding the requirements to join the program, 3) the time their application was reviewed and processed, and 4) understanding the overall program process. Participants who completed the entire process were most likely to be satisfied with having questions answered by program staff. These results suggest efforts to better explain the process and benefits of the program, improve the time for application review, and ensure staff

are available to answer questions may reduce the number of individuals who sign up for the program but fail to get the energy evaluation. Having a clear picture about the benefits of the program, and what time or financial commitments are needed of the participant throughout the process, might help incentivize people to participate. Participants suggested it would be helpful to provide more information about home improvement contractors, the financial costs of potential upgrades, energy efficiency evaluators, and the overall program process. In short, minimizing perceived risks of program participation (e.g., unforeseen costs, time commitments) may increase confidence in the program.

4. About 29% of the participants surveyed signed up for the *reEnergize Lincoln* Program but failed to have an energy evaluation completed. This was significantly more common for participants in the Market Rate Path, where 39% of participants in this category failed to get an evaluation. Efforts to improve the rate of attaining energy efficiency evaluations may focus on the Market Rate Path. The most common reasons for not getting an energy evaluation were that the evaluation was too costly and the participants were unclear about future benefits of participating in the program. A significant difference between the two pathway groups was that Low/Moderate Income participants were more likely to not get an energy evaluation because they believed there were too many requirements or things to do to participate. A focused effort to improve the rate for energy evaluations in the Low/Moderate Income group may focus on simplifying or better explaining the process.
5. For participants who completed the energy evaluation, there was a high level of satisfaction. The component of least satisfaction was the experience of the participant in identifying and selecting an evaluator. We suggest examining the process of linking evaluators with participants. Participant recommendations for improving the evaluation process include providing more information on the available evaluators (such as their location, availability, and reviews from previous program users), a greater selection of evaluators to choose from, and having the contractor also present at the time of the evaluation.
6. Few participants in the survey had completed an energy evaluation but had made no energy upgrades and there were no significant differences between the two pathways. There were, however, significant differences between participants in the two pathways regarding whether home improvements were fully or partially made. Participants in the Market Rate Path were more likely to make some of the recommended improvements while participants in the Low/Moderate Income Path were more likely to make all of the recommended changes. These results may not be surprising given that the program covers more of the costs of energy upgrades in the Low/Moderate Income Path. The most common reasons for not making energy improvements were the improvements were too costly and there

were too many requirements. Participants who made some but not all energy upgrades were more likely than participants who made no upgrades to identify the cost of upgrades as the reason they chose not to make upgrades.

7. Participants who completed all or some of the energy improvements were satisfied with the process. Participants were most satisfied with the payment/reimbursement process, the quality of the upgrades, and working with contractors. Participants were slightly less satisfied with identifying and selecting a contractor, the time for completing the upgrades, and communication of information from the energy evaluator to the upgrades contractor. Consideration should be given to improving these processes. Participant suggestions for improving the upgrade process include scheduling a meeting between the evaluator, contractor and property owner to coordinate a plan of action and improving the selection and vetting of contractors. Some participants also thought it would be useful to have a rating system for contractors or testimonials from participants about their interaction with contractors.
8. Participants were also satisfied with coordination between program phases. There was less satisfaction with coordination between the energy evaluation phase and the energy upgrades phases. This finding corresponds to results above that there was less satisfaction with communication of information between the energy evaluator and upgrades contractor. Assuring greater coordination and communication between the evaluator and contractor may be a role for program staff.
9. Participants tended to be very satisfied with the professionals involved in the *reEnergize Lincoln program*, particularly the reEnergize program staff. These findings support the program structure of including all three professionals in program design. However, participants who made some, but not all energy upgrades, were less satisfied with *reEnergize Lincoln* program staff. Overall, there was slightly less satisfaction with energy efficiency evaluators than other professionals, although a majority were very satisfied with evaluators.

ATTACHMENT A: LITERATURE REVIEW

Residential energy efficiency programs have long struggled to realize significant follow-through from audited households. Fuller et al. (2010) note that the Residential Conservation Service, a federal initiative established in 1978 which required utility companies to provide free energy audits to consumers, resulted in the installation of new energy efficient technologies in less than 3% of eligible households. Perhaps most revealingly, the authors cite the residential weatherization program run by the Bonneville Power Administration as a notable success. Between 1980 and 1992, this program offered free energy audits and paid up to 85% of the cost of recommended improvements. Only 5% of eligible customers signed up for an audit, and only 50% of audited homes eventually installed new technology. More recently, Palmer et al. (2011) surveyed 500 home energy auditors and found that while 71% report that homeowners “very often” or “always” make at least one change based on the results of their audit, only 21% say that homeowners usually adopt all of their recommendations.

The cause for poor follow-through rates is not well understood. What is clear is that, despite what intuition may suggest, signing up for an energy audit is an imperfect signal that a household is ready to purchase energy efficiency improvements. The Home Performance Resource Center (2010) cites four common barriers that apply to audits and retrofits alike: consumer inertia (due in part to time and information costs), liquidity constraints, a lack of public awareness and the unavailability of service in many areas. A household that receives an energy audit is unlikely to suffer from the latter two barriers, but cost as measured in both time and money may still be an issue.

Stern et al. (1986) survey 27 energy efficiency programs and finds that while the size of a financial incentive is an important factor in a household’s ultimate decision to invest in energy efficient technologies, it plays little role in the household’s initial decision to sign up for a home energy audit. Again, this suggests that the factors influencing these decisions are imperfectly aligned. It also suggests that follow-through rates can be improved by increasing the size of installation subsidies. Indeed, Fuller et al. (2010) point to the remarkable success of the Hood River Conservation Project as evidence of the importance of large financial incentives. This project managed to convince 91% of all eligible participants to sign up for an energy audit and 85% to install new energy-saving technologies, but only after offering both the audit and the subsequent upgrades at nearly zero cost to participants.

Offering such a generous subsidy is not feasible for many providers. An alternative approach may be to focus on the financial benefits of energy efficiency. Many homeowners may be disappointed that the projected savings associated with energy retrofits are often relatively small due to low energy prices. In their survey of home energy auditors, Palmer et al. (2010) found that 54% listed “higher energy prices” as the most important or second-most important policy option for increasing homeowner follow-through. An alternative approach is to carefully screen households so that only those who are positioned to gain the most from a retrofit qualify for the initial home audit. Fuller et al. (2010) point to the example of the Long Island Green

Homes program, which has succeeded in converting over 70% of its home energy audits into material investments in energy efficiency. This success is credited in large part to a thorough pre-screening process, which considers an applicant's energy usage patterns and related indicators to determine whether they are likely to realize a significant benefit from energy improvements. LGH also charges \$250 for its audit in an effort to separate "serious candidates from tire kicked" in the words of Program Director Sammy Chu.

Again, this proposal requires making changes to a program's structure which may be seen as undesirable to its administrators or funders. Fortunately, some programs have realized improvements in their follow-through rates by making less significant changes. Such approaches typically focus on the method of communicating audit results.

One approach is to focus on the written audit report, and here the literature offers limited encouragement. Magat et al. (1986) asked 122 participants to make hypothetical investment decisions based on the results of an audit describing the same single-family household with information provided in four different formats. A control condition was provided by the standard format employed by the local utility companies. From this, three experimental conditions were developed using insights from social psychology. Each of these manipulations concerned the format of the table presenting the audit's final recommendations. The first of these changed the order of recommended improvements so that they were listed in terms of increasing payback years (that is, how long it would take for the savings generated by the technology to equal the cost of the initial investment). The second reversed the ordering of two columns so that the recommendations were described according to their projected energy savings first, rather than by their estimated installation cost. The final manipulation changed the reference point for benefits, which are typically described in terms of increasing energy savings from a base level of 0, so that they instead presented as reductions in annual energy costs from an initial point equal to the household's most recent annual energy expenditures. The authors discovered that the first two manipulations significantly increased the efficiency of participants' investment decisions, but did not increase their proposed level of total energy savings. That is, when offered the new formats, participants elected to reduce their investment expenditures while maintaining their total energy savings at more or less the same level as before.

More encouraging results have been realized by focusing on a verbal presentation of results by the auditors themselves. Aronson (1990) describes an experiment conducted for Pacific Gas & Electric (PG&E) in the 1980s. At the time, PG&E offered free energy audits and zero interest loans for energy improvements to most of its customers. However, it found that only 20% of audited households actually decided to purchase energy upgrades. A group of social psychologists was brought in to study the issue and was given access to 18 home auditors to use for an experiment on effective communication. Half of this group received training that emphasized the importance of personalization, vivid examples, and framing statements in terms of loss rather than gain. Aronson offers the following as an example of the kinds of language auditors were taught to use:

Look at all the cracks around that door! It may not seem like much to you, but if you were to add up all the cracks around and under each of these doors, you'd have the equivalent of a hole the circumference of a basketball. Suppose someone poked a hole the size of a basketball in your living room wall. Think for a moment about all the heat you would be losing from a hole that size-that's money out the window. You'd want to patch that hole in your wall, wouldn't you? That's exactly what weather stripping does.

This training also encouraged auditors to involve homeowners more heavily in the auditing process, including having them assist in taking measurements and reading meters, standing on ladders to peer into un-insulated attics, and bending down to inspect and measure cracks beneath the door. This advice followed from psychological theory, which suggests that the more time and energy someone has already committed to an activity, the more likely they are to see it through to the end.

Ultimately, Aronson's experimental group managed to persuade 60% of its customers to follow-through on their recommendations, triple the program's initial follow-through rate. More surprisingly, the nine auditors in the control condition also saw their follow-through rates improve to 40%. Aronson credits this to a spillover effect, claiming that the auditors in the experimental condition were so enthusiastic about their new methods that they ignored the researchers' request not to share any of their training with their peers.

A final approach to improving follow-through rates may be to focus on enhancing the trust between auditors and their clients. In their survey of home energy auditors, Palmer et al. (2010) found that 36% cited problems related to the auditing industry itself as a barrier to convincing homeowners to follow-through on recommendations. Such problems include a lack of government certification and oversight and the prevalence of low-quality audits from many providers. Indeed, Shapiro (2011) surveys more than 300 energy audits and identifies 10 important mistakes made on at least 30% of the sample. These mistakes include poor building description (60% of the sample), no use of life-cycle costing (73%) and missing references to several obvious improvements (80%). It is possible that improving and ensuring the quality of energy audits may increase homeowners' willingness to act on their recommendations. Alternatively, it's possible that some auditors suffer from low follow-through rates precisely *because* their audits are of high quality, as many of the most common mistakes (such as overestimated savings or underestimated/missing installation costs) seem intended to encourage an over-investment in energy efficient technology.

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ATTACHMENT B: SURVEY

Q1 Thank you for agreeing to take this survey about the reEnergize program! This online survey is completely confidential. It will take you approximately 5-10 minutes to complete. Please use the "Previous" button in the lower right hand corner to return to earlier questions in the survey and not your browser's back button. If you have any questions about this survey, please e-mail us at ppc@nebraska.edu

How did you initially learn about the reEnergize program?

- Newspaper article (1)
- Television news (2)
- Radio advertisement (3)
- Television advertisement (4)
- E-mail announcement (6)
- Letter / Postcard / Flyer (8)
- Word of mouth (family, friend, neighbor, colleague) (9)
- Community orientation meeting (10)
- Home improvement show (11)
- Home repair contractor (12)
- Place of business (13)
- Internet/Web (7)
- Other (14) _____
- Social media (Facebook, Twitter) (5)

How important were the following reasons for you to sign-up for the reEnergize program?

	Not at all Important (1)	Very Unimportant (2)	Neither Important nor Unimportant (3)	Very Important (4)	Extremely Important (5)
To save money on utility bills (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To improve the value of my property (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To help the environment (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To help conserve energy (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Evaluation of reEnergize Lincoln

Thinking about when you first applied for the reEnergize program, how satisfied or dissatisfied were you with the following?

	Very Dissatisfied (1)	Dissatisfied (2)	Neutral (3)	Satisfied (4)	Very Satisfied (5)
Using the online website in general (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding requirements to join the program (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding the benefits of the program (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding the overall program process (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The time your application was reviewed and processed (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having questions answered from program staff (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What recommendations do you have to improve the application process in the future?

Thinking about when you first applied for the reEnergize program, how important would the following information have been to you?

	Not at all Important (1)	Very Unimportant (2)	Neither Important nor Unimportant (3)	Very Important (4)	Extremely Important (5)
More information about how to qualify for the program (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More information about the benefits of the program (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More information about the overall program process (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More information about the energy efficiency evaluators (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More information about the home improvement contractors (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More information about the financial costs of potential upgrades (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is there other information that would have been important for you to have known when you applied for the reEnergize program?

Did you have an energy efficiency evaluation of your property conducted under the reEnergize program?

- Yes (1)
- No (0)

If Yes Is Selected, Then Skip To Thinking about the energy efficiency ...

What is the main reason why you did not have an energy efficiency evaluation conducted under the program?

- I was unclear what the future benefits of participating in the program were (1)
- It was too costly for me (2)
- There were too many requirements or things for me to do to participate (3)
- I never heard back from the program on how to continue (4)
- I lacked the time or interest to continue the program (5)
- My circumstances changed (6)
- Other (7) _____

Thinking about the energy efficiency evaluation, how satisfied or dissatisfied were you with the following aspects of that process?

	Very Dissatisfied (1)	Dissatisfied (2)	Neutral (3)	Satisfied (4)	Very Satisfied (5)
Identifying and selecting an evaluator (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The time it took to schedule and complete the energy evaluation (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The thoroughness of the energy evaluation of your property (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The energy evaluator's explanation of the results of your evaluation (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What recommendations do you have to improve the energy efficiency evaluation process in the future?

Did you have energy efficiency upgrades completed of your property as a result of the evaluation?

- Yes, I made all of the recommended changes (2)
- Yes, I made some but not all of the recommended changes (1)
- No, I made none of the recommended changes (0)

What is the main reason why you did not have any energy upgrades conducted after the evaluation?

- I was unclear what the future benefits of the energy upgrades were (1)
- They were too costly for me (2)
- There were too many requirements or things for me to do to complete the upgrades (3)
- There was a program time deadline I could not meet (4)
- I never heard back from the program on how to continue (5)
- I lacked the time or interest to continue the program (6)
- My circumstances changed (7)
- Other (8) _____

What is the main reason why you did not have some of the energy upgrades conducted after the evaluation?

- I was unclear what the future benefits of the energy upgrades were (1)
- They were too costly for me (2)
- There were too many requirements or things for me to do to complete the upgrades (3)
- There was a program time deadline I could not meet (4)
- I never heard back from the program on how to continue (5)
- I lacked the time or interest to continue the program (6)
- My circumstances changed (7)
- Other (8) _____

Evaluation of reEnergize Lincoln

Thinking about the energy efficiency upgrades that were made, how satisfied or dissatisfied were you with the following aspects of that process?

	Very Dissatisfied (1)	Dissatisfied (2)	Neutral (3)	Satisfied (4)	Very Satisfied (5)
Identifying and selecting an upgrades contractor(s) (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The communication of information from the energy efficiency evaluation to the upgrades contractor (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The time it took to schedule and complete the upgrades process (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working with the contractor(s) in general (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The quality of the upgrades made (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The payment and reimbursement process for upgrades (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Evaluation of reEnergize Lincoln

What recommendations do you have to improve the energy efficiency upgrades process in the future?

As a result of completing upgrades to your property with the reEnergize program, have you saved money on your utility bills?

- No (0)
- Yes, I have saved maybe around 0-10% on my monthly bills (2)
- Yes, I have saved maybe around 11-25% on my monthly bills (3)
- Yes, I have saved maybe around 25% or more on my monthly bills (4)
- I don't know if I have saved money on my monthly utility bills (1)

The reEnergize program was a multi-phase process. How satisfied were you with how well coordinated together the following parts of the program were?

	Very Dissatisfied (1)	Dissatisfied (2)	Neutral (3)	Satisfied (4)	Very Satisfied (5)
The program application phase and energy efficiency evaluation phase (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The energy efficiency evaluation phase and the energy upgrades phase (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The energy upgrades phase and final payment/reimbursement (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q19 How satisfied were you overall with the following?

	Very Dissatisfied (1)	Dissatisfied (2)	Neutral (3)	Satisfied (4)	Very Satisfied (5)
reEnergize program staff (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The energy efficiency evaluator (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The energy upgrades contractor(s) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thinking about how you heard about the reEnergize program and others who might benefit from it, what would be the most effective strategy to promote a similar program in the future?

- Use of social media (Facebook, Twitter, etc.) (1)
- Posting online reviews from previous program users (2)
- Posting yard signs in front of participating homes (3)
- Cross-promotion through LES and Black Hills Energy (4)
- Non-English language promotion (5)
- Working with home improvement stores (6)
- Working with neighborhood associations (7)
- Working with senior citizen groups (8)
- Other (9) _____

Thinking about your overall experiences with the reEnergize program and others who might benefit from it, what would be the most effective change to encourage people to use a similar program in the future?

- Provide a free energy efficiency evaluation (1)
- Cover more financial costs of upgrades (2)
- Provide more information about the financial benefits of energy upgrades (3)
- Provide more information about the environmental impacts of saving energy (4)
- Other (5) _____