Non-Energy Benefits (NEBs) from ENERGY STAR®: Comprehensive Analysis of Appliance, Outreach, and Homes Programs[1]

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ABSTRACT

Detailed non-energy benefits (NEBs) questions were included in surveys administered to residents, contractors, and home builders as part of a detailed evaluation of four residential ENERGY STAR®-related programs being administered by the New York State Energy Research and Development Authority (NYSERDA) under **New York Energy $mart℠**. Program interventions include various retail / marketing efforts, and new and remodeled homes programs with relation to ENERGY STAR®. The project collected data from more than 400 respondents via mail and phone survey, and detailed interview.

Residents were asked about direct benefits they experienced from ENERGY STAR® measures. These included questions about an array of benefits (both positive and negative), including: comfort, noise, illness, maintenance, health, environmental, and other benefits. To better understand whether and how measures end up in homes, decision makers / specifiers were asked about their recognition of NEBs from ENERGY STAR® measures, as well as their perceptions about NEBs and their influence on purchasers / residents.

This study was part of a much larger market characterization and assessment effort and a first-time attempt by NYSERDA to examine NEBs in depth. The study provided an opportunity to examine differences in NEB valuations between customer groups (*e.g.*, appliance purchasers, home purchasers, remodelers) and study the NEBs associated with different appliances using the same methodology. The comparisons of reported valuations from residents, as compared with those perceived by builders / contractors, provide an opportunity to identify areas that can be addressed in future outreach, advertising, and program efforts.

Introduction

This paper presents the non-energy benefits (NEBs) estimated from four residential ENERGY STAR® programs run by the New York Energy Research and Development Authority (NYSERDA) under **New York Energy $mart℠**. These programs are:

- ENERGY STAR® Products and Marketing,
- Keep Cool (Room Air Conditioner Bounty Program),[2]
- ENERGY STAR® Homes, and
- Home Performance with ENERGY STAR®.

[1] The views expressed in this paper are those of the authors and do not necessarily reflect the views of the New York State Energy Research and Development Authority.
[2] The results from the first two programs are presented jointly.

These programs jointly promote ENERGY STAR® appliances, lighting, and other energy efficiency measures through advertising and retailer incentives (ENERGY STAR® Products and Marketing), builder training and "certification" of homes (ENERGY STAR® Homes) and through comprehensive home energy assessments and incentives for efficient ENERGY STAR® equipment and holistic, energy-related home improvements (Home Performance with ENERGY STAR®).

As part of a large project to conduct a market characterization, market assessment, and attribution evaluation, the authors conducted surveys and detailed interviews with:

- Residents that purchased ENERGY STAR® appliances, including: dishwashers, clothes washers, refrigerators, room air conditioners, CFLs, and lighting equipment.
- Homeowners who purchased ENERGY STAR® Labeled Homes,
- Residents that remodeled their homes under the Home Performance with ENERGY STAR® program,
- Builders that construct ENERGY STAR® Labeled Homes – and a number that do not build ENERGY STAR® homes, and
- Contractors that have participated in the Home Performance with ENERGY STAR® Program.

This paper presents preliminary results on the Non-Energy Benefits (NEBs) recognized from the measures and programs by the various groups. In addition, the results from different actors are compared to identify instances in which builders or contractors do or don't recognize NEBs in the same way as the ultimate homeowners – and the implications any "disconnects" may have. This NEB work was conducted by Skumatz Economic Research Associates (SERA).[3]

Computing Non-Energy Benefits

Certainly, energy savings, awareness, market share and other metrics provide direct indicators of program effects; a significant body of work has been developing around recognizing and measuring non-energy benefits (NEBs). NEBs include a variety of program impacts – *positive and negative* – that result from the program. The NEBs results in this paper are expressed in "net" terms – including both positive and negative impacts. The literature tends to sorts these benefits into three "perspectives" (Skumatz 2001):

- Utility / Agency NEBs: Net benefits accruing to the utilities or program-sponsoring agency, including fewer billing-related calls and other follow-ups, lower bad debt from unpaid bills, lower T&D losses, and other benefits, which result in lower revenue requirements for the agency, and are appropriately valued at the agency's marginal cost and discount rates.
- Societal NEBs: Net benefits beyond those accruing to the utilities / agencies or directly to participants, including economic multipliers or job creation benefits, reduced environmental impacts from emissions, and other benefits valued at societal costs and discount rates.
- Participant NEBs: Positive and negative impacts that are realized and recognized by program participants. For ENERGY STAR® programs, these tend to include comfort, decreased water usage, personal satisfaction, environmental benefits, and other benefits for

[3] This work was conducted by SERA under contract to the prime contractor, was Summit Blue Consulting, and the NYSERDA Project Manager was Jennifer Ellefsen.

system owners. These effects are measured using valuation methods appropriate to the owner.

This paper focuses on NEBs for the third category – participant NEBs.[4] Many of these participant benefits are hard to measure (e.g. "comfort"); however, it is important to estimate dollar values for these benefits in order to allow comparison with direct energy benefits, and to provide more comprehensive information for scenario analysis within cost-effectiveness assessments of the program.

There are several measurement methods to estimate dollar values for participant NEBs. These have been discussed extensively in previous publications (Skumatz, 2002) by the author. The method used in this paper has proven most successful in previous work. It might seem that the direct approach – asking the value of the NEBs through a willingness to pay (WTP) approach – would be the best way to gather these data. However, past research (Skumatz, 2002) has demonstrated that this approach has two significant problems: 1) participants have significant difficulty answering the question, leading them to "don't know" responses or pure guesses, which tend to be unreliable and 2) the results from WTP responses are more volatile than the comparison approaches used for this study. The values presented in this study do not represent respondents' willingness to pay, but rather their valuation of NEBs compared to other more easily-quantified energy benefits.

Based on this research, several steps were used to derive the dollar estimate of participant NEBs. A list of categories of NEBs that are relevant to the program was assembled, using information from literature and past research. For each of the NEB categories, respondents were asked whether the energy-efficient equipment or design features led to a positive or negative effect or no effect compared to standard equipment or design features. The same battery of questions was asked for the overall or total of all the individual NEB categories. Finally, for those NEB categories with an effect (either positive or negative), respondents were asked about the relative value of the NEB. The value of the overall / total NEBs were also asked.

Net NEBs Results from Residential Appliance and Outreach Programs

NYSERDA runs several residential programs geared toward increasing the market share of ENERGY STAR® appliances, including:

- ENERGY STAR® Products and Marketing Program, which provides outreach on ENERGY STAR® models, as well as training and cooperative efforts with retailers, and
- Keep Cool, which recommends replacement of old room air conditioners with ENERGY STAR® models (and provides a bounty for turn-in of the old model).

Table 1 shows the share of NEB values accruing to each of the major NEB categories for each appliance as reported by residents that purchased ENERGY STAR® appliances. The second-to-last row presents the percent of the overall NEB value for all measures represented by that measure. For example, the value of the NEBs for refrigerators is about 1/3 that for ENERGY

[4] Benefits from key components of the societal benefits are being estimated in another part of NYSERDA's evaluation activities. For information on societal benefits for other residential (and other) programs, see Imbierowicz and Skumatz (2004), Skumatz and Dickerson (1998).

STAR® dishwashers. The last row shows the value of the NEBs relative to the energy savings for that measure.

Table 1. NEBs Percent of Overall Net Non-Energy Benefits

NEBs[5]	Refrigerators	Dishwashers	Clothes Washers	Room Air Conditioners	CFL Bulbs	Lighting Fixtures
Equipment Maintenance Cost	9%	5%	5%	6%	8%	6%
Appearance	4%	4%	4%	7%	3%	6%
Appliance Performance[6]	13%	8%	8%	10%	10%	12%
Appliance Lifetime	7%	8%	10%	8%	13%	9%
Noise Levels	10%	9%	5%	11%	1%	4%
Personal Satisfaction	17%	11%	10%	10%	13%	10%
Comfort	9%	6%	8%	9%	8%	8%
Quality of Lighting	0%	0%	0%	0%	11%	5%
Safety[7]	2%	4%	5%	8%	7%	7%
Ease of Selling Home	11%	8%	6%	7%	4%	9%
Ability to Stay at Home[8]	3%	8%	7%	8%	4%	9%
Water Savings	0%	12%	14%	0%	0%	0%
Doing good for Environment / Environmental Benefits[9]	15%	17%	18%	16%	18%	15%
Overall	100.00%	100%	100%	100%	100%	100%
Percent of Overall Benefits For All measures	11%	35%	19%	12%	18%	5%
NEB Multipler (as share of savings)	0.29	0.65	0.54	0.71	0.90	0.30

The results show that:

- The NEB multiplier was positive for all appliances, indicating that the value of the overall NEBs compared to the energy savings associated with that appliance is positive.
- NEBs are important to respondents: Nearly all NEB categories have some positive valuation for each measure. Environmental benefits, satisfaction with the appliance, appliance performance, and the value of appliance lifetimes all show high values.
- ENERGY STAR® dishwashers have the highest valued NEBs for any of the measures, followed by clothes washers and CFLs.
- The NEB value of CFLs almost equals their energy savings; lighting fixtures and refrigerators have lower values relative to the energy savings.

[5] The NEBs are listed in the table as an impact, not specifically an improvement in the category. However, if the results are positive, that implies that the NET impact – the sum of the positive and negative changes that resulted for participants – was an improvement. A negative value implies that, on balance, the impacts for participants were negative. In some of the results, noise came up negative. That implies that a significant share of respondents felt that noise levels were perceived to be higher, on net, due to the program interventions.

[6] Examples of equipment performance NEBs include improved ability of the equipment to circulate air through the home effectively, etc.

[7] Examples of "safety" NEBs include newer equipment having lower potential for safety problems.

[8] Examples of ability of residents to stay in their home include the fact that the new equipment may lead to lower bills across the year, which may help residents avoid eviction for non-payment of rent or energy bills.

[9] Rather than actual improvements to the environment, this represents the value to the respondent of having taken actions they perceive will help the environment.

- Dishwashers have the highest NEBs, with the highest benefits recognized in "doing good" for the environment, water savings, satisfaction with the new appliance, and lower noise levels. Clothes washer NEBs are the next most valuable,[10] with the highest NEBs recognized in doing good for the environment, water savings, satisfaction, and appliance lifetime effects. Reduced noise levels were important NEBs for room air conditioners.
- ENERGY STAR® light fixtures do not seem to register with important or valuable NEBs, with the value representing only 5% of the energy savings recognized from these measures.
- Those appliances most perceived to help improve the home's value (or that most ease the selling of the home) include refrigerators and light fixtures.
- The NEBs show owners value program's benefits in terms of better appliance performance, as well as less tangible benefits like environmental impacts and personal satisfaction.
- The NEB analyses indicate the ENERGY STAR® products program has led to significant benefits that are recognized by participants. These benefits were quantified for the first time as part of this study, and therefore, are not currently recognized by the program accounting but could be used for sensitivity analyses in future benefit-cost work.

Net NEBs Results From the "Homes" Programs

Residents were asked about the NEBs associated with the ENERGY STAR® New Homes program, as well as the Home Performance with ENERGY STAR® program (the remodeling program). Table 2 below shows the preliminary results for ENERGY STAR® New Homes and the importance assigned to various NEB categories, and the middle column shows the percent of respondents giving the particular NEB a value score of 4 or 5 (on a 5 point score with 5=very valuable). The right hand column provides the distribution of the NEB estimates (in percentage terms) by category and overall for the participant respondents. The table presents the percentage across the average respondent, not only including those reporting benefits or positive benefits. Thus, this should be a conservative estimate of the NEBs.

The NEBs were also computed for the ENERGY STAR® Home Performance program. These NEBs, average valuation score, percent ranking the NEB a 4 or 5, estimated dollar value, and percent of NEBs are reported in Table 3.

[10] Although it might have been expected that clothes washers would have led to larger NEBs, it may be that respondents use dishwashers more often, forgot about (or did not value highly) the soap and clothes longevity benefits (they were not prompted about these benefits) or there may be other reasons for this result. This finding will be explored in future work by the author.

Table 2. Net Non-Energy Benefit Results for ENERGY STAR® New Homes Participants

NEB Category	Average valuation score (1=slightly valuable; 5=very valuable)	Percent ranking 4 or 5 (5=very valuable)	Percent of NEBs by category per participating building
Equipment maintenance costs	2.0	45%	7%
Appliance performance	1.7	47%	10%
Appliance lifetimes	1.5	25%	6%
Personal satisfaction	3.2	57%	12%
Comfort	3.0	50%	11%
Building aesthetics / appearance	1.7	25%	7%
Noise levels	1.7	35%	6%
Building safety	1.7	29%	6%
Lighting/Quality of Light	1.2	23%	5%
Ease of selling the home	2.9	53%	10%
Ability to stay in their house	1.1	19%	5%
Doing good for the Environment	3.1	56%	10%
Number of sick days lost from work	0.7	14%	3%
Number of calls to utility regarding bill issues	0.6	12%	2%
Overall NEB value—[11]	3.3	59%	NEBs Multiplier=1.0 times energy savings

Table 3. Net Non-Energy Benefit Summary Results for Home Performance

NEB Category	Average valuation score (1=slightly valuable; 5=very valuable)	Percent ranking 4 or 5 (5=very valuable)	Percent of NEBs by category per participant
Equipment maintenance costs	2.7	50%	9%
Appliance performance	2.7	52%	9%
Appliance lifetimes	2.2	39%	7%
Personal satisfaction	3.5	70%	11%
Comfort	3.2	65%	10%
Building aesthetics / appearance	2.1	20%	6%
Noise levels	2.2	41%	7%
Building safety	2.0	35%	6%
Lighting/Quality of Light	1.0	22%	3%
Ease of selling the home	3.1	53%	10%
Ability to stay in their house	1.8	32%	6%
Doing good for the Environment	3.1	62%	10%
Number of sick days lost from work	0.7	10%	3%
Number of calls to utility regarding bill issues	1.0	17%	4%
Overall NEB value	3.5	68%	NEBs multiplier = 1.0 times energy savings

The NEBs for Home Performance were similar to those for New Homes. In both cases the multiplier was estimated at 1.0 times the energy savings. However, the average energy savings per home was 25 % higher for New Homes than it was for the Home Performance program. The results show:

- NEBs are important to respondents: More than 50% of the respondents for both New Homes and Home Performance rated overall NEBs with a score of 4 or 5 on a scale in which 5 meant very valuable. The most important categories of NEBs (ranking above 50% as a 4 or 5) included environmental benefits, personal satisfaction, and comfort associated with

[11] Note that we ask about the overall value of all these benefits. While we attempted to make a list of NEBs that was non-overlapping, asking about the total benefits and sharing them out by category should help eliminate any problems from double-counting from benefit categories that respondents may have trouble separating.

having the installed measures. Between 25% and 50% cited ease of selling the home, improved ability to stay in their home, and equipment performance as important.

- Resident / owners value benefits highly: Owners recognized / reported overall NEB valuations about equal to the energy savings associated with the installation of the measures. Nearly one-third of these (internally held) values were from environmental benefits, personal satisfaction and comfort they valued.

Builder and Contractor (Specifier) NEBs

Residential specifiers – builders and contractors – were also asked about the NEBs associated with the ENERGY STAR® Homes and Home Performance with ENERGY STAR® programs. This study was also the first time that NEBs were estimated and quantified by NYSERDA for this group. The net NEBs results for these groups are shown in Table 4.

Table 4. Net Non-Energy Benefit Summary Results for Builders and Contractors for ENERGY STAR® Homes and Home Performance with ENERGY STAR® Projects

NEB Category	Average valuation score (1=slightly valuable; 5=very valuable)	Percent ranking 4 or 5 (5=very valuable)	Percent of NEBs by category per participant
Equipment maintenance costs	1.61	36%	6%
Equipment performance	3.11	56%	11%
Equipment lifetimes	2.14	39% (some also negative)	8%
Resident satisfaction	3.36	58%)	12%
Resident Comfort	3.61	61%	13%
Building aesthetics / appearance	1.50	28%	6%
Noise levels[12]	-1.64	11% (some also negative)	-6%
Building safety	2.97	56%	11%
Lighting/Quality of Light	1.69	28% (some also negative)	6%
Ease of selling the home	3.33	53%	12%
Ability to stay in their house because energy bills are too high	2.58	42%	10%
Doing good for the Environment	3.11	53%	11%
Number of sick days lost from work	2.17	39% (some also negative)	8%
Other	0.81	19% (some also negative)	3%

The preliminary residential specifier results imply that contractors and builders believe residents gain significant (additional) value from the NEBs from new homes or remodels. Specifically, the highest value benefits from these responses include: comfort, resident satisfaction, and ease of selling the home. "Doing good" for the environment, building safety, and equipment performance are also assigned high value. Overall, specifiers estimate that the value of the NEBs on an annual basis just exceed the value of the energy savings (multiplier = 1.09).

However, the results also imply that there are some barriers to some of the efficiency measures and approaches. Clearly, some of the specifiers feel there are negative effects in terms of noisier equipment, questionable effects on measure lifetimes from new measures, and concerns about lighting quality. The noise concerns were significant enough to have a negative NEB

[12] Negative valuation occurs when the benefit is considered negative. In this case, the average valuation is negative indicating that the noise levels were higher.

associated with that category.[13] Other negatives just offset some of the positive values provided in those categories.

Comparison of Results for Owners and Specifiers

We compared the distribution of perceived NEB values for homeowners versus the contractors and builders that have key decision-making roles in terms of which measures are installed in the homes. These figures are provided in Table 5.

What was most striking to the authors was the similarity in results across the NEBs categories recognized by builders / contractors compared to homeowners. This contrasts with results from a previous project conducted by the authors in the commercial sector. That project found some disparities between perceived importance and values assigned to NEBs categories between project advisors / implementers (architects and engineers) and commercial building owners – work which indicated that design decisions may not be reflecting the tradeoffs that owners might otherwise make. (Bicknell and Skumatz 2004, Bensch, *et.al*. 2003).

In this case, while the relative benefits are fairly similar for the groups, there were a few important differences in values – that is, contractor / builders did not perfectly match the perception of the people to whom they were making equipment and design recommendations. In particular:

- Contractors and builders were skeptical about the noise from the new measures and design features. In fact, they viewed noise as a negative impact, compared to a more positive perception by homeowners. This may bear further investigation in future research.
- Contractors and builders were somewhat less positive about the maintenance costs than were homeowners. However, contractors and builders ascribed or recognized slightly more value to higher performance for the energy efficient measures and practices than did residents.
- However, contractors and builders were more likely to value NEBs from the following categories slightly more highly than the homeowners: safety of the home, the ability to control bills and stay in the home, and the ability to more easily sell the home. They were also more likely to expect the home to lead to fewer sick days than the homeowners.

Overall, the results indicate that contractors and builders ascribed higher NEB values to the program homes relative to the home's energy savings than did the residents themselves. This stands to reason because both of the **New York Energy $mart**[SM] small homes programs include a concerted effort to make contractors and builders aware of the health and safety benefits of meeting the home performance and ENERGY STAR homes standards.[14]

[13] The noise results have not yet been explored to determine if they result from the noise of remodeling work that participants have attributed to the program, or whether the program homes or program job homes are perceived to be noisier.

[14] This may be complicated by some self-selection bias. Builders with greater interest in energy efficiency, or those with empathy or recognition of NEBs from energy efficiency measures may be more likely to sign up for the program. However, the program also includes training that emphasizes health, safety, and other NEBs from efficiency measures and practices.

Table 5. Comparison of Distribution of Net NEB Values between Homeowners and Specifiers

NEB Category	**ENERGY STAR® New Homes Owners Perception of NEBs (Percent of NEB value per participating household)**	**Home Performance with ENERGY STAR® Owner Perceptions of NEBs (Percent of NEBs value by participating household**	**Contractor / Builder Perception of NEBs (Percent of NEBs per participant)**
Equipment maintenance costs	7%	9%	6%
Appliance performance	10%	9%	11%
Appliance lifetimes	6%	7%	8%
Personal satisfaction	12%	11%	12%
Comfort	11%	10%	13%
Building aesthetics / appearance	7%	6%	6%
Noise levels	6%	7%	-6%
Building safety	6%	6%	11%
Lighting/Quality of Light	5%	3%	6%
Ease of selling the home	10%	10%	12%
Ability to stay in their house	5%	6%	10%
Doing good for the Environment	10%	10%	11%
Number of sick days lost from work	3%	3%	8%
Number of calls to utility regarding bill issues	2%	4%	3%
Overall NEB value—[15]	Multiplier=1.0 times energy savings	Overall NEBs multiplier = 1.0 times energy savings	Overall NEBs equal about 1.09 time energy savings

Whether NEBs Affect Contractor / Builder Recommendations and Decision-making

In addition to asking about NEB values, the specifiers were also asked whether NEBs were used in their recommendations and decision-making regarding building or remodeling measures or practices. The preliminary results, contained in Table 6, show that participating builders / developers are more likely to believe that NEBs are recognized by homeowners than are non-participants (3.7 compared to 2.8). Most also imply that specifiers use NEBs in their work discussing project options with homeowners, particularly contractors. The results show that these benefits are also more commonly stressed by participants.

Contractors and builders were also asked about the role of NEBs in spillover. Spillover was defined as:

- Decisions to add more or higher efficiency energy efficient measures or practices to the new home or remodeling job than required / encouraged by the program (for participants), or
- Changes to their building / construction practices to improve energy efficiency on other homes they work on outside the program (for participants and non-participants).

The respondents were asked they were asked if they believe some of the NEBs were important in their decisions to take additional actions beyond the program. The results show that the respondents believe that NEBs are important contributors to spillover (scores more than 4 and almost 5 from contractors). The scores were high, and especially high for participants. This implies that NEBs are a driver for spillover, and are recognized as such.[16]

[15] Expressed as ratio of total dollar value of NEBs divided by value of energy savings. Note that the estimated energy bill savings for the ENERGY STAR® homes program is 25% higher than the estimates for the Home Performance with ENERGY STAR® program. The results for all specifiers are presented as combined because of smaller samples.

[16] In future research, we may expand the research to ask a similar question about energy savings as a spillover driver and compare the results. It would be interesting to compare which is the more important driver for spillover – energy savings or NEBs.

Table 6. Use of Non-Energy Benefit in Decision-Making for Builders and Contractors for ENERGY STAR® Homes and Home Performance with ENERGY STAR® Projects

	All respondents	Builder participants	Builder Non-participants	Contractor participants[17]
Do building owners (homeowners) recognize NEBs? (1=virtually never, 5=always recognize)	3.45 (21% =5)	3.90 (33%=5)	2.77 (5%=5)	3.65 (24%=5)
How often do specifiers use NEBs to inform home owners and developers? (1=virtually never inform; 5=always inform)	3.69 (21%=5)	3.29 (14%=5)	3.44 (17%=5)	4.32 (31%=5)
Are NEBs an important factor contributing to spillover? (1=not at all important, 5=very important)	4.18 (25%=5)	4.29 (28%=5)	3.59 (5%=5)	4.72 (53%=5)

Summary and Implications

This first-time NEB analysis for major residential programs offered under **New York Energy $mart℠** indicates that the Homes programs have led to significant benefits that are recognized by participants and by builders / contractors. Both programs also currently recognize these benefits and attempt to make builders and contractors more aware of their existence. However, until this study, quantification of these benefits has not been available and they could not be included in the program accounting. In the future, the NEB estimates could be included in various benefit-cost analysis scenarios. Key findings are summarized below:

- **NEB values are important relative to energy savings**: The results from the appliance measures show individual NEB estimates on the order of 30%-90% of the energy savings associated with the individual measures. The results also demonstrate that the estimates of overall net non-energy benefits for the "homes" programs approximately equal the energy savings associated with program participation.
- **Energy is not the only important benefit that appeals to homeowners and decision-makers**: The appliance results show that, relative to energy savings, NEBs are especially valued for CFLs, room air conditioners, and dishwashers. The largest sources of NEBs include "doing good" for the environment, equipment performance, lifetimes (especially for CFLs), personal satisfaction from the measures, and ease of selling their home. The NEBs for the "homes" programs show that participants value the program's benefits in terms of factors including improved ability to sell their home, as well as less tangible benefits like environmental impacts and personal satisfaction from the measures. Contractors and builders associate negative impacts with some program measures – particularly noise, and possibly concerns about maintenance costs. The perception or actual existence of negative effects could represent barriers the program can address in the future.
- **Perceptions of NEBs for Specifiers and Homeowners are Similar.** Contractors and builders also believe that residents realize valuable NEBs from project work. The estimated value from these respondents as a multiple of energy savings (1.09) is similar to that provided directly by participants (1.0) – indicating they have a fairly good handle on what residents perceive in terms of NEBs. In addition, there is strong agreement in the distribution of these NEBs between categories, indicating that the contractors and builders may have a fairly good feeling for the pulse for their market.

[17] Insufficient contractor non-participants were available from the survey to provide results separately.

- **Specifiers use NEBs in their recommendations and decision making**. Contractors and builders believe homeowners recognize NEBs, and they use them to inform homeowners when making program-related choices. Specifiers also believe that NEBs are important contributors to spillover from the programs.

The results of the detailed NEB analysis provide key information on factors beyond energy savings that are valued by participants – factors that may prove to be strong methods to attract additional program participants into the programs. Many of these programs already convey the NEBs associated with the measures and services being offered. However, the programs could possibly be even more effective in this endeavor now that more specific, quantifiable estimates of the various NEBs and their relative values are available to program implementers. The information is useful for outreach on programs and measures. It indicates that programs could do well to "sell" measures and participation on benefits that appeal to homeowners and that they have indicated have value to them rather than relying on marketing that stresses energy efficiency.

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