
Subject Focus on Energy Evaluation

**Home Performance with ENERGY STAR Participant Survey
Analysis and Recommended Supply-side Research Approach**

To Oscar Bloch,
Public Service Commission of Wisconsin
cc Sara Van de Griff, Bobbi Fey, and Carter Dedolph,
WECC

From Laura Schauer,
PA Consulting Group

Acknowledgement: Ralph Prael, Prael & Associates,
contributed critical review and analysis

Date February 4, 2010

This memorandum summarizes the results from the Home Performance with ENERGY STAR (HPWES) participant survey and recommends next steps for the supply-side research for HPWES. The participant survey was completed prior to the supply-side research to reassess net-to-gross estimates (based on a 2007 study) using the self-report method. Additionally, the customer research provided further insight into program processes and levels of influence that helped to shape the supply-side research.

Introduction

Supply-side research has been an important topic, particularly for programs such as Home Performance with ENERGY STAR (HPWES) that use the consultant model to promote energy efficiency to households. The most recent HPWES research was a net-to-gross analysis conducted by Glacier Consulting in 2007.¹ That research reviewed attic and sidewall insulation measures installed through the program during FY06 using the end-use self-report methodology. The 2007 analysis suggested a net-to-gross ratio of 62 percent for attic insulation and 50 percent for sidewall insulation, which is currently being used by the program.

However, program implementers believe that prior to the program few contractors were offering sidewall insulation services outside of weatherization agencies, let alone installing these measures and that Focus has had considerable influence in these sidewall insulation practices. Based on this response, the 2007 report recommended that evaluators conduct supply-side research to augment the end-use net-to-gross analysis in order to recognize any program



¹ Tom Talerico and Rick Winch, Glacier Consulting Group. *Home Performance with ENERGY STAR Program Net Analysis*, critical review by Ralph Prael, Prael and Associates, October 8, 2007.

influence on the supply-side market that may not be recognized by the customers, particularly related to sidewall insulation.

This recommendation was the premise for this 2009 study. Based on discussions with the PSCW, WECC, and evaluation staff, we developed a HPWES study for 2009 with three primary objectives:

1. Identify any program-induced demand-side and/or supply-side effects on the participating customers and vendors through customer and vendor surveys.
2. Propose a method for determining whether and how to integrate participant and program partner self-reports as a basis for attribution.
3. Establish a two-staged process for collecting data and performing the integrated analysis to produce defensible results.

While the objectives of this study are focused on advancing supply-side research methods, it will result in program attribution net-to-gross estimates. These revised estimates could, at the discretion of the PSCW, be applied to the HPWES program's insulation savings estimates.

The analysis presented in this memorandum is based on interviews with 149 customers that participated in HPWES in CY09 (through June 30, 2009) and three consultants and qualified contractors that provided initial audit services through the program. Six high-level findings came through in this research:

1. Projects completed through the qualified contractor path result in lower net savings estimates than projects completed through the consultant tract.
2. The net-to-gross ratio for attic insulation based on customer survey self-reports ranges from 54 to 62 percent. There is preliminary evidence that the current net-to-gross ratio for sidewall insulation, established at 50 percent, is too low for the 2009 participants; 59 percent of households that received sidewall insulation said the program was influential in their decision. Limited interviews with the consultant and qualified contractors along with follow-up interviews with program participants qualitatively confirm this finding.
3. Per program managers, the program is designed to influence customers through the technical assessment process. The participant analysis illustrates that to some extent the program is operating as designed, particularly among those customers that receive a pre-assessment via participating consultants.
4. Follow-up interviews with program participants and exploratory interviews with three consultants/qualified contractors suggests there should be a more distinct difference in attribution related to attic and sidewall insulation than we see through this participant study. If there should be more distinction between the two, it is not clear from this participant study whether the sidewall insulation attribution estimate should be higher or the attic insulation attribution should be lower. The supply-side research will investigate this issue further.
5. Participants recognize the program influences their decision-making processes; however, based on customer survey responses customers are being influenced by the consultant/qualified contractor recommendations and provided education more so

than the rebates. This finding highlights the importance of continuing this study with supply-side research as there may be supply-side effects not recognized by participants that are not captured in the participant self-report batteries.

6. Consultants and contractors that represent the highest portion of savings have been involved in the program for a considerable amount of time, some from program inception. In thinking through the supply-side research, we need to recognize that it may be difficult for consultants and contractors to identify specifically how the program has influenced their behaviors over time, particularly if any changes have been gradual.

As a result of these findings, the evaluation team makes the following recommendations.

- Consider differentiating and reporting net-to-gross estimates by audit path. The participating customer survey results clearly indicate customers served by the consultants attribute their activities to the program to a greater degree than those that received services through the qualified contractor path.
- Complete the next step in the research plan, which is the supply-side research. Speak with consultants and qualified contractors in an effort to integrate the customer self-report and supply-side perspectives.
- To minimize the response burden on the most active consultants and qualified contractors, and yet gather household-specific data where possible, include in the study two types of survey and analysis batteries: one for consultants and qualified contractors that provided pre-assessments with five or greater households through the program and one for consultants and qualified contractors that provided pre-assessments with fewer than five households through the program. Market actors that provided audit services to fewer than five households will be asked to think specifically about households surveyed whereas those with five or more projects will be asked to respond to questions taking into account all projects completed through the program.

The remainder of this memorandum presents the participant sample and study design, a summary of the participant results, a discussion of the three consultant/qualified contractor interviews, and the method to integrate customer and supply-side research and recommendations for PSCW and program consideration. The participant survey instruments and supply-side survey draft is included at the end of this memorandum (Appendices A, B, and C).

Sample and Study Design

A review of the program database shows that there are a number of measures installed through the program. For calendar year 2009 (CY09) the program primarily installed shell measures such as insulation, air sealing, and duct sealing into existing homes. Attic and sidewall insulation comprise the bulk of the savings reported in the CY09 (58 percent of the therms savings and 73 percent of the kWh savings).

The sample frame for the participant survey consisted of CY09 participating households. CY09 participants were selected to minimize recall bias. The sample was segmented by insulation type (sidewall and attic).

The sample was also segmented by recommendation path. Currently there are two paths a customer can go through for an audit process: (1) the consultant path and (2) the qualified contractor path. Both consultants and qualified contractors provide the initial audit and report the findings to customers; however, qualified contractors will complete the work following the audit whereas consultants provide written reports and the customer then finds an installation contractor to perform the recommended work. Additionally, customers are more likely to be referred to a consultant through the program or word of mouth whereas they are more likely to actively seek a qualified contractor to complete work prior to even knowing about the program.²

Based on discussions with the program manager, there is reason to believe there may be a difference in customers' awareness and decision-making processes by partner type. Evaluators hypothesize that customers that work with qualified contractors may be further along in their decision-making process than those working with consultants, thereby potentially increasing the free-ridership rate amongst that group. Therefore, we incorporated the partner path stratification into the sampling strategy.

These segments were randomly sampled with the intent of completing 70 surveys for each type of insulation split by partner path. The survey, which was fielded in October 2009, resulted in 149 completes which represented 142 attic insulation recipients and 98 wall insulation recipients.

Table 1 details the population and survey characteristics. Consultants account for a majority of the savings and projects in the population (76 percent and 77 percent, respectively). Although the surveyed characteristics are skewed toward the qualified contractors because of the sample stratification, the survey data is weighted to account for disproportionate sampling and savings.

Table 1. Population and Sample Statistics

Type	Population Households	Population kWh	Population Therms	Surveyed Households	Surveyed kWh	Surveyed Therms
Path 1: Consultant						
Attic insulation	585	95,520	57,500	76	12,640	7,600
Sidewall insulation	289	93,382	63,563	53	18,086	12,482
Path 1 subtotal	613	188,902	121,063	79	30,726	20,082
Path 2: Qualified Contractor						
Attic insulation	167	27,040	16,400	66	10,720	6,700
Sidewall insulation	95	31,488	20,832	45	15,092	10,416
Path 2 subtotal	184	58,528	37,232	71	25,812	17,116
Total*	797	247,430	158,295	149	56,538	37,198

Forty-four consultants provided audit services in CY09 through June 30, 2009, to program participants. A third of these consultants audited ten or more homes in CY09. The remaining two-thirds audited fewer than ten homes with forty percent associated with fewer than five

² The source for how customers come into the consultant and qualified contractor paths was discussed through meetings with program managers and verified with consultants, qualified contractors, and participating customers.

homes in the program. The most active consultants included North Star Energy Consulting, GDS Associates, and On-site Performance Testing, who combined account for 35 percent of the projects.

The six qualified contractors accounted for 24 percent of the savings and 23 percent of the projects in the program data. Duerst Insulation Technicians served the greatest number of households through the qualified contractor path (74 percent of customers served by a qualified contractor) followed by Blaze Insulation (12 percent of customers served by a qualified contractor).

Over one-half of insulation projects included in the sample were attic insulation only (52 percent). Forty-three percent of projects were attic and wall insulation. Only six percent of projects were wall insulation only.

Surveys were completed in October and November 2009 using the instrument included in Appendix A. The final cooperation rate was high at 62 percent (Table 2).

**Table 2. Final HPWES Participant Survey Response Rate
(Calling conducted in October and November 2009)**

Sample Disposition	Total
Sample size	264
Temporarily disconnected	1
Fax/data line	1
Number not in service	19
Disconnected number	2
Business number	2
Ineligible - does not recall	0
Ineligible - deceased	0
Adjusted sample size	239
Hard Refusal	12
Soft Refusal ¹	2
Incompletes (partial interviews)	8
Unavailable for duration	0
Incapable/incoherent	0
Language barrier/non-English	0
Active ²	75
Completed surveys	149
Cooperation rate³	62.3%

¹ Attempts were made to convert all soft refusals.

² An average of 6.14 contacts per active case were made to attempt to complete the interview.

³ Number of completed surveys divided by adjusted sample size. Includes seven partial completes.

In addition to these participant surveys, we also conducted follow-up interviews with 15 participating customers to clarify program influence data. The participating customers were divided by those that claimed program influence in the initial participant survey (10) and those who said the program was not influential (5). These interviews were guided by semi-structured interview guides (Appendix B).

We also completed exploratory supply-side interviews with three companies: Duerst Insulation, GDS, and North Star Energy Consulting LLC. These organizations were selected due to their significant involvement in the program, as identified by the large number of projects. We spoke with contractor staff named as providing services through the program and obtained their perceptions of the role the program played in their recommendation practices, level of customer awareness prior to their interaction with the supply-side contractor, any changes to recommendations and/or sales of insulation (particularly sidewall insulation), and the program's influence on any changes they may have experienced.

Customer Survey Results

This section highlights the findings through the customer surveys.

Participants' Experiences with the Program and Point of Engagement

Over a third of participants first heard about the program through their consultant or qualified contractor. Another eleven percent said they heard about the program through a family member or friend. Consultants and contractors interviewed also mentioned these two sources as primary referral points for customers.

Among those using a consultant, nearly all participants (98 percent) recalled the consultant providing a written report regarding the Home Performance evaluation. Significantly fewer participants that received services through a qualified contractor recalled receiving such a report (82 percent recalled receiving a report).

Similarly, a higher percentage of participants recall the consultant mentioning a rebate than qualified contractors do (100 percent compared with 90 percent, respectively). In fact, several respondents served by qualified contractors said they first knew of the rebate when they received their invoice for the project. Overall, the percentage of respondents that recalled receiving rebate information (either before or after the fact) was high (98 percent).

Sixteen percent of respondents said they also will or did receive financial assistance or a rebate from someone other than the Home Performance with ENERGY STAR program. The most notable source is the federal tax credit (nine percent of respondents) followed by a utility program (four percent of respondents).

Based on the low number of respondents that mentioned the tax credit, and the responses to additional questions of those that did, we do not believe the tax credit significantly confounds the results of this study. The survey asked respondents that received additional assistance about the impact the other assistance had on their decision to install the insulation at the time they did. All respondents that received the tax credit said it did not influence their decision, which included those that said they received utility funds. Conversely, the majority of these respondents said the consultants or qualified contractors were influential in their decisions.

Seventy percent of participants said they were specifically looking to install insulation at that same time (71 percent attic and 68 percent wall). Twenty-four and thirty percent of respondents that installed attic and wall insulation, respectively, said they were not looking to install that specific measure when the consultant/contractor spoke with them.

Although specifically looking to install the insulation at that time, the majority (two-thirds) of participants were early in their planning process when they first talked to their consultant or qualified contractor. Yet, about a quarter of participants said they were at the point of getting cost estimates for the insulation and five percent said they became involved with the contractor or consultant after their planning process but just before installation.

A higher percentage of participants served through the consultant path were earlier in their decision-making process than those that worked through a qualified contractor. About three-quarters of participants that received the initial audit from a consultant said they talked to the consultant during the initial planning process. This compares to about one-third of those served by qualified contractors (Table 3).

Table 3. Point in Process when First Talked to Consultant/Contractor

	Attic Insulation		Sidewall Insulation	
	Consultant	Qualified Contractor	Consultant	Qualified Contractor
During the initial planning before talking to contractors	72%	43%	77%	34%
While talking to contractors/getting estimates for the project	17%	35%	15%	51%
After planning but before installation	8%	9%	4%	8%
Other	4%	13%	5%	7%

Source: HPWES participant survey.

This analysis provides the first picture of the point in which the different consultant paths influence customers, which is consistently portrayed throughout this analysis. Participants that engage in the program through the consultant path are more likely to be in an early planning stage, looking for the consultant to provide recommendations, providing a greater potential for influence in their installation decisions. The potential for influence is less likely for customers that are served through qualified contractors; they are further along in their specification process than those going through the consultant path.

Analysis of open-ended responses and limited interviews with consultants and qualified contractors confirm this. The two qualified contractors interviewed were more likely to say participants come to them with an idea of what they want to install, which oftentimes was consistent with program requirements. The consultant interviewed said participants are coming to them because they know they need *something* done, although what needs to be done is unknown. The supply-side survey will investigate the point further.

Few respondents had to change their plans to qualify for the rebate (4 percent overall; 4.6 percent attic and 3.7 percent sidewall). Those that said they made a change said they initially had no intention of blowing in sidewall insulation but included that measure based on the recommendation from the auditor (n=4).

Program Attribution

Net-to-gross algorithms most recently conducted for Focus programs have relied heavily on analysis from the following question (Question T1) to calculate a preliminary attribution estimate:

*“If the rebate for the **[measure]** had not been available through the Home Performance with ENERGY STAR program, would you have added this **[measure]** in your home at the same time?”*

And the initial algorithm outlined in the HPWES study and sample memo³, which outlined the proposed attribution algorithm, listed this variable as the primary driver for the attribution estimate.

The majority of respondents (93 percent) said they would have installed the insulation at the time they did if the rebate had not been available. Slightly fewer respondents that installed wall insulation said they would have installed the insulation at the time they did without the rebate (91 percent wall insulation compared to 95 percent attic insulation). This statistic indicates a significantly low net-to-gross rate.

However, reviewing this question (T1) related to the influence of the rebate alone is misleading when attempting to understand program influence on customers’ decision-making process. The program’s influence goes beyond the rebate. In fact, program staff discussed that the premise and central theory of the program is to educate homeowners (as well as participating contractors) through the audit process.

Therefore, we included a variety of questions to serve as consistency checks for the response to T1. The questions below questions included both closed-ended and open-ended questions and were asked for each type of insulation installed.

- O1** On a 0 to 10 scale, with 0 being not at all likely and 10 being very likely, how likely is that you would have bought the same **[measure]** if you had not received this incentive through the Home Performance with ENERGY STAR program?
- O2** How much influence did the [consultant/qualified contractor] have in your decision to install the **[measure]** to the specifications installed? Please rate the influence on a 0 to 10 scale, where 0 is not at all influential and 10 is extremely influential.
- O4** Can you please describe what impact, if any, the Home Performance with ENERGY STAR program had on your decision to install the **[measure]** at the time you did?
- O5** (ASK IF RECEIVED OTHER ASSISTANCE) Earlier you said you also received financial assistance from [FILL WITH SOURCE OF ASSISTNACE]. On a 0 to 10 scale, with 0 being not at all likely and 10 being very likely, how likely is that you would have

³ Laura Schauer and Bryan Ward, *Home Performance with ENERGY STAR Sampling, Data Collection, and Analysis Plan*. September 28, 2009.

bought the same level of [measure] if you had not received this other financial incentive?

Reviewing these questions showed that the program's influence lies more in the information and services provided through the audit process than the rebate itself. First, we reviewed the response to O4, which qualitatively captured respondents' open-ended comments on the program's influence in their decision to install the measure at the time they did (implicitly asking about the program as a package rather than the individual components of the program). Although respondents said they would have installed the insulation at that time absent the program, a review of the open-ended responses indicate significant program influence in their decision to move forward with the projects, primarily through the information provided through the program's audit process.

Evaluators coded each open-ended response into five categories. (1) program was influential or influenced decision, (2) program was not influential in their decision, (3) the program had a little influence in their decision, (4) respondent would have done it anyway, but the program accelerated their decision, and (5) the program made it easier for them to make the decision (typically the information they received provided validation for respondents). Responses from respondents that did not clearly articulate the program influence on their decision to install the measure at the time they did were not coded (n=40, or 16 percent of measures surveyed were not coded).

Table 4 details the results of the analysis of O4. Overall, 57 percent of respondents attributed the program as being influential in their insulation installations. A third of measures were assigned "no influence." There was some distinction in influence between sidewall and attic insulation, with respondents saying the program had more influence in their decision to install sidewall than attic insulation. However, this difference was not statistically significant.⁴

The analysis, which was further segmented by audit path, shows that customers that go through the consultant path to receive program benefits are significantly more likely to say the program influenced their decision-making processes than those that went through the qualified contractor path (65 percent compared with 31 percent of respondents, respectively). Note that the "overall" analysis is more similar to the consultant than qualified contractor analysis. This is because the data is weighted and there are significantly more consultant than qualified contractor projects detailed in the program data.

⁴ At the 90% confidence interval.

Table 4. Impact of Home Performance with ENERGY STAR on Decision to Install Insulation

Overall (both insulation types)	Consultant (n=107)	Qualified Contractor (n=89)	Overall (n=197)
Influential/influenced decision	64.7%	31.1%	56.8%
No influence	26.4%	53.2%	32.7%
Little influence	4.8%	9.3%	5.8%
Accelerated decision	2.3%	3.9%	2.7%
Made it easier to make decision	1.9%	2.4%	2.0%
Attic insulation	Consultant (n=66)	Qualified Contractor (n=53)	Overall (n=119)
Influential/influenced decision	61.5%	29.6%	54.6%
No influence	27.7%	51.8%	32.9%
Little influence	4.6%	7.4%	5.2%
Accelerated decision	4.6%	5.6%	4.8%
Made it easier to make decision	1.5%	5.6%	2.4%
Sidewall insulation	Consultant (n=41)	Qualified Contractor (n=36)	Overall (n=77)
Influential/influenced decision	67.7%	32.2%	58.8%
No influence	25.1%	54.2%	32.4%
Little influence	4.9%	10.8%	6.4%
Accelerated decision	0%	2.7%	0.7%
Made it easier to make decision	2.3%	0.0%	1.7%

Source: HPWES Participant Survey, O4 reviewed and coded. Only includes cases where responses could be clearly coded. Forty measures (16 percent) were not coded.

Table 5 combines the population of households and savings statistics with the customers' self-report of program influence in their decision to install the insulation to program specifications. As the table shows, while the average gross savings does not vary by audit path, the resulting net savings varies significantly based on the customer self-report analysis. In fact, the average net savings associated with qualified contractor customers are about half of the average net savings for customers that receive services through the consultant path.

Table 5. Average Gross and Net Savings by Audit Path

Type	Population Households	Percentage that Report Program is Influential	Population kWh	Population Therms	Average kWh Savings (Gross)	Average Therms Savings (Gross)	Average kWh Savings (Net)	Average Therms Savings (Net)
Path 1: Consultant								
Attic insulation	585	61.5%	95,520	57,500	163	98	100	60
Sidewall insulation	289	67.7%	93,382	63,563	323	220	219	149
Path 2: Qualified Contractor								
Attic insulation	167	31.1%	27,040	16,400	162	98	50	31
Sidewall insulation	95	29.6%	31,488	20,832	331	219	98	65

Follow-up qualitative interviews with participants, consultants, and qualified contractors also confirmed that many of these respondents would not have had the exact work completed without the information provided through the program. Program participants and consultants and contractors discussed that they may have known to install attic insulation; however, participants and consultants/qualified contractors alike say that without the information provided through the program, participants would not have installed sidewall insulation.

This latter point regarding sidewall insulation was one in which evaluators specifically probed further. The participant survey analysis did show marginally higher program influence on their decision to install sidewall rather than attic insulation, but the qualitative responses suggest a greater level of influence for sidewall insulation than the survey results show. When participants were probed on this point in follow-up interviews, they indicated that the process for them was more holistic in that the auditor treated their home in total rather than as individual measures. This full project view, rather than measure-by-measure view, may be reflected in the little distinction in program influence between attic and sidewall insulation. *This will be an issue of priority for exploration in the supply-side research.*

In addition to the open-ended O4, the survey also asked closed-ended scale questions to further characterize the influence the program had on customers' decision-making process. Analysis of these scale questions support the program theory that the auditor is the mechanism for program influence, although respondents that went through the qualified contractor path were less likely to rate their contractor as influential than those that went through the consultant path. On a 0 to 10 scale where 10 is extremely influential, participants on average rated consultants' influence in their decision to install the equipment to the specifications installed at 7.8. Qualified contractors received a statistically significant lower influence rating by participants (6.7).

In addition to reviewing results by the audit path, it is worthwhile to explore any other factors that may affect customers' reported level of program attribution on their decisions. The survey did not include level of influence questions in all areas that the program could be providing assistance, such as financial incentives and follow-up training and education. However, one area where we have sufficient data to explore is whether the participants' reported attribution varies based on the comprehensiveness of services (such as the inclusion of air sealing in the project).

One hypothesis is that the program's influence may increase based on the level of service offerings customers took advantage of. Most participants received more than one type of measure; only eleven percent received one measure, the majority of which received attic

insulation only. Forty-three percent of participants received air sealing and attic insulation, and an additional 39 percent of participants received all three types of measures included in this study (attic insulation, sidewall insulation, and air sealing).

The analysis provides some indication that customers that received more measures were more influenced by the program. Forty-nine percent of participants that received two measures said the program influenced their decisions, compared with 56 percent of customers that received three measures.

Taking a closer look at the measures themselves, we reviewed whether participants who received air sealing reported a higher level of influence compared with those that did not receive air sealing. The analysis did not provide any indication that those customers that received air sealing were significantly more likely to report program influence than those customers that did not receive air sealing.

Last, we reviewed the incentive levels to identify whether higher incentives drove an increased level of influence. As we have found throughout this study, incentives are not as influential in customers' decision-making processes as the information and services provided. This analysis yielded the same results; participants who reported that the program was influential in their decisions had a similar level of incentive as those that did not report program influence (\$434 and \$443, respectively).

This participant analysis raises five important findings:

1. Projects completed through the consultant path are more likely to be influenced by the program (and subsequently will result in higher net savings estimates) than projects completed through the qualified contractor path. The participant surveys confirm that those coming into the program through the consultant path are significantly more likely to be influenced by the auditor and less likely to have specifications in mind at the time they enter the program.
2. The net-to-gross ratio for attic insulation, when based on the review of the open-ended responses, is 55 percent considering both assessment paths. The current net-to-gross ratio for sidewall insulation is established at 50 percent. However, the sidewall insulation estimate of 50 percent appears too low. All analysis conducted for this 2009 study shows that the program is influencing the installation of sidewall insulation to a higher degree than attic insulation; 59 percent of households that received sidewall insulation said the program was influential in their decision, and this ratio goes up when reviewing the results of households that were served by consultants (68 percent said the program was influential). Follow-up interviews with program participants and consultants and qualified contractors confirmed this to be the case, particularly for those served by consultants; participants are not as aware of the benefits and/or feasibility of sidewall insulation as they are of attic insulation.
3. Qualitative evidence suggests there should be a more distinct difference between the attribution related to attic and sidewall insulation than we see through this participant study. The follow-up interviews with participants indicate that while they may have been aware of the need for attic insulation, they were less aware of the need for (or possibility of) sidewall insulation. It is not clear, however, if they sidewall insulation attribution is too low or if perhaps the attic insulation attribution is too high. Customer responses may be inaccurate at the measure level if customers are only capable of

meaningfully thinking about the project as a whole rather than by individual measures. If this is the case, then it may be more appropriate to assign an attribution for insulation measures as a whole and not distinguish by insulation type.

4. Participants recognize the program impacts on their decision-making processes, however the impacts are in terms of the information and education provided by the consultant or qualified consultant more so than the rebate. This is apparent through the scale rating regarding the influence of the consultant/contractor on their decision to install the equipment, open-ended responses, and follow-up interviews with a sample of program participants. This finding also raises questions that the contractors may be influencing their behaviors in ways they do not understand, further reinforcing the need to conduct the supply-side research.
5. Per program managers, the program is designed to influence customers through the technical assessment process. The program logic includes training and influencing the program's participating consultant and contractor pool, who therefore influences the customers' decision-making processes through education and awareness. The participant analysis illustrates that to some extent the program is operating as designed, particularly among those customers that receive a pre-assessment via participating consultants.

In some respects, it appears that participants are recognizing the influence the program is having in their decisions to install insulation to program specifications. On the other hand, there is evidence through the sidewall insulation analysis that customers may either not fully recognize the program influence in their decisions to install sidewall insulation or cannot fully disentangle the program's influence by insulation type. The supply side research will be assessing the perceptions of these market actors' understanding on their influence on customers related to these two types of measures. The future analysis will explore how to integrate these two perspectives, as discussed further in this document.

Respondents' Perceptions of Air Sealing

While this report focuses on sidewall and attic insulation, we recognize the significance of including air sealing in the program. Air sealing comprises about 19 percent of the program's therms savings from CY09, a significant impact for the program. Additionally, it is possible that air sealing may be a requirement prior to providing attic insulation to optimize the program impacts.

Therefore, in addition to identifying the influence the program had on participants' decision to install insulation, the interview also explored a handful of issues related to air sealing, including their awareness of air sealing prior to their interaction with the program. Note the intent of this series of questions was not to adjust the net-to-gross ratio for air sealing, currently set at 100 percent. Rather, it was to provide some process information requested by program implementation staff.

We spoke with 122 households that received air sealing through the program. Of these respondents, over half (57 percent) did not know about air sealing prior to meeting with their consultant or qualified contractor. The 43 percent who had heard of air sealing prior to the

consultation said they first heard about the measure through family or friends, articles in the newspaper, or from previous experience with air sealing.

Nearly all (87 percent) respondents said that the consultant or contractor discussed the benefits of air sealing with them. And an additional seven percent of respondents said they do not know whether the contractor discussed the benefits, and only five percent outright said the contractor did not discuss the benefits with them.

Discussions with program staff indicated that oftentimes air sealing was a requirement for attic insulation to ensure the insulation is as effective in saving energy as projected. Only 9.3 percent of respondents said that air sealing was a requirement for installing attic insulation; similarly, only 3.1 percent of people claimed that the reason they had air sealing done was because it was a program requirement. However, almost one-third of respondents who received air sealing said they did not know whether air sealing was a requirement for having attic insulation installed. This statistic indicates a lack of awareness around requirements for air sealing in regards to insulation.

Consultant/Qualified Contractor Interviews

PA conducted exploratory interviews with three consultants and qualified contractors most active in the program. One objective of these interviews was to understand whether they believe the program has changed their recommendation practices since becoming involved in the HPWES program. Another objective was to identify questions for the supply-side research and potential for integration with customer results. A third objective was to explore some of the issues identified in the customer survey results. This section focuses on the first two objectives.

Interviewers asked consultants and qualified contractors about their recommendation practices and whether these practices changed since their involvement in Focus. With the exception of providing more advanced tools to help them in their assessment and providing support to recommendations, respondents said the program did not influence any changes in their recommendation practices or, in the case of qualified contractors, recommendations, or sales practices. Please note that this finding is based on limited number of interviews (three) with firms that have been involved in the program since its inception. It may be difficult for them to identify what influence the program may have had on their recommendation practices, or it may be the case that firms that always made these types of recommendations were more likely to sign on to partner with the program.

When probed on sidewall insulation specifically, contractors said that recommendation of sidewall insulation was standard practice and has not been directly influenced by the information provided through Focus. Additionally, they claim that depending on the structure of the home, blowing in sidewall insulation may not be an invasive process.

What several contractors interviewed did comment on was the tools they now have that support their recommendation to those households that need wall insulation. These respondents identified infrared cameras as an integral tool in selling the need for sidewall insulation.

The quantitative customer surveys did not specifically investigate the influence of the infrared images on their decision-making processes although it was mentioned by a handful of

respondents when we asked them to explain the program's influence in their decision-making process. For example:

“The auditor used his thermal imaging camera to show us the cold spots in the house and it clearly demonstrated that there was no insulation in the wall by doing it, made me decide to insulate the walls.”

Follow-up interviews with customers further probed about these infrared images, and those that mentioned seeing the contractor use the tool agreed that it effectively supported the need for sidewall insulation.

Integrating Supply-side Research

The Focus evaluation team recognized there are studies where customer self-report method is employed but the results are limited because evaluators and/or program implementers believe the program has caused systematic supply-side changes that have the potential to influence energy efficiency related transactions. The evaluation team, led by Ralph Prah, developed a white paper to guide evaluators' approach to integrating supply-side research in these situations where end-user self-report may be less reliable.⁵

One approach considered for this research was to alter the self-report interpretive algorithm to integrate the supply-side and end-user (participant) self-report results. According to the white paper, this approach may be appropriate in circumstances where there is concern that end-user self-reports are unreliable due to changes in supply-side conditions which the customer is unaware of or the program constrains the end-user's ability to purchase an inefficient option. Oftentimes end-user results, or certain variables, can be overridden by supply-side results. Past evaluations of Focus programs have primarily used this approach with the net-to-gross evaluations of commercial and industrial programs⁶.

Ideally, supply-side respondents would be asked questions associated with specific participants so their responses are relevant for that case and can directly overwrite end-user responses. In the case of commercial and industrial applications, this is not typically problematic because the projects tend to be fairly large and market actors (e.g., design consultants or technical assistants) have significant involvement in the design and specification process.

While some of the consultants and qualified contractors may be able to identify single residential projects, the more active market actors will be less likely to do, if nothing else

⁵ Ralph Prah with contributions from Mimi Goldberg, David Sumi, Tom Talerico, Bobbi Tannenbaum, Bryan Ward, and Rick Winch. *Integrating Supply-side Results with End-user Net-to-gross Self Reports*. July 2, 2008.

⁶ Examples include the estimation of net-to-gross ratios for commercial and industrial programs using the framework developed for the California Public Utilities Commission (*Methodological Framework for Using the Self-Report Approach to Estimating Net-to-Gross Ratios for Nonresidential Customers*), the standardized approach developed for Massachusetts consortium of utilities (*Standardization Methods for Free-ridership and Spillover Evaluation*), and net-to-gross analysis for Focus on Energy Business Program evaluations.

because of the sheer number of projects they complete annually. Over 50 of the 149 participants interviewed were associated with one qualified contractor (Duerst). North Star Consulting, Blaze Insulation, On-site Performance Testing, and GDS Associates accounted for another 41 projects in the participant sample ranging from eight to 14 projects each. Furthermore, the number of projects represented in the sample is only a portion of the projects that consultants/contractors served through the program over time. These consultants and contractors represent 60 percent of the projects in the participant data. The inability to directly tie participating customer's responses with these supply-side responses will limit our ability to directly integrate the results from the two sources.

With this in mind, we propose to develop a supply-side guide to capture the perceptions of both of these groups of individuals, focusing on specific projects only for less active consultants/qualified contractors. The survey will assess program influence of all consultants and qualified contractors on their sales and recommendation practices. However, it will deviate in its approach in assessing their understanding of customer intentions based on number of projects served.

- Consultants and qualified contractors associated with over five or more projects in the survey will be asked general questions about their sales and recommendation practices and asked to generalize about their role in customers' decision-making processes. This generalized analysis will then be linked with all surveyed participants associated with their firm. It will be important for interviewers to speak with the individual or individuals at the firms that have the most involvement with customers. The program database provides contact information for consultants and qualified contractors and, based on this information, we will interview the most involved individual(s) from the more active organizations.
- Consultants and qualified contractors associated with fewer than five projects from the participant survey will be asked questions specific to the projects for which we have participant interview results. The interview will focus on individual projects, asking questions similar to those asked in the participant survey. As such, the supply-side responses can be directly linked to the surveyed participant responses for integration into the analysis.

Recommendations

Based on the analysis and information provided throughout this memorandum, the evaluation team makes the following recommendations for HPWES.

Consider differentiating and reporting net-to-gross estimates by audit path. The customer results clearly show the qualified contractor path results in lower net impacts than the consultant path based on customer self-report data. Participants that go through the qualified contractor path are generally more aware of what they need and are approaching the contractors specifying their needs than those going through the consultant path. We recognize that WECC's database does not currently assign an audit path to customers served through the program. This would be a change that would need to be integrated into the data tracking system if differentiations were to be made.

Move forward with the supply-side research to identify whether there are supply-side effects, focusing on the consultants and qualified contractors. The premise of this evaluation was to establish whether the program is impacting customers' decision-making processes in a way that they do not recognize through supply-side research. The customer surveys provided an initial step in this research by investigating their perception of the program influence on their decision-making processes and elements of the program that were most influential in their decisions.

Interviews with program participants confirmed that the consultants and qualified contractors are the primary point of influence (if they are indeed influenced by the program). When probed on the role of the installation contractor, if not the same as the qualified contractor that provided the audit, participants confirmed that the contractor was more a secondary partner in the project, receiving instructions from the consultant. Therefore, we believe the consultants and qualified contractors are the most appropriate groups to interview to identify supply-side research.

This is not to say that installation contractors may not be affected by program education and information and contribute to additional market effects outside of the program. There is the potential that contractors that work with participating consultants and qualified contractors may have changed their recommendation and installation practices as a result of what they learned through the program, which are then applied to customers they serve outside of the program. While potentially worth measuring, including this group is not in the scope of this current research.

Nor is it to say that these installation contractors are not another source of information for customers. One interview with a consultant indicated that some of his customers are referred to him through insulation contractors who recommend they go through the program to receive a whole-house assessment. This installation contractor may have also imparted information to the customer in the process, influencing their decisions. However, we believe the greatest influence is through the audit process. Therefore, we will focus our resources on the consultants and qualified contractors.

As discussed earlier, we will develop the supply-side study and analysis to segment consultants and qualified contractors by the number of projects represented in the data. While ideally we want to directly integrate supply-side responses with participant responses, it may not be feasible with the most active allies. And yet, we want to directly integrate responses whenever possible. Where we need to ask questions on average regarding a wide range of households (e.g., in the case of Duerst), we will apply their results to all customers serviced by that consultant or qualified contractor.

Appendix C includes a draft of the supply-side guide. The draft is followed by a table that shows the use of critical questions, including supply-side questions that mirror participant questions for the potential of replacing or integrating (we recommend via averaging) the two results.

A census of all companies completing CY09 projects will be included in the study. Surveys with the most active companies will be completed by senior interviewers or PA evaluation staff. The individual most noted in the program data will be the initial point of contact, although we will

ensure that the individual we speak with is the most knowledgeable about the business, the program, and participating customers.

Appendix A. Home Performance with ENERGY STAR Participant Survey

Focus on Energy Home Performance with ENERGY STAR Participant Survey (Insulation Measures)

NOTE:

1. Variable names are in bold type.
2. Questions were asked of all respondents unless indicated otherwise.
3. A code of -8 means the respondent answered "Don't know"
4. A code of -9 means the respondent Refused to answer the question.

Measure reviewed:

- 1 Attic insulation
- 2 Wall insulation

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

Introduction

DIALSCR Hello, my name is _____ and I am calling on behalf of the Wisconsin Focus on Energy Home Performance with ENERGY STAR program. May I speak with [contact name]?

- 1 Yes
- 2 No
(Attempt to convert; if R not available, ask for the person who is responsible for making decisions about purchasing new insulation for this property)

Identification of Appropriate Decision-Maker(s)

C1 Do you recall participating in the Home Performance with ENERGY STAR program?

- 1 Yes (*SKIP TO C5*)
- 2 No
- 8 Don't know

C2 Through the Home Performance with ENERGY STAR program, you would have received a rebate for installing [attic insulation/wall insulation/attic and wall insulation]. Do you recall participating in this program?

- 1 Yes (*SKIP TO C5*)
- 2 No
- 8 Don't know

(ASK IF DOESN'T RECALL ANY OF THESE MEASURES)

C3 Is it possible that someone else would know about the insulation you received a rebate for through the Home Performance with ENERGY STAR program? (RECORD ONE NUMBER)

- 1 Yes
- 2 No (*THANK AND TERMINATE*)
- 8 Don't know (*THANK AND TERMINATE*)
- 9 Refused (*THANK AND TERMINATE*)

C4 May I please speak with that person? (RECORD ONE NUMBER)

- 1 Yes (*BEGIN THE SURVEY AGAIN WITH THIS NEW RESPONDENT*)
- 2 No (*TERMINATE*)
- 8 Don't know (*TERMINATE*)
- 9 Refused (*TERMINATE*)

C5 Our records show that you received rebates to install [attic insulation/wall insulation/attic and wall insulation] through the program. Is this correct?

- 1 Yes (*SKIP TO C7*)
- 2 No

C6 What is incorrect? (*DO NOT READ; INDICATE ONE*)

- 1 Did not receive any insulation
(*PROBE FOR ALTERNATE CONTACT, ELSE TERMINATE*)
- 2 Did not receive attic insulation, but received wall insulation
- 3 Did not receive wall insulation, but received attic insulation

(IF SAMPLE=ATTIC AND WALL INSULATION AND (C6=2 OR 3) CONTINUE BUT SKIP QUESTIONS FOR INSULATION TYPE THEY DID NOT RECEIVE.)

(IF (C6=1) OR (SAMPLE=ATTIC AND C6=2) OR (SAMPLE=WALL AND C6=3) THANK AND TERMINATE)

C7 Were you personally involved in the decision to install the insulation through this program?

- 1 Yes (*SKIP TO N1*)
- 2 No

C8 We would like to speak with the person who was involved in the decision. Is there someone else we should speak with?

- 1 Yes
- 2 No

C9 Who should we contact?
(PROBE: IF MORE THAN ONE DECISION MAKER, ASK R WHO WAS RESPONSIBLE FOR MAKING THE ULTIMATE DECISION)

For C9_1a-d to C9_4a-d

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

- C9_1a** Name
- C9_1b** Title
- C9_1c** Phone number
- C9_1d** Probe for role
- C9_2a** Name
- C9_2b** Title
- C9_2c** Phone number
- C9_2d** Probe for role
- C9_3a** Name
- C9_3b** Title
- C9_3c** Phone number
- C9_3d** Probe for role
- C9_4a** Name
- C9_4b** Title
- C9_4c** Phone number
- C9_4d** Probe for role

(IF R WAS INVOLVED IN THE DECISION, CONTINUE; ELSE TERMINATE AND DIAL ONE OF DECISION MAKERS IN C9)

N1 First, how did you hear about the services offered through the Home Performance with ENERGY STAR program?
(DO NOT READ; INDICATE ALL THAT APPLY)

For N1_1 through N1_15

0 Not
1 Mentioned

N1_1 From Focus on Energy website
 N1_2 From a meeting/exhibit/trade show (SPECIFY NAME, DATE)
 N1_3 From the person conducting an audit on my home/consultant
 N1_4 From a contractor/insulation vendor (SPECIFY NAME)
 N1_5 From a designer/architect (SPECIFY NAME)
 N1_6 From family, neighbor, or friend
 N1_7 Mailing/Literature (SPECIFY)
 N1_8 Radio advertisement
 N1_9 Newspaper advertisement
 N1_10 Television advertisement
 N1_11 Other advertisement (SPECIFY)
 N1_12 Utility company
 N1_13 Other (SPECIFY)
 N1_14 Don't know
 N1_15 Refused

N1_2 From a meeting/exhibit/trade show (SPECIFY NAME, DATE)
 [SEE RESPONSES IN OPEN ENDS SPREADSHEET]

N1_4 From a contractor/insulation vendor (SPECIFY NAME)
 [SEE RESPONSES IN OPEN ENDS SPREADSHEET]

N1_5 From a designer/architect (SPECIFY NAME)
 [SEE RESPONSES IN OPEN ENDS SPREADSHEET]

N1_7 Mailing/Literature (SPECIFY)
 [SEE RESPONSES IN OPEN ENDS SPREADSHEET]

N1_11 Other advertisement (SPECIFY)
 [SEE RESPONSES IN OPEN ENDS SPREADSHEET]

N1_13 Other (*SPECIFY*)

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

N2 Our records show that a [consultant/qualified contractor] audited your home. Did the [consultant/qualified contractor] provide you with a written report about the Home Performance evaluation conducted on your home?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

N3 Did this [consultant/qualified contractor] mention that you could receive a rebate if you purchased and installed [show measure(s)] through the program?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

N4 What other information did the [consultant/qualified contractor] provide to you related to your insulation levels and needs? (*RECORD VERBATIM*)

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

N5 Did you or will you also receive financial assistance or a rebate from someone other than the Home Performance with ENERGY STAR program for purchasing the insulation?

(NOTE: could be in the form of a tax credit as well)

- 1 Yes
- 2 No (*SKIP TO N9*)
- 8 Don't know (*SKIP TO N9*)
- 9 Refused (*SKIP TO N9*)

- 24 -

N6 Who did you receive it from? (*READ LIST; INDICATE ALL THAT APPLY*)

For N6_1 through N6_8

0 Not mentioned
1 Mentioned

N6_1 Installation contractor
N6_2 Manufacturer
N6_3 Local government
N6_4 Federal tax credit
N6_5 Utility company
N6_6 Someone else (*SPECIFY*)
N6_7 Don't know
N6_8 Refused

N6_6 Someone else (*SPECIFY*)

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

N7 How did you first find out about these other sources of assistance?
(*DO NOT READ; INDICATE ALL THAT APPLY*)

For N7_1 through N7_8

0 Not mentioned
1 Mentioned

N7_1 Consultant/Qualified contractor that did audit
N7_2 Installing contractor
N7_3 Television advertisements
N7_4 Radio advertisements
N7_5 Newspaper
N7_6 Other (*SPECIFY*)
N7_7 Don't know
N7_8 Refused

N7_6 Other (*SPECIFY*)

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

N8 About how much was that other financial assistance?
(*RECORD TO THE NEAREST DOLLAR*)

- _____ Amount in dollars
 -8 Don't know
 -9 Refused

(Ask N2 through O5 for each measure rebated.)

N9_1-2 I would like to ask you some specific questions about the [measure]. You may have received a rebate for other equipment or services as well but we are focusing on insulation.

Our records indicate that you received about [incentive amount] from the Home Performance with ENERGY STAR program to offset the cost of the [measure]. Does this amount sound about right?

[INTERVIEWER NOTE: RESPONDENTS MAY HAVE ALSO RECEIVED A COMPLETION REWARD OR COMFORT BONUS, WHICH THEY MAY MENTION]

- 1 Yes (*SKIP TO N8*)
 2 No
 -8 Don't know (*SKIP TO N8*)
 -9 Refused (*SKIP TO N8*)

N10_1-2 What would you estimate to be the actual amount of the rebate you received?

- _____ Amount in dollars
 -8 Don't know
 -9 Refused

N11_1-2 At exactly what point in the planning, purchasing or installation process were you when you first talked to the [consultant/qualified contractor]? (*READ LIST; INDICATE ONLY ONE*)

- 1 During the initial planning before talking to contractors
 2 While talking to contractors/getting estimates for the project
 3 After planning but before installation
 4 Other (*SPECIFY*)
 -8 Don't know
 -9 Refused

N11_4_1-2 Other (*SPECIFY*)

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

N12_1-2 Were you specifically looking to install the [measure] at that time?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

N13_1-2 Had you researched the cost of [measure] before the audit?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

(IF N11 = DURING PLANNING OR AFTER PLANNING)

N14_1-2 Did you have to change your plans in order to qualify for the rebate through the Home Performance with ENERGY STAR Program?

- 1 Yes
- 2 No *(SKIP TO T1)*
- 8 Don't know *(SKIP TO T1)*
- 9 Refused *(SKIP TO T1)*
- 3 Skip Error

(IF YES)

N15_1-2 Could you explain what changes you made? (RECORD VERBATIM)

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

Direct Attribution—Timing

T1_1-2 If the rebate for the [measure] had not been available through the Home Performance with ENERGY STAR program, would you have added this [measure] in your home at the same time?

- 1 Yes *(SKIP TO EQ1)*
- 2 No
- 8 Don't know
- 9 Refused

T2_1-2 Would you have installed it at a later date?
(*PROVIDE INSTALLATION DATE IF NECESSARY*)

- 1 Yes
- 2 No (*SKIP TO EQ1*)
- 8 Don't know
- 9 Refused

T3_1-2 When do you think you would have installed the insulation??

- _____ Months
- 8 Don't know
- 9 Refused

T3_1_1-2 _____ Years (*SKIP TO EQ1*)

- 8 Don't know
- 9 Refused

(*IF DON'T KNOW*)

T4_1-2 Do you think you would have installed it within...? (*READ LIST*)

- 1 1 year
- 2 1-2 years
- 3 3-4 years
- 4 Never
- 8 Don't know
- 9 Refused

Efficiency Awareness Questions

(NOTE TO WECC – THESE EFFICIENCY QUESTIONS WILL BE USED TO ASSESS EDUCATION, WHICH IS A COMPONENT OF THE PROGRAM LOGIC. IT WILL NOT BE USED IN THE ALGORITHM.)

EQ1_1-2 Prior to participating in the Home Performance with ENERGY STAR program, did you know that [measure type] came in different ranges of efficiency levels, or R values?

- 1 Yes
- 2 No (*SKIP TO EQ3*)
- 8 Don't know (*SKIP TO EQ3*)
- 9 Refused (*SKIP TO EQ3*)

EQ2_1-2 How did you first learn that insulation comes in different ranges of efficiency levels? (*DO NOT READ; INDICATE ALL THAT APPLY*)

For EQ2_1-2_1 through EQ2_1-2_12

- 0 Not mentioned
- 1 Mentioned

- EQ2_1-2_1** Family/friends/neighbor
- EQ2_1-2_2** Focus on Energy → Who at Focus on Energy?
- EQ2_1-2_3** Home Performance with ENERGY STAR Consultants
- EQ2_1-2_4** Home Performance with ENERGY STAR qualified contractor
- EQ2_1-2_5** A non-program contractor
- EQ2_1-2_6** News articles
- EQ2_1-2_7** Radio advertisement
- EQ2_1-2_8** Television advertisement
- EQ2_1-2_9** Focus on Energy website
- EQ2_1-2_10** Other (*SPECIFY*)
- EQ2_1-2_11** Don't know
- EQ2_1-2_12** Refused

EQ2_1-2_2 Who at Focus on Energy?

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

EQ2_1-2_10 Other (*SPECIFY*)

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

(IF EQ2 IS MISSING OR EQ2 <> CONTRACTOR, CONSULTANT, OR FOCUS ON ENERGY)

EQ3_1-2 Did a contractor, Home Performance consultant, or a Focus on Energy representative talk with you about the range of efficiency levels available for [measure type]?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

Overall Impacts Questions

O1_1-2 On a 0 to 10 scale, with 0 being not at all likely and 10 being very likely, how likely is that you would have bought the same [measure] if you had not received this incentive through the Home Performance with ENERGY STAR program?

- _____ Response 0 – 10
- 8 Don't know
- 9 Refused

O2_1-2 How much influence did the [consultant/qualified contractor] have in your decision to install the [measure] to the specifications installed? Please rate the influence on a 0 to 10 scale, where 0 is not at all influential and 10 is extremely influential.

- _____ Response 0 – 10
- 8 Don't know
- 9 Refused

O3_1-2 Did the [consultant/qualified contractor]...
(READ CATEGORIES AND RECORD RESPONSE)

For O3a_1-2 through O3e_1-2

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

O3a_1-2 Tell you about the different ranges of insulation levels you could install?

O3b_1-2 Refer you to other Focus on Energy programs?

O3c_1-2 Identify additional equipment you could install to save energy?

O3d_1-2 Discuss behavioral changes you could make to save energy?

O3e_1-2 *(PROBE: WHAT CHANGES?*
Did the [consultant/qualified contractor] discuss anything else with you?
(PROBE: WHAT ELSE?)

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

O3d_1-2 PROBE: WHAT CHANGES?

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

O4_1-2 Can you please describe what impact, if any, the Home Performance with ENERGY STAR program had on your decision to install the [measure] at the time you did?

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

(ASK IF RECEIVED OTHER ASSISTANCE—N5= YES)

O5_1-2 Earlier you said you also received financial assistance from [FILL WITH N6 RESPONSE]. On a 0 to 10 scale, with 0 being not at all likely and 10 being very likely, how likely is that you would have bought the same level of [measure] if you had not received this other financial incentive?

- _____ Response 0 – 10
- 8 Don't know
- 9 Refused

Air sealing

(IF DATABASE SAID DID NOT RECEIVE AIR SEALING SKIP TO O1)

AS1 Our records also indicate that you received air sealing. Did you know about air sealing prior to your meeting with the [consultant/qualified contractor]?

- 1 Yes
- 2 No *(SKIP TO EQ6)*
- 3 Did not receive air sealing/am not aware of air sealing
(SKIP TO O1)
- 8 Don't know *(SKIP TO O1)*
- 9 Refused *(SKIP TO O1)*

AS2 How did you first hear about air sealing?
(DO NOT READ; INDICATE ALL THAT APPLY)

For AS2_1 through AS2_12

- 0 Not mentioned
- 1 Mentioned

- AS2_1** Family/friends/neighbor
- AS2_2** Focus on Energy → Who at Focus on Energy?
- AS2_3** Home Performance with ENERGY STAR Consultants
- AS2_4** Home Performance with ENERGY STAR qualified contractor
- AS2_5** A non-program contractor
- AS2_6** News articles
- AS2_7** Radio advertisement
- AS2_8** Television advertisement
- AS2_9** Focus on Energy website
- AS2_10** Other *(SPECIFY)*
- AS2_11** Don't know
- AS2_12** Refused

AS2_10 Other *(SPECIFY)*

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

AS3 Why did you choose to have air sealing done in your home?
(DO NOT READ; INDICATE ALL THAT APPLY)

For AS3_1 through AS3_9

0 Not mentioned
1 Mentioned

- AS3_1** Wanted improved comfort
- AS3_2** Wanted improved indoor air quality
- AS3_3** Wanted to reduce energy costs
- AS3_4** Wanted to reduce energy consumption
- AS3_5** Needed it to have insulation installed
- AS3_6** Received an additional incentive if we completed air sealing
- AS3_7** Other (SPECIFY)
- AS3_8** Don't know
- AS3_9** Refused

(IF RECEIVED ATTIC INSULATION)

AS4 Did the [consultant/qualified contractor] discuss with you the benefits of having air sealing completed when installing attic insulation?

1 Yes
2 No
-8 Don't know
-9 Refused

AS5 Was air sealing a requirement for receiving attic insulation?

1 Yes
2 No
-8 Don't know
-9 Refused

Spillover

S1 Since participating in the program, are you considering or have you installed additional energy-efficient equipment without assistance through a Focus on Energy program?

- 1 Yes, considering
- 2 Yes, already have implemented
- 3 No, not considering (*SKIP TO S5*)
- 8 Don't know (*SKIP TO S5*)
- 9 Refused (*SKIP TO S5*)

(*IF S1=CONSIDERING OR DONE*)

S2 What [are you considering doing/have you done?]
(*PROBE ON ALL SPECIFICS BELOW; RECORD VERBATIM*)

For S2_1 through S2_8

- 0 Not mentioned
- 1 Mentioned

S2_1 Water heater
S2_2 HVAC
S2_3 Lighting
S2_4 Water saving devices (showerheads, faucet aerators)
S2_5 Insulation
S2_6 Other (*SPECIFY*)
S2_7 Don't know
S2_8 Refused
S2A Location

For S2a1 through S2a6

- _____ Location
- 8 Don't know
- 9 Refused

S2a1 Water heater
S2a2 HVAC
S2a3 Lighting
S2a4 Water saving devices (showerheads, faucet aerators)
S2a5 Insulation
S2a6 Other (*SPECIFY*)

- S2B Quantity
- For S2b1 through S2b6
- _____ Number considering/purchased
- 8 Don't know
- 9 Refused
- S2b1** Water heater
- S2b2** HVAC
- S2b3** Lighting
- S2b4** Water saving devices (showerheads, faucet aerators)
- S2b5** Insulation
- S2b6** Other (*SPECIFY*)
- S3 How do you know that this is energy efficient?
(DO NOT READ; INDICATE ALL THAT APPLY)
- For S3_1 through S3_6
- 0 Not mentioned
- 1 Mentioned
- S3_1** Previous experience
- S3_2** Same insulation as received through program
- S3_3** ENERGY STAR label
- S3_4** Home Performance with ENERGY STAR consultant/qualified contractor told me
it is
- S3_5** Other (*SPECIFY*)
- S3_6** Don't know
- S3_5** Other (*SPECIFY*)
- [SEE RESPONSES IN OPEN ENDS SPREADSHEET]*
- S4a** Did your previous participation in the Home Performance with ENERGY STAR
Program influence your decision to install this/these energy efficiency
improvements on your own?
- 1 Yes
- 2 No (*SKIP TO S5*)
- 8 Don't know (*SKIP TO S5*)

- S4b** What role did your previous participation in the program have on your decision to install this/these energy efficiency improvements?
(RECORD VERBATIM; PROBE TO DETERMINE IF WAS SOLE CAUSE OR ONE OF SEVERAL REASONS)

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

- S5** On a 0 to 10 scale, where 0 is not at all influential and 10 is very influential, how influential was the information provided to you by the [consultant /qualified contractor] in your decision to install the insulation?

_____ Response 0 – 10
-8 Don't know
-9 Refused

Satisfaction

- S6** What benefits, if any, have you realized in your home as a result of installing the [attic insulation/wall insulation/ attic and wall insulation] through the Home Performance with ENERGY STAR program? Did you experience... (ROTATE. READ LIST, RECORD RESPONSE)

For S6_a through S6_e

1 Yes
2 No
-8 Don't know
-9 Refused

- S6** Reduced energy costs
S6_b Reduced energy usage
S6_c Increased comfort
S6_d Better understanding of energy efficient options
S6_e Anything else? (*SPECIFY*)

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

- S7** Would you participate in this program again if you purchased a home in the near future?

1 Yes
2 No
-8 Don't know
-9 Refused

S8 Have you recommended the program to others?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

S9 What changes, if any, to the program would you recommend?
(RECORD VERBATIM)

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

Additional Demographics

We're almost finished. I just have a few additional questions about your household to make sure we're getting a representative sample of participants.

D1 Do you own or rent your home?

- 1 Own
- 2 Rent
- 9 Refused

D2 What is the approximate square footage of the living space of your home?

- _____ Number in square feet
- 8 Don't know
- 9 Refused

D3 In what year was your home built?

- _____ Number in year
- 8 Don't know
- 9 Refused

D4 How long have you lived at this home? (READ LIST)

- 1 Less than 1 year
- 2 1-2 years
- 3 3-4 years
- 4 5-10 years
- 5 More than 10 years
- 8 Don't know
- 9 Refused

D5 Including yourself, how many people currently living in your home year-round are in the following age groups?
(*READ CATEGORIES; RECORD RESPONSE*)

For D5_1 through D5_6

_____ Number of persons
-9 Refused

D5 Under 20 years old
D5_2 20-24 years old
D5_3 25-34 years old
D5_4 35-54 years old
D5_5 55-74 years old
D5_6 75 or older
TOTAL SHOULD EQUAL D1

D6 Did you borrow money to finance any of the improvements in your home?

1 Yes
2 No
-8 Don't know
-9 Refused

D7 Have you participated or been involved in any other Focus on Energy program?

1 Yes
2 No
-8 Don't know
-9 Refused

D7_1 Which ones?

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

D8 We will be contacting the individuals that audited participants' homes. Could you please verify the contact information for the [consultant/qualified contractor] that went through your home?

(*SHOW INFORMATION FROM PROGRAM DATABASE AND VERIFY.
CAPTURE IF DIFFERENT.*)

D8_1 _____ Name
D8_2 _____ Company
D8_3 _____ Phone

[SEE RESPONSES IN OPEN ENDS SPREADSHEET]

End THANK YOU FOR YOUR TIME.

GENDER

- 1 Male
- 2 Female

LOOPTYPE Roster loop flag for stacked file

- 1 Attic loop
- 2 Wall loop

Sample Variables

caseid	PA-assigned ID
fname	First Name
lname	Last Name
address	Address
city	City
phone	Phone number
auditor	Consultant or Qualified Contractor
pkcustid	Customer ID
wphone	Work Phone
air	Air Sealing Flag
attic	Attic Insulation Flag
wall	Wall Insulation Flag
dentered	Date of Participation
airkwh	Air Sealing KWH
attickwh	Attic Insulation KWH
wallkwh	Wall Insulation KWH
airkw	Air Sealing KW
attickw	Attic Insulation KW
wallkw	Wall Insulation KW
airths	Air Sealing Therms
atticths	Attic Insulation Therms
wallths	Wall Insulation Therms
airreb	Rebate for Air Sealing
atticreb	Rebate for Attic Insulation
wallreb	Rebate for Wall Insulation
pbiznm	Consultant/Contractor Name
pcontact	Consultant/Contractor Business
pphone	Consultant/Contractor phone
totikwh	Total KWH

totiths	Total Therms
aapor	Disposition
oldattic	Old attic rebate amount
oldwall	Old wall rebate amount.

Appendix B. Home Performance with ENERGY STAR Participant Follow-up Interview Guide

Select households that said they would have added the insulation in home at same time w/o the program (T1=1). List their response to T1, O1, O2, and O4 and insulation type.

Hello. My name is [name] and I am calling from PA Consulting Group. About a month ago we spoke with you about your involvement in the Home Performance with ENERGY STAR program. I hope you do not mind, but I had just a few clarification questions for you regarding your participation.

- (1) I am trying to understand the process that you went through to participate. The program provides information through both contractors and consultants. Did you first work with a contractor who referred you to the consultant, or work with a consultant who did the audit then referred you to a contractor?

- (2) Why did you first contact the [contractor/consultant] (fill with whoever was first contacted)

- (3) **(If first contacted a contractor then was sent to a consultant OR worked with a qualified contractor)** Why did you first contract the (contractor/consultant)? Were you having problems that involved insulation? What problems?

- (4a) **(If CON respondent, first contacted contractor then consultant)** Did the contractor refer you to the consultant through the Home Performance with ENERGY STAR Program? If so, why did they refer you to the consultant?

- (4b) **(If QC respondents)** Did you know that the contractor was affiliated with the Home Performance with ENERGY STAR program prior to contacting them? When did you find out they were related to the program?

- (5) **(If CON respondent)** Who would you say was most influential in your decision to install the level of insulation you did; the contractor you worked with or the consultant and why?

- (6) Did you know you needed [wall/attic] insulation prior to talking with the [contractor/consultant]? (ask separate for all and attic)

- (6a) (As a follow-up probe) were considering wall insulation prior to learning about your needs for attic insulation, or was wall insulation an “add-on” to the project.
- (7) Do you qualify to receive the tax credit because of the work you did through the program?
- (8a) **(If Yes to Q7)** Did the tax credit influence your decision to install the insulation when you did?
- (8b) **(If Yes to Q7)** What was most influential in your decision to engage in the work at the time you did: the tax credit, the rebate through the program, or were they equally influential?
- (9) Did the consultant/contractor discuss with you the different levels of insulation you could install – program-qualifying and not program qualifying? **(If Yes)** Why did you choose to install program qualifying levels of insulation? In other words, did you blow in more insulation than you would have without the program.
- (10) Did you have this work done as part of a remodel or renovation?
- (11) Last, was the installation of wall insulation an invasive process where the contractor had to do a considerable amount of deconstruction work to blow the insulation into the wall?

Appendix C. Supply-side Interview Guide for Consultants/Qualified Contractors that Provide Assessments through Home Performance with ENERGY STAR

Hello, I'm calling from PA Consulting Group. We are speaking with **[consultants/qualified contractors]** about their participation in Home Performance with ENERGY STAR and their customers. Could I speak with **[named sample in database]**?

- 1 Yes
- 2 No (ATTEMPT TO CONVERT)

I'm not selling anything; I'd just like to ask your opinion about this program. I'd like to assure you that your responses will be kept confidential and your individual responses will not be revealed to anyone.

(Who is doing this study: The Public Service Commission of Wisconsin, which oversees Focus on Energy and the Home Performance with ENERGY STAR Program, is overseeing evaluations of the energy efficiency equipment being installed through different programs.)

(Why are you conducting this study: Studies like this help the state of Wisconsin better understand contractors' opinions about the types of equipment being rebated through programs.)

(Timing: This survey should take less than 15 minutes of your time. Is this a good time for us to speak with you? IF NOT, SET UP CALL BACK APPOINTMENT OR OFFER TO LET THEM CALL US BACK AT 1-800-445-5070.)

(Sales concern: I am not selling anything; we would simply like to learn about your experience with the program. Your responses will be kept confidential. If you would like to talk with someone from the Public Service Commission about this study, feel free to call Oscar Bloch at 608-264-8267. If you would like to talk with the Home Performance with ENERGY STAR program, feel free to call Carter Dedolph at 608-249-9322).

BACKGROUND QUESTIONS

A1. First, I want to ask a few questions about yourself and the company you work for. In what year did you first become involved with Home Performance with ENERGY STAR?

- 1 2009
- 2 2008
- 3 2007
- 4 2006
- 5 2005
- 6 2004
- 7 Before 2004
- 8 Don't know/unsure
- 9 Other (RECORD)

A2. Have you been with (company name) that entire time, or did you work with Home Performance with ENERGY STAR prior to joining (company name)?

- 1 Have been with company that entire time
- 2 Worked with program prior to joining the company
- D Don't know
- R Refused

A3 How did you first hear about the Home Performance with ENERGY STAR Program?
(INDICATE ALL THAT APPLY. PROBE: ANYTHING ELSE?)

- 1 Through Focus on Energy contact
- 2 Attended workshop or training seminar and learned about the program
- 3 Through a manufacturer/supply house
- 4 From a customer
- 5 Learned about the program at trade show
- 6 Saw/heard ads for the program (Where?_____)
- 7 Attended a program-sponsored information session
- 8 Focus on Energy website
- 9 Business colleague
- 10 Business customer
- 11 Other _____
- 12 Don't know/unsure

A6. On average, about how many residential households did you provide audit services to in 2009, including households serviced outside of the program?

A7a. For about what percentage of all assessments completed in 2009 did you recommend attic insulation be installed?

_____ %

A7b. And for about what percentage of all assessments completed in 2009 did you recommend sidewall insulation be installed?

_____ %

A7c. You said before that you provided audits to [A6] households in 2009. Of those households, about what percentage participated in the Home Performance with ENERGY STAR program in 2009?

[IF R SAID DK OR REF AT A6, SAY: "You said before that you aren't sure of the total number of households show "you gave audits to in 2009. Do you think you can estimate what percentage participated in the Home Performance with ENERGY STAR program in 2009?"]

_____ %

A8a. In addition to providing audit services to customers, do you sell and/or install insulation to customers? [Indicate all that apply]

- 1 No, provide audit services only (SKIP TO A9)
- 2 Sell insulation
- 3 Install insulation
- 4 Other (SPECIFY)
- 5 Don't know
- 6 Refused

A8b. [IF A8a=2] For about how many households did you sell insulation in 2009?

- _____ Number of homes
- D Don't know
- R Refused

A8c. [IF A8a=3] In about how many households did you install insulation in 2009?

- _____ Number of homes
- D Don't know
- R Refused

A9. How are households generally referred to you? (Indicate all that apply)

- 1 From Focus on Energy website
- 2 From a meeting/exhibit/trade show (SPECIFY NAME, DATE)
- 3 A contractor/insulation vendor
- 4 From a designer/architect (SPECIFY NAME)
- 5 From family, neighbor, or friend
- 6 Mailing/Literature (SPECIFY)
- 7 Utility company
- 8 Trade ally (non-contractor)
- 9 Other (SPECIFY)

A10. (IF A9 IS MORE THAN ONE SOURCE) From which of the sources mentioned do you receive the most referrals? (*INDICATE ONLY ONE*)

- 1 From Focus on Energy website
- 2 From a meeting/exhibit/trade show (*SPECIFY NAME, DATE*)
- 3 A contractor/insulation vendor
- 4 From a designer/architect (*SPECIFY NAME*)
- 5 From family, neighbor, or friend
- 6 Mailing/Literature (*SPECIFY*)
- 7 Utility company
- 8 Trade ally (non-contractor)
- 9 Other (*SPECIFY*)

A11. What other Focus on Energy programs are you involved with? (*INDICATE ALL THAT APPLY. PROBE: ANYTHING ELSE?*)

1. ENERGY STAR Products
- 2 Targeted Home Performance with ENERGY STAR
- 3 Wisconsin ENERGY STAR Homes (WESH)
- 4 Business Programs (*SPECIFY FOR SECTOR*)
- 5 ACES (Apartment and Condominium Energy Services)
- 6 Milwaukee Community Pilot/Together We Save
- 7 Other (*RECORD*)
- 8 None, not involved in other Focus on Energy programs
- 9 Don't know
- 10 Refused

Confirmation of households (ONLY ASK IF HAVE <5 PROJECTS)

S1 We would like to ask you about [# OF HOUSEHOLDS] specific households in this survey. These are: [READ OFF PARTICIPANT NAMES AND ADDRESSES]. Do you recall these specific projects?

- 1 Yes, recall all of them
- 2 Yes, only recall some of them
- 3 No, don't recall any of them specifically
- D Don't know
- R Refused

S2 [IF ONLY RECALL SOME OF THEM] Which of these projects do you recall? [LIST PROJECTS AND RECORD WHICH PROJECTS RECALL]

S3 Is there someone else we could speak with who might recall the other projects?

- 1 Yes (*REQUEST CONTACT INFORMATION AND ATTEMPT TO REACH*)
- 2 No
- D Don't know
- R Refused

(IF DOESN'T RECALL SPECIFIC PROJECTS, THAN ASK ABOUT ALL PROJECTS DONE IN CY09 THROUGH PROGRAM)

PROGRAM ATTRIBUTION QUESTIONS

Note: wording is distinguished based on whether we are asking about a specific household (for consultants/contractors with fewer than 5 participants in the data) or in general.

ALLIES WITH 5+ PROJECTS IN DATA OR DO NOT RECALL SPECIFIC HOUSEHOLD

INFORMATION: For my next questions, I would like you to think about the households you served through the Home Performance with ENERGY STAR program in 2009. I will be asking you to think about insulation measures, specifically attic and wall insulation.

ALLES WITH <5 PROJECTS IN DATA: I would like you to think about the specific households we discussed before this interview began. I will go through the series of questions for each. First, let's think about the participant that lived at [PROVIDE ADDRESS]. *Complete the C and D series questions for each household they recall providing services to.*

Attic Insulation

B1a. [IF 5+ PROJECTS] What percent of households you serviced through Home Performance with ENERGY STAR in 2009 had specific plans to install *attic insulation* prior to your visit with them?

- _____ %
- D Don't know
 - R Refused

B1b. [IF HOUSEHOLD SPECIFIC] Did this customer have specific plans to install *attic insulation* prior to your visit with them?

- 1 Yes
- 2 No
- D Don't know
- R Refused

B2. [IF B1b <> YES OR B1a = 0, SKIP] How did they know they needed the attic insulation? (*INDICATE ALL THAT APPLY*)

- 1 A contractor spoke with them
- 2 Their own assessment
- 3 Felt the homes were cold/drafty
- 4 Had ice damming
- 5 Their own prior experience
- 6 Other (*RECORD*)

B3a. [IF 5+ PROJECTS] If the program rebate or the information and services you provided had not been available through the Home Performance with ENERGY STAR Program, what percentage of the households you served through the program would have added the attic insulation in their home at the time they did?

_____ %
D Don't know
R Refused

B3b. [IF HOUSEHOLD SPECIFIC] If the program rebate or the information and services you provided had not been available through the Home Performance with ENERGY STAR Program, would this household have added the attic insulation at the time they did?

- 1 Yes
- 2 No
- D Don't know
- R Refused

B4a. [IF 5+ PROJECTS] And of those that would have installed attic insulation without the program, what percentage of them would have installed attic insulation at R values that were at or above program requirements?

_____ %
D Don't know
R Refused

B4b. [IF HOUSEHOLD SPECIFIC] And would this household have installed attic insulation at R Values that were at or above program requirements without the program?

- 1 Yes
- 2 No
- D Don't know
- R Refused

- 48 -

- B5. On a 0 to 10 scale, with 0 being not at all likely and 10 being very likely, how likely is that (this household/these households) would have installed the same R value of attic insulation had they not received the rebate through the Home Performance with ENERGY STAR program?

_____ 0 to 10 rating
 D Don't know
 R Refused

- B6. On a scale of 0 to 10, where 0 is not at all influential and 10 is extremely influential, how influential do you believe the rebate was in (this household's/households') decision to install attic insulation to Focus on Energy specifications?

_____ 0 to 10 rating
 D Don't know
 R Refused

- B7. On a scale from 0 to 10, where 0 is not at all influential and 10 is extremely influential, how influential do you believe the information and services you provided to them as a (contractor/qualified consultant) was in their decision to install the attic insulation to Focus on Energy specifications?

_____ 0 to 10 rating
 D Don't know
 R Refused

- B8. On a scale from 0 to 10, where 0 is not at all influential and 10 is extremely influential, how influential do you believe the overall program was in their decision to install the attic insulation to Focus on Energy specifications?

_____ 0 to 10 rating
 D Don't know
 R Refused

Sidewall Insulation

Now I want to ask you similar questions about sidewall insulation.

- C1a. [IF 5+ PROJECTS] What percent of households you serviced through Home Performance with ENERGY STAR in 2009 had specific plans to install *sidewall insulation* prior to your visit with them?

_____ %
 D Don't know
 R Refused

C1b. [IF HOUSEHOLD SPECIFIC] Did this customer have specific plans to install *sidewall insulation* prior to your visit with them?

- 1 Yes
- 2 No
- D Don't know
- R Refused

C2. [IF C1b <> YES OR C1a = 0, SKIP] How did they know they needed the sidewall insulation? (*INDICATE ALL THAT APPLY*)

- 1 A contractor spoke with them
- 2 Their own assessment
- 3 Felt the homes were cold/drafty
- 4 Had ice damming
- 5 Their own prior experience
- 6 Other (*RECORD*)

C3a. [IF 5+ PROJECTS] If the program rebate or the information and services you provided had not been available through the Home Performance with ENERGY STAR Program, what percentage of the households you served through the program would have added the sidewall insulation in their home at the time they did?

- _____ %
- D Don't know
 - R Refused

C3b. [IF HOUSEHOLD SPECIFIC] If the program rebate or the information and services you provided had not been available through the Home Performance with ENERGY STAR Program, would this household have added the sidewall insulation at the time they did?

- 1 Yes
- 2 No
- D Don't know
- R Refused

C4a. [IF 5+ PROJECTS] And of those that would have installed sidewall insulation at R values that were at or above program requirements?

- _____ %
- D Don't know
 - R Refused

C4b. [IF HOUSEHOLD SPECIFIC] And would this household have installed sidewall insulation at R values that were at or above program requirements without the program?

- 1 Yes
- 2 No
- D Don't know
- R Refused

C5. On a 0 to 10 scale, with 0 being not at all likely and 10 being very likely, how likely is that (this households/these households) would have installed the same R value of sidewall insulation had they not received the rebate through the Home Performance with ENERGY STAR program?

- _____ 0 to 10 rating
- D Don't know
- R Refused

C6. On a scale of 0 to 10, where 0 is not at all influential and 10 is extremely influential, how influential do you believe the rebate was in (this households/these households') decision to install sidewall insulation to Focus on Energy specifications?

- _____ 0 to 10 rating
- D Don't know
- R Refused

C7. On a scale from 0 to 10, where 0 is not at all influential and 10 is extremely influential, how influential do you believe the information and services you provided to them as a (contractor/qualified consultant) was in their decision to install the sidewall insulation to Focus on Energy specifications?

- _____ 0 to 10 rating
- D Don't know
- R Refused

C8. On a scale from 0 to 10, where 0 is not at all influential and 10 is extremely influential, how influential do you believe the overall program was in their decision to install the sidewall insulation to Focus on Energy specifications?

- _____ 0 to 10 rating
- D Don't know
- R Refused

TRAINING AND EDUCATION

I just have a few more questions for you on your participation with Home Performance with ENERGY STAR.

D1a. As a participating (consultant/qualified contractor), have you received any training or assistance from WECC? [INTERVIEWER NOTE: ASSISTANCE COULD BE MENTORING OR MONETARY]

- 1 Yes -> WHAT DID YOU RECEIVE (RECORD RESPONSE)
- 2 No
- D Don't know

D1b. As a participating (consultant/qualified contractor), have you received any certification from WECC?

- 1 Yes -> WHAT DID YOU RECEIVE (RECORD RESPONSE)
- 2 No
- D Don't know

D2. (If Yes D1b = Yes) Has this training or assistance specifically addressed attic or sidewall insulation?

- 1 Yes
- 2 No
- D Don't know

D4 What tools are available from Focus on Energy that help you sell program-qualifying insulation to program participants? (*RECORD VERBATIM. PROBE FOR INFRARED CAMERAS FOR SIDEWALL INSULATION IF NOT MENTIONED*)

ATTIC INSULATION RECOMMENDATION AND INFLUENCE QUESTIONS

E1. Have any of your recommendation practices regarding attic insulation changed since you first participated in the program in (INSERT YEAR FROM A1)?

- 1 Yes
- 2 No (*SKIP TO E4*)
- D Don't know

E2. How has it changed? (*RECORD VERBATIM*)

E3. Why do you think your recommendation practices changed? (*RECORD VERBATIM*)

E4. In what percentage of your residential projects did you recommend program qualifying levels of attic insulation prior to your involvement with the program?

- ___ Enter percentage
- D Don't know
- R Refused

E5. In what percentage of your residential projects do you currently recommend program qualifying levels of attic insulation?

- ___ Enter percentage
- D Don't know
- R Refused

E6. On a scale of 0 to 10, with 0 meaning no influence and 10 meaning high influence, how influential was the program in your changes in your attic insulation recommendation practices?

- _____ 0 to 10 rating
- D Don't know
- R Refused

E7. Please tell me in your own words what impact, if any, has the program had on your recommendation practices for attic insulation? (*RECORD VERBATIM*)

SIDEWALL INSULATION RECOMMENDATION AND INFLUENCE QUESTIONS

F1. Have any of your recommendation practices regarding sidewall insulation changed since you first participated in the program in (INSERT YEAR FROM A1)?

- 1 Yes
- 2 No
- D Don't know

F2. How has it changed? (*RECORD VERBATIM*)

F3. Why do you think your recommendation practices changed? (*RECORD VERBATIM*)

- F4. In what percentage of your residential projects did you recommend program qualifying levels of sidewall insulation prior to your involvement with the program?

___ Enter percentage
 D Don't know
 R Refused

- F5. In what percentage of your residential projects do you currently recommend program qualifying levels of sidewall insulation?

___ Enter percentage
 D Don't know
 R Refused

- F6. On a scale of 0 to 10, with 0 meaning no influence and 10 meaning high influence, how influential was the information and/or requirements of the program in changes in your sidewall insulation recommendation practices?

_____ 0 to 10 rating
 D Don't know
 R Refused

- F7. On a scale of 0 to 10, with 0 meaning not at all useful and 10 meaning very useful, how useful are infrared cameras in your ability to influence customers to install sidewall insulation?

_____ 0 to 10 rating
 -1 Do not use infrared cameras
 D Don't know
 R Refused

- F8. Please tell me in your own words what impact, if any, has the program had on your recommendation practices for attic insulation? (*RECORD VERBATIM*)

RECOMMENDATION PRACTICES OUTSIDE OF THE PROGRAM

- V1. In 2009, did you recommend program-eligible attic insulation to Wisconsin customers outside of the program?

1 Yes
 2 No (SKIP TO V4)
 D Don't know (SKIP TO V4)
 R Refused (SKIP TO V4)

V2. In 2009, about how many households did you recommend program-qualifying levels of attic insulation outside of the program?

_____ # of households
 D Don't know
 R Refused

V3a. I'm going to read you three statements. For each statement, please tell me whether you agree or disagree that this statement applies to your company.

Our past experience specifying or installing attic insulation through energy efficiency programs has convinced us that this type of insulation is cost effective or beneficial even without a program incentive.

1 Agree
 2 Disagree
 D Don't know
 R Refused

V3b. We are better able to identify opportunities to improve customers' attic insulation efficiency because of what we learned and our experience with the Home Performance with ENERGY STAR Program.

1 Agree
 2 Disagree
 D Don't know
 R Refused

V3c. We are more likely to discuss energy efficient options with all of our customers when developing project plans for attic insulation because of what we learned and our experience with the program.

1 Agree
 2 Disagree
 D Don't know
 R Refused

V4. In 2009, did you recommend program-eligible sidewall insulation to Wisconsin customers outside of the program?

1 Yes
 2 No (SKIP TO G1)
 D Don't know (SKIP TO G1)
 R Refused (SKIP TO G1)

V5. In 2009, about how many households did you recommend program-qualifying levels of sidewall insulation outside of the program?

_____ # of households
D Don't know
R Refused

V6a. Again, please tell us if you agree or disagree with these three statements. Our past experience specifying or installing sidewall insulation through energy efficiency programs has convinced us that this equipment is cost effective or beneficial even without a program incentive.

1 Agree
2 Disagree
D Don't know
R Refused

V6b. We are better able to identify opportunities to improve customers' attic insulation efficiency because of what we learned and our experience with the Home Performance with ENERGY STAR Program.

1 Agree
2 Disagree
D Don't know
R Refused

V6c. We are more likely to discuss energy efficient options with all of our customers when developing project plans for attic insulation because of what we learned and our experience with the program.

1 Agree
2 Disagree
D Don't know
R Refused

WRAP-UP

I just have a couple more questions for you to wrap up this interview.

G1. One of the purposes of the program is to encourage customers to purchase attic insulation to recommended R levels, which may be higher than they would otherwise purchase. Do you strongly agree, agree, neither agree nor disagree, disagree or strongly disagree that the program is accomplishing this?

- 1 Strongly agree
- 2 Agree
- 3 Neither agree nor disagree
- 4 Disagree
- 5 Strongly agree
- D Don't know
- R Refused

G2. Another objective of the program is to encourage customers to install sidewall insulation. Do you strongly agree, agree, neither agree nor disagree, disagree or strongly disagree that the program is accomplishing this?

- 1 Strongly agree
- 2 Agree
- 3 Neither agree nor disagree
- 4 Disagree
- 5 Strongly agree
- D Don't know
- R Refused

G3. The program also encourages customers to purchase insulation sooner than they had planned to. Do you strongly agree, agree, neither agree nor disagree, disagree or strongly disagree that the program is accomplishing this?

- 1 Strongly agree
- 2 Agree
- 3 Neither agree nor disagree
- 4 Disagree
- 5 Strongly agree
- D Don't know
- R Refused

G4. Finally, the program encourages customers to purchase more insulation, to recommended levels, which may have been higher than they had planned to. Do you strongly agree, agree, neither agree nor disagree, disagree or strongly disagree that the program is accomplishing this?

- 1 Strongly agree
- 2 Agree
- 3 Neither agree nor disagree
- 4 Disagree
- 5 Strongly disagree
- D Don't know
- R Refused

G5. Are there any other tools or assistance the program could provide to you to help you sell attic or sidewall insulation? (*RECORD VERBATIM*)

G5a. Since June 30th, 2009 has any other aspect of your business changed dramatically?

(PROBE FOR NUMBER OF CUSTOMERS, SIZE OF BUSINESS, ETC)
(IF R DOES NOT MENTION IT, PROBE: "Have you noticed any difference in the level of customers due to the energy-efficient tax credit?)

(*RECORD VERBATIM*)

G6. These are all the questions I have for you. Is there anything you'd like to comment on regarding your participation or your customers' participation in this program? (*RECORD VERBATIM*)

Analysis Plan and Questions

There are six series of questions in the supply side survey instrument. (1) background and context (A series), (2) program attribution questions (B and C series), (3) training and education questions (D series), (4) recommendation and influence questions (E and F series), (5) Recommendation practices outside of the program (V series), and (6) Wrap-up questions, including additional influence questions (G series).

The survey was in part designed to ask similar questions to the participant surveys. This initial analysis plan expects to use these questions, detailed in Table 1 below, to adjust the customer self-report attribution analysis. We will review the average between the customer and supply side responses to calculate an average attribution/influence response for each respondent integrating supply-side results. This data, then, is aggregated to represent integrated results for the program as a whole. In the event either party says “don’t know,” we will select the response that is valid. In the event both parties say “don’t know,” the analysis will eliminate that case.

This approach weights the customer self-report and supply side self-report analysis equally. We do not have any evidence at this point that one self-report response source is more reliable than the other. Rather than selecting or overwriting one response over the other, we determined it would be most appropriate to combine the results with equal weight given we do not have any alternate source of data (e.g., market share data) that would indicate one source is more reliable than another.

Table 1. Mirroring Supply-side and Customer Questions

Customer Variable	Customer question	Contractor variable	Contractor question
T1	If the rebate had not been available through the Home Performance with ENERGY STAR program, would you have added this [measure] in your home at the same time?	B3/C3	If the rebate or information or services you provided had not been available through the program, would the household/what percentage of households would have added the insulation at the time they did?
N12	Were you specifically looking to install [measure] at that time?	B1	What percent of households/did this household have specific plans to install insulation prior to your visit with them?
O1	On a 0 to 10 scale, with 0 being not at all likely and 10 being very likely, how likely is that you would have bought the same [measure] if you had not received this incentive through the Home Performance with ENERGY STAR program?	B5/C5	On a 0 to 10 scale, with 0 being not at all likely and 10 being very likely, how likely is that they would have installed the same R value of insulation had they not received the rebate through the Home Performance with ENERGY STAR program?

Customer Variable	Customer question	Contractor variable	Contractor question
O2	How much influence did the [consultant/qualified contractor] have in your decision to install the [measure] to the specifications installed? Please rate the influence on a 0 to 10 scale, where 0 is not at all influential and 10 is extremely influential.	B7/C7	On a scale from 0 to 10, where 0 is not at all influential and 10 is extremely influential, how influential do you believe the information and services you provided to them as a (contractor/qualified consultant) was in their decision to install the to Focus on Energy specifications?
O4	Can you please describe what impact, if any, the Home Performance with ENERGY STAR program had on your decision to install the [measure] at the time you did?	E7/F8	What impact, if any, did the program have on your recommendations? (Coded the same as participants)

In addition to these integration-ready questions, we ask a variety of questions that will be used to inform the extent of program influence on contractors/qualified contractors' practices that may not be recognizable to the customers and potentially adjust the net to gross factors. Analysis of the following variables, at minimum, will be reviewed and reported to illustrate the program's influence in these areas and integrated if possible. How these results will be integrated cannot be determined yet; we cannot fully anticipate whether and how we will be able to integrate the remaining questions until we are able to review the data results.

- Changes in recommendation practices as a result of program offerings. *Percentage difference between E4 and E5/F4 and F5 (recommendation practice changes) multiplied by influence question in recommendation changes ((E6/100) (F6/100)).*
- Influence of program on recommendation and sales of high efficiency equipment. *Average of three agree/disagree statements ([V3a, V3b, V3c] [V6a V6b, V6c])*
- Influence on customers' decisions. *Average of G1, G3, and G4 and G2, G3, and G4.*

The first point above will specifically be used to adjust the attribution rating by providing an additive attribution. Any recommendation practices influenced by the program will increase the program attribution for the participant associated with that consultant/qualified contractor.