



**New Hampshire Residential New
Construction Home Buyer Survey
*Final Report***

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Dorothy Conant

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Executive Summary

A telephone survey of recent buyers of newly constructed homes in New Hampshire was conducted in October and November of 2011 for the sponsors¹ of the New Hampshire ENERGY STAR[®] Homes Program. Surveys were completed with 81 households who had bought ENERGY STAR homes certified through the program and 119 households who had bought homes that did not participate in the program.

The survey's key findings, summarized in this Executive Summary, concern what buyers look for in a new home, awareness of ENERGY STAR homes, the role of ENERGY STAR certification in new home shopping, perceptions of ENERGY STAR homes, and satisfaction with the program. The survey provides an update, where there are enough responses to comparable questions, of a similar study conducted in 2002. For certain questions, primarily concerning awareness, the New Hampshire responses are also compared to findings from a Massachusetts survey of 100 households who had bought ENERGY STAR certified homes and 118 households who had bought homes that did not participate in the program in 2010.

Factors in New Home Shopping

The most important factor in all new home buyers' decisions to buy or build their home rather than any other is the quality of construction (defined by the consumer); this factor also ranked highest in 2002. However, the overall mean rating for getting a more efficient home with lower energy bills has risen for new home buyers from a mean of 7.8 on a scale of 0 to 10 (fifth out of eleven factors) in 2002 to 9.1 (second out of 26 factors) in 2010.² Energy efficiency measures such as more efficient windows, a more efficient furnace or boiler, better sealing of air leaks, more or better insulation, and more efficient appliances are also rated highly in 2010; all have mean ratings above 8. Findings from the Massachusetts home buyer survey are very similar; there the overall mean rating for getting a more efficient home with lower energy bills rose from 7.2 in 2002 to 9.0 in 2010.

Awareness of ENERGY STAR Homes

Figure ES-1 summarizes changes in awareness of the ENERGY STAR label and program between 2002 and 2010.

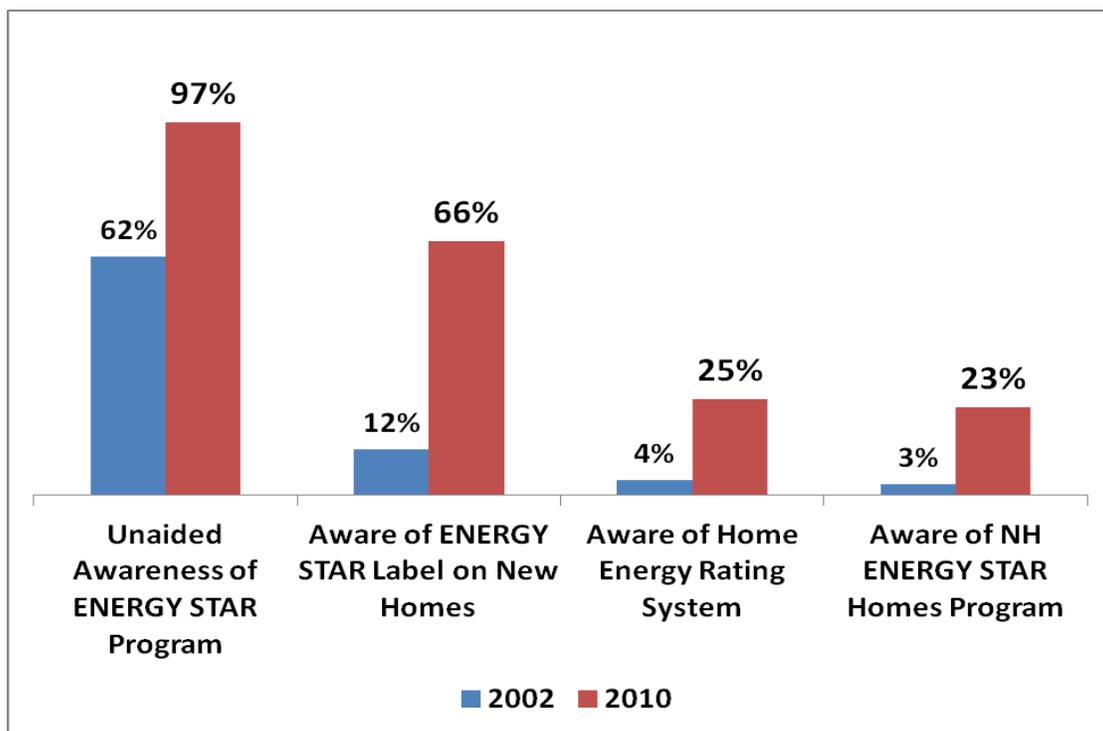
- Almost all buyers of new homes (97%) are now aware of the ENERGY STAR designation in general; in contrast, less than two-thirds were aware of ENERGY STAR in 2002.

¹ National Grid, New Hampshire Electric Cooperative, Public Service of New Hampshire, Unitil.

² Results for the home buyer population as a whole are estimated by weighting the responses of buyers of new ENERGY STAR homes and buyers of other new homes by the percentage of ENERGY STAR homes in the population of newly constructed homes.

- Almost two-thirds of all buyers of new homes are now aware of the ENERGY STAR label on new homes; up from less than one in eight in 2002. New Hampshire buyers of ENERGY STAR homes and all New Hampshire home buyers are significantly more likely than their Massachusetts counterparts to have seen or heard of the ENERGY STAR label on a newly constructed home. For buyers of new ENERGY STAR homes, this may be due, in part, to the larger portion of custom-built homes in the New Hampshire sample compared to Massachusetts.
- One-quarter of all buyers of new homes are aware of the Home Energy Ratings System (HERS) up from 4% in 2002.
- More than one in five buyers of new homes are aware of the New Hampshire ENERGY STAR Homes Program, up from 3% in 2002.

Figure ES-1: Changes in Awareness between 2002 and 2010—All Home Buyers



Building or Buying an ENERGY STAR Home

At least one-half of the home buyers surveyed say they discussed topics such as the energy efficiency of the heating and/or cooling equipment, the energy efficiency of the new home, the type of insulation used and how much it would cost to heat and/or cool the new home while shopping for, designing or constructing their new homes. Buyers of new ENERGY STAR homes are significantly more likely to have discussed energy efficiency of the home (69% vs. 55%),

heating and cooling costs (59% vs. 45%), indoor air quality (59% vs. 35%), and green building (46% vs. 21%) than buyers of other new homes.

Spec home buyers say they get most of their information from builders in 2010, closely followed by real estate agents. Buyers of new ENERGY STAR homes are also more likely to mention the Internet as a source of information (20% vs. 10%) than buyers of other new homes. Spec home buyers in 2010 are more likely to say they learned about ENERGY STAR homes after (51%) rather than before (42%) they started shopping for a new home.

Three-quarters (75%) of the buyers of new ENERGY STAR homes know they have bought an ENERGY STAR home in 2010. Close to seven out of ten (69%) buyers of new ENERGY STAR homes who know their homes are ENERGY STAR, or 52% of all buyers of ENERGY STAR homes, say their homes have an ENERGY STAR label.

Perceptions of ENERGY STAR Homes

Encouragingly, more than three-quarters (77%) of home buyers aware of ENERGY STAR homes believe they provide a little or a lot more value for the money; 57% of the few respondents that answered this question in 2002 believed this.

Respondents were asked about ENERGY STAR homes providing greater comfort, being quieter, providing protection against energy price increases, having healthier indoor air, and having a better resale value over newly constructed non-ENERGY STAR homes. Sixty-five to 89% of respondents believe ENERGY STAR homes provide these individual non-energy benefits. Most respondents who believe ENERGY STAR homes provide non-energy benefits also say these benefits influenced their decision to purchase an ENERGY STAR home. This means that, overall, the great majority (88%) of respondents who say they have bought an ENERGY STAR home also say that their purchase decision was influenced by at least one non-energy benefit.

Program Satisfaction

Overall satisfaction with the New Hampshire ENERGY STAR Homes Program is quite high with 85% of buyers of ENERGY STAR homes who know they have ENERGY STAR homes saying they are 'satisfied' or 'extremely satisfied'.

1 Introduction

This document reports on findings of a survey of recent purchasers of newly constructed homes in New Hampshire, conducted for the sponsors of the New Hampshire ENERGY STAR® Homes Program. Home buyers of both homes that were certified by the Program in 2010 (participants) and homes that did not participate in the Program (nonparticipants) were surveyed. Certain parts of the survey provide an update of a similar study conducted in 2002. However, only eight households who had bought ENERGY STAR homes were interviewed in 2002 versus 81 in 2010, so most of the valid comparisons between 2010 and 2002 involve all of the home buyers surveyed. The objectives of the current survey are to assess:

- Awareness of ENERGY STAR homes—before or after entering the market
- Ability to describe what differentiates an ENERGY STAR home
- Awareness and understanding of the Home Energy Rating System (HERS) and labeling
- What home buyers learned from builders, real estate agents, and other marketers about energy efficiency and ENERGY STAR homes
- Perceptions of added costs and added value of ENERGY STAR homes
- Importance of energy efficiency relative to other attributes sought by homebuyers
- Whether and how much homebuyers sought out or demanded ENERGY STAR homes
- Factor(s) most influential in deciding to purchase or construct an ENERGY STAR home
- Perceptions and importance of green building
- Whether homebuyers believe their new homes provide Non-Energy Benefits (NEBs) such as thermal comfort and better indoor air quality and, if so, how much they value NEBs.
- Satisfaction with the program
- Changes in attitudes, perceptions, and experiences in comparison with 2002
- Demographic and economic characteristics of new home buyers along with housing characteristics and the fuels used in new homes

A copy of the survey instrument is found in Appendix A.

This survey was conducted via computer-assisted telephone interviewing (CATI) from October 6 through November 13, 2011. The samples of home buyers came from lists of new service requests and ENERGY STAR homes provided by the sponsors. To identify homeowners, new service request addresses and the addresses of ENERGY STAR individual homes and developments were cross-referenced with the sponsors' Customer Information Systems. There could be some ENERGY STAR homes in the nonparticipant sample that obtained certification independent of the Program. The interviewers confirmed that each house is newly constructed, and that the respondent is one of the buyers. Hence the sample represents only owner-occupied new homes, not newly constructed homes that are for rent.

For certain questions, primarily concerning awareness, the New Hampshire responses are also compared to findings from the Massachusetts new home buyer survey. In Massachusetts, 100

households who had bought ENERGY STAR certified homes and 118 households who had bought homes that did not participate in the program were surveyed from June through September of 2011.

Sample sizes and sampling error (assuming a 50%/50% break at the 90% confidence level) are shown in Table 1-1.

Table 1-1 Sample Sizes and Sampling Error

	Sample Size	Sampling Error (90% confidence)
New Hampshire 2010		
ENERGY STAR homes	81	±8.7%
Other homes	119	±7.3%
Total	200	±5.6%
ENERGY STAR homes compared to other homes		±11.3%
Massachusetts 2010		
ENERGY STAR homes	100	±8.1%
Other homes	118	±7.7%
Total	218	±5.9%
ENERGY STAR homes compared to other homes		±11.1%
NH 2010 total compared to MA 2010 total		±7.9%
NH 2010 ES compared to MA 2010 ES		±11.9%
NH 2010 other compared to MA 2010 other		±10.5%
New Hampshire 2002		
ENERGY STAR homes	8	±26.6%
Other homes	112	±7.7%
Total	120	±7.7%
ENERGY STAR homes compared to other homes		±27.7%
NH 2010 total compared to NH 2002 total		±9.3%

2 Characteristics of New Home Buyers

Respondents who bought ENERGY STAR homes are less likely to have bought spec homes (43%) than the respondents who bought other homes (63%). This was also the case in 2002, though very few buyers of ENERGY STAR homes were interviewed at that time. (Table 2-1)

Table 2-1 Spec or Custom-Built

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
New Hampshire 2010			
n	81	119	200
Spec—Purchased a lot from a builder, selected one of several house plans offered by the builder, and selected from various available upgrades.	9%	11% [†]	10% [†]
Spec—Purchased a home that was under construction and selected from various available upgrades.	9%	19%* [†]	15%
Spec—Purchased a finished home	25% [†]	33% [†]	30%
Custom—Purchased land and worked with an architect and/or builder to design and build the home.	26% [†]	18% [†]	21% [†]
Custom—Had a house plan and a lot and hired a contractor/builder to build the home.	15% [†]	11%	13% [†]
Custom—I/we am/are the owner(s) and builder(s)	9%	3% [†]	5%
Other/Don't know	9%	5%	7%
Massachusetts 2010			
n	100	118	218
Spec—Purchased a lot from a builder, selected one of several house plans offered by the builder, and selected from various available upgrades.	10%	19%*	16%
Spec—Purchased a home that was under construction and selected from various available upgrades.	13%	8%	10%
Spec—Purchased a finished home	47%	14%*	24%
Custom—Purchased land and worked with an architect and/or builder to design and build the home.	13%	36%*	29%
Custom—Had a house plan and a lot and hired a contractor/builder to build the home.	4%	8%	7%
Custom—I/we am/are the owner(s) and builder(s)	6%	10%	9%
Other/Don't know	7%	4%	5%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[†]New Hampshire significantly different from Massachusetts in 2010

Table 2-1 Spec or Custom-Built (continued)
(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
New Hampshire 2002			
n	8	112	120
Spec	0%	67%	67%
Custom	75%	25%	25%
Other	25%	7%	7%

By contrast, in Massachusetts, respondents who bought ENERGY STAR homes are more likely to have bought spec homes (70%) than the respondents who bought other homes (41%); the difference between the portions of home buyers who bought spec ENERGY STAR homes in New Hampshire and Massachusetts is statistically significant. The larger proportion of Massachusetts home buyers who bought spec-built ENERGY STAR homes is due to the Massachusetts program targeting spec home builders who build in large developments. As will be discussed in Chapter 4, the lower proportion of spec home buyers in New Hampshire is related to higher levels of awareness.

Even though the sample of ENERGY STAR Home respondents has a greater proportion of custom home buyers than the sample of other home respondents, it has significantly more townhouses or duplexes than the sample of respondents who bought other homes. The vast majority of homes in both samples, however, are single family, detached homes as was the case in 2002. (Table 2-2)

Table 2-2 Type of Home

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Single family detached home	80%	93%*	88%
Townhouse or duplex	14%	5%*	8% [∨]
Two-, three-, or four family home	1%	0%	0%
Part of a building with 5+ units	4%	0%*	2%
2002			
n	8	112	120
Single family home	100%	90%	90%
Two- to three-family home	0%	2%	2%
Townhouse	0%	3%	3%
Part of a building with 4+ units	0%	4%	4%
Other	0%	2%	2%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[∨]Significantly different from 2002 at the 90% confidence level.

The respondents who bought ENERGY STAR homes tend to have bought slightly larger homes than the respondents who bought other homes, which is to be expected since ENERGY STAR homes are more likely to be custom-built in New Hampshire. However, there are smaller homes in the overall 2010 sample than there were in the overall 2002 sample. (Table 2-3 and Figure 2-1)

Table 2-3 Square Footage of Home

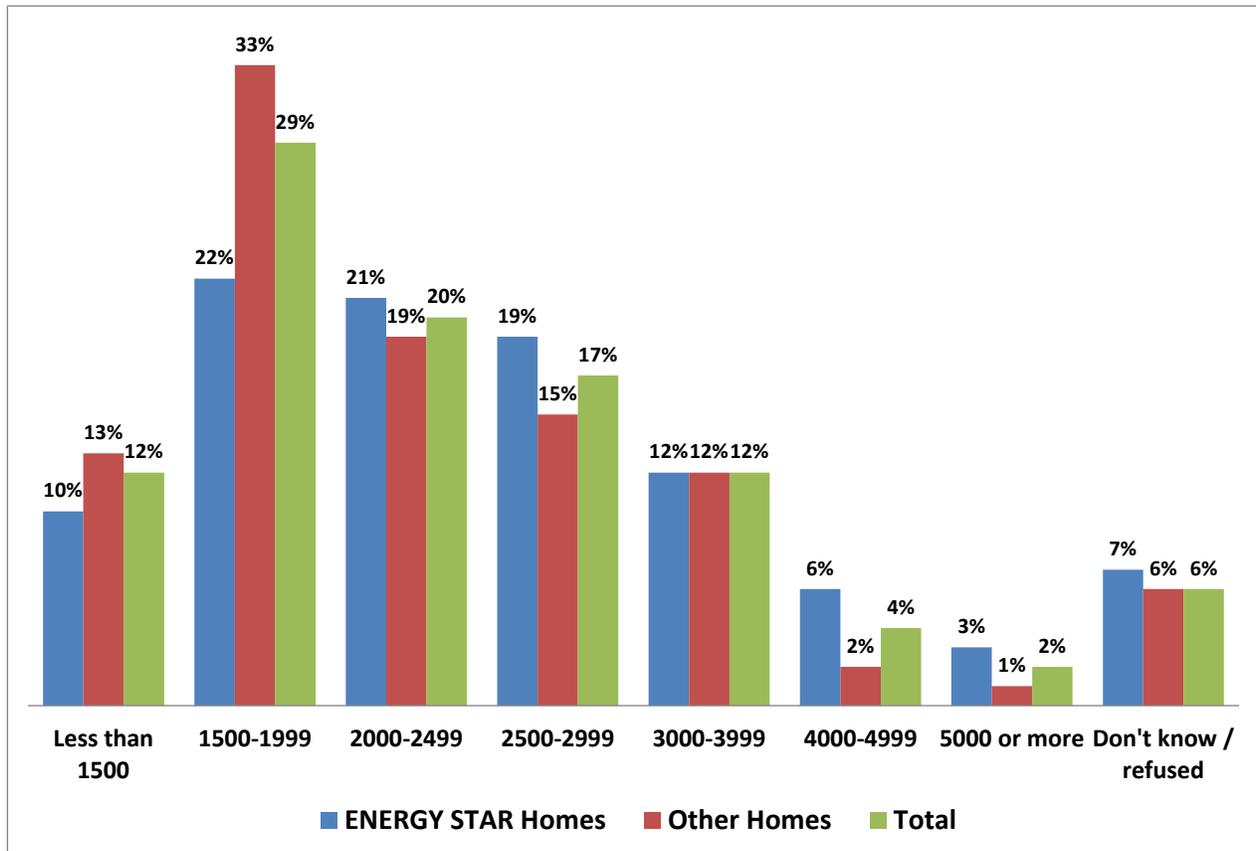
(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Less than 1500	10%	13%	12% [√]
1500-1999	22%	33%*	29%
2000-2499	21%	19%	20%
2500-2999	19%	15%	17%
3000-3999	12%	12%	12%
4000-4999	6%	2%	4%
5000 or more	3%	1%	2%
(Don't know/refused)	7%	6%	6%
2002			
n	8	112	120
Less than 1500	12%	4%	4%
1500-1999	12%	26%	26%
2000-2499	12%	27%	27%
2500-2999	0%	20%	20%
3000-3999	25%	16%	16%
4000-4999	38%	2%	2%
5000 or more	0%	4%	4%
(Don't know/refused)	0%	8%	8%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[√]Significantly different from 2002 at the 90% confidence level.

Figure 2-1: Square Footage of Home



One-half of all new homes in 2010 are heated with propane or bottled gas; an additional one-fifth use natural gas. There is significantly higher use of propane or bottled gas in 2010 than 2002 and significantly lower use of natural gas and fuel oil. (Table 2-4 and Figure 2-2)

Table 2-4 Main Heating Fuel

(home buyers aware of ENERGY STAR homes in 2010; all home buyers in 2002)[§]

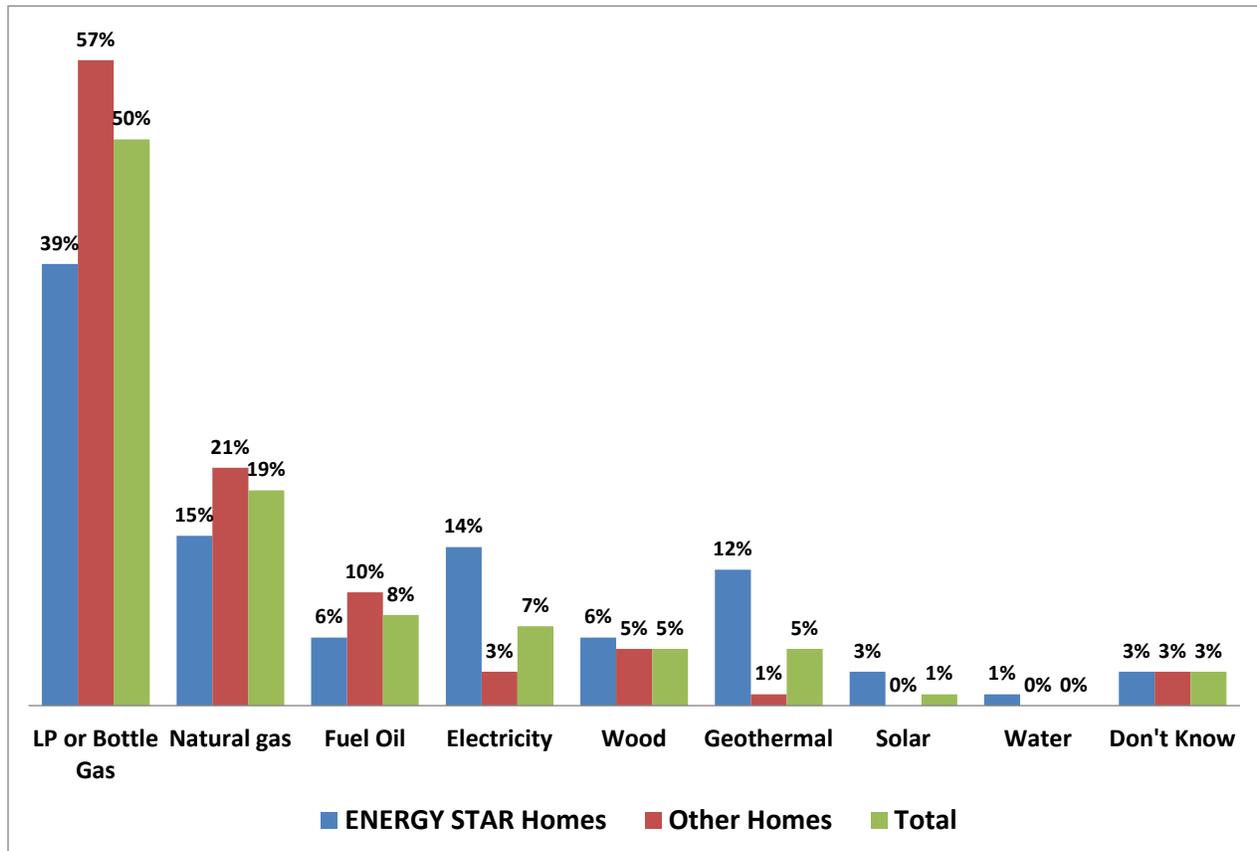
	ENERGY STAR Homes	Other Homes	Total
2010			
n	66	67	133
Propane or bottled gas	39%	57%*	50% [√]
Natural gas	15%	21%	19% [√]
Fuel oil	6%	10%	8% [√]
Electricity	14%	3%*	7% [√]
Wood	6%	5%	5%
Geothermal	12%	1%*	5% [√]
Solar	3%	0%	1%
Water	1%	0%	0%
Don't know	3%	3%	3%
2002			
n	8	112	120
Natural gas	0%	28%	28%
Propane or bottled gas	0%	36%	36%
Electricity	38%	0%	0%
Fuel oil	25%	35%	35%
Geothermal	25%	0%	0%
Solar	12%	0%	0%
Wood	0%	2%	2%

[§]Due to a programming error the type of fuel was only recorded for respondents who were aware of ENERGY STAR homes in 2010 rather than all respondents

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[√]Significantly different from 2002 at the 90% confidence level.

Figure 2-2: Main Heating Fuel



Over one-half of new homes use forced hot air furnaces and an additional one in seven use hot water or steam boilers in 2010. A significant minority, mostly ENERGY STAR homes, use radiant heating, geothermal, and heat pumps. (Table 2-5 and Figure 2-3)

Table 2-5 Type of Heating System

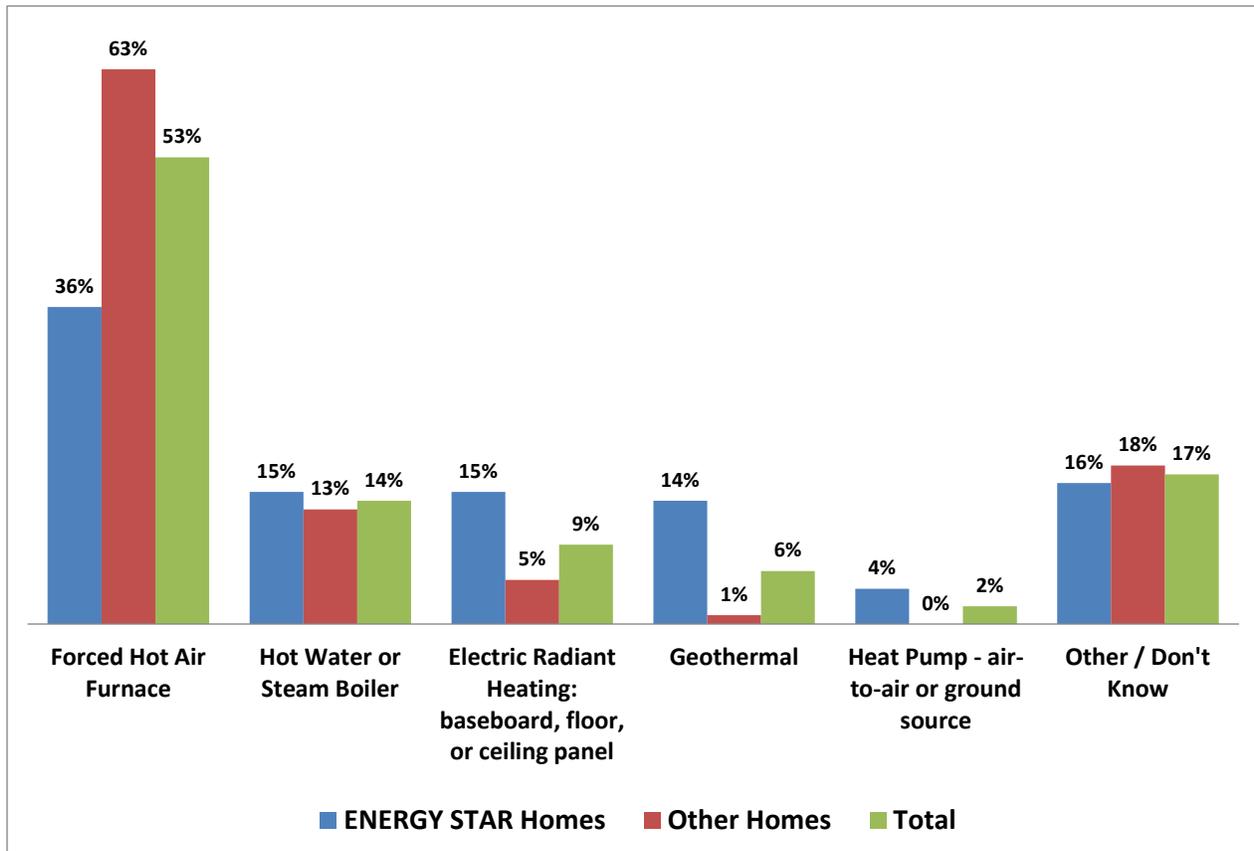
(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Forced hot air furnace	36%	63%*	53% [√]
Hot water or steam boiler	15%	13%	14% [√]
Electric radiant heating-baseboard, floor, or ceiling panel	15%	5%*	9% [√]
Geothermal	14%	1%*	6%
Heat pump—air-to-air or ground source	4%	0%*	2%
Other/don't know	16%	18%	17% [√]
2002			
n	8	112	120
Forced hot air furnace	38%	66%	66%
Hot water or steam boiler	0%	25%	25%
Heat pump—air-to-air or ground source	50%	0%	<1%
Electric radiant heating-baseboard, floor, or ceiling panel	0%	3%	3%
Other/don't know	12%	6%	6%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[√]Significantly different from 2002 at the 90% confidence level.

Figure 2-3: Type of Heating System



New homes in 2010 are more likely to use propane or bottled gas and electricity for water heating and less likely to use natural gas or fuel oil than in 2002. (Table 2-6 and Figure 2-4)

Table 2-6 Main Water Heating Fuel

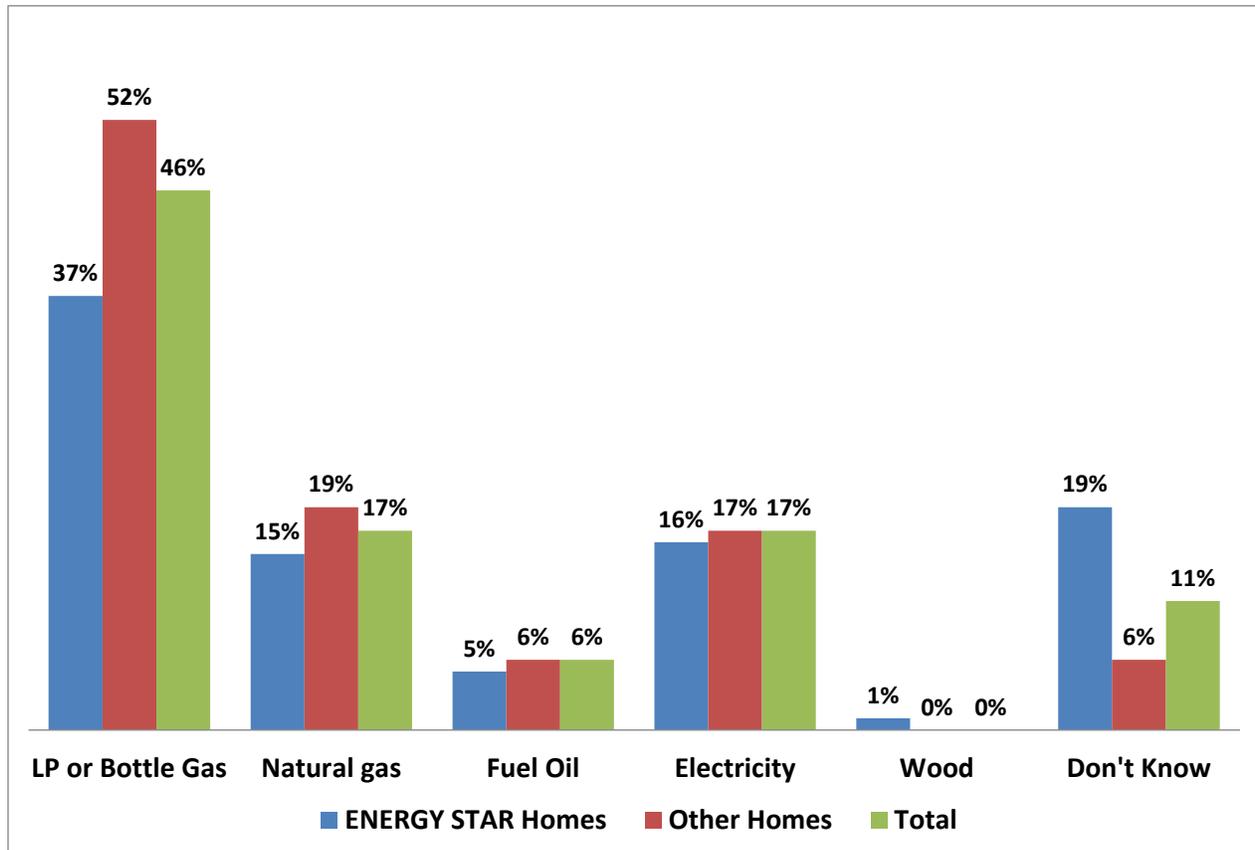
(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Natural gas	15%	19%	17% [√]
Propane or bottled gas	37%	52%*	46% [√]
Electricity	16%	17%	17% [√]
Fuel oil	5%	6%	6% [√]
Wood	1%	0%	0%
Other/don't know	19%	6%*	11% [√]
2002			
n	8	112	120
Natural gas	0%	26%	26%
Propane or bottled gas	0%	36%	36%
Electricity	62%	3%	3%
Fuel oil	25%	32%	32%
Wood	0%	1%	1%
Other/don't know	12%	3%	3%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[√]Significantly different from 2002 at the 90% confidence level.

Figure 2-4: Main Water Heating Fuel



Close to three out of five new homes in 2010, both ENERGY STAR-certified and other homes, have central air conditioning. (Table 2-7)

Table 2-7 Presence of Central Air Conditioning

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Have central air conditioning	58%	60%	59%

Buyers who bought both ENERGY STAR and other homes are likely to have already owned a home before buying the home in question. About three-quarters of all home buyers interviewed have already owned a home, roughly the same proportion as in 2002. (Table 2-8 and Figure 2-5)

Table 2-8 First-Time Home Buyer or Already Owned a Home

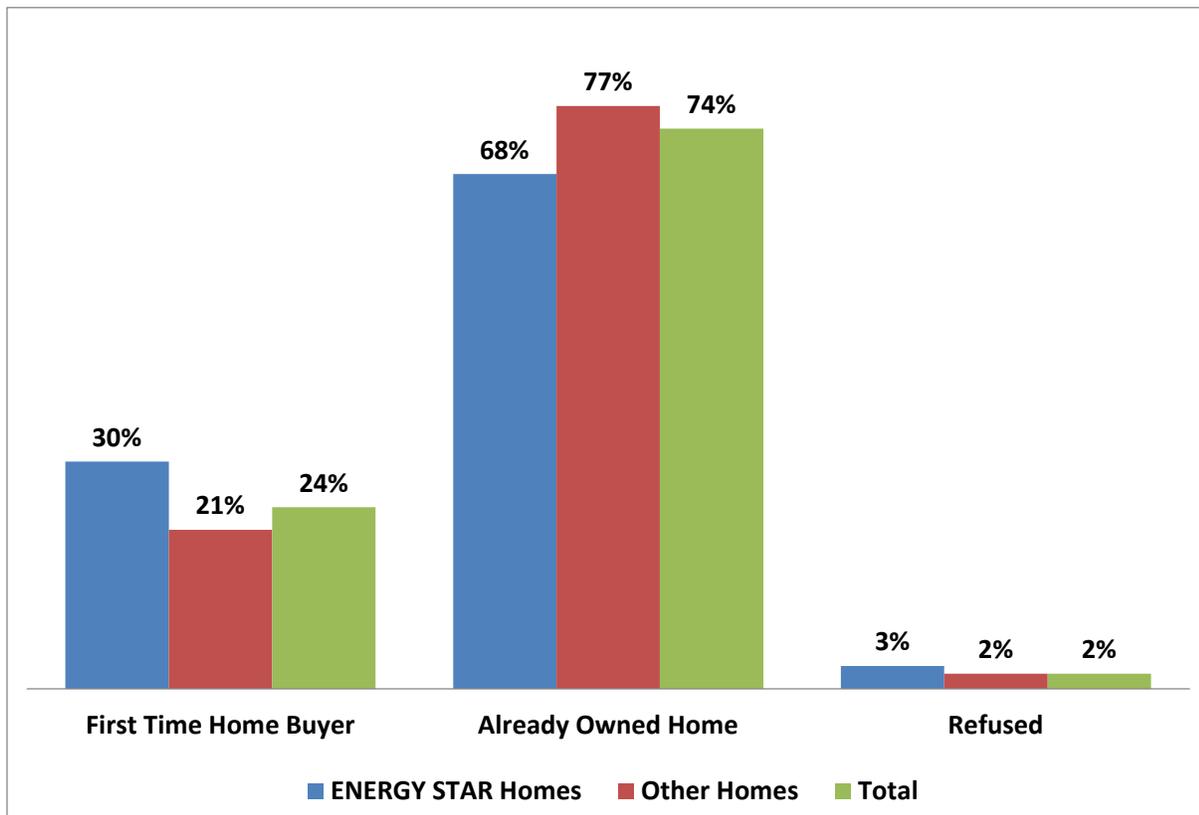
(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
First-time home buyer	30%	21%	24%
Already owned home	68%	77%	74%
(Refused)	3%	2%	2% [√]
2002			
n	8	112	120
First-time home buyer	0%	25%	25%
Already owned home	100%	75%	75%
(Refused)	0%	0%	0%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

√Significantly different from 2002 at the 90% confidence level.

Figure 2-5: First-Time Home Buyer or Already Owned a Home



Buyers of new ENERGY STAR homes in 2010 appear to be more likely to hold a graduate degree (Table 2-9 and Figure 2-6), which may be due to their tendency to be 45 to 64 years old than buyers of other new homes. (Table 2-10 and Figure 2-7)

Table 2-9 Education

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Less than high school	0%	1%	1%
High school graduate	9%	15%	13%
Technical or trade school graduate	4%	2%	3%
Some college	7%	13%	11%
College graduate	41%	44%	43%
Some graduate school	1%	3%	2% [√]
Graduate degree	32%	21%*	25% [√]
(Refused)	6%	3%	4% [√]
2002			
n	8	112	120
Less than high school	0%	1%	1%
High school graduate	12%	19%	19%
Technical or trade school graduate	0%	1%	1%
Some college	25%	17%	17%
College graduate	25%	38%	38%
Some graduate school	12%	7%	7%
Graduate degree	25%	17%	17%
(Refused)	0%	1%	1%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

√Significantly different from 2002 at the 90% confidence level.

Figure 2-6: Education

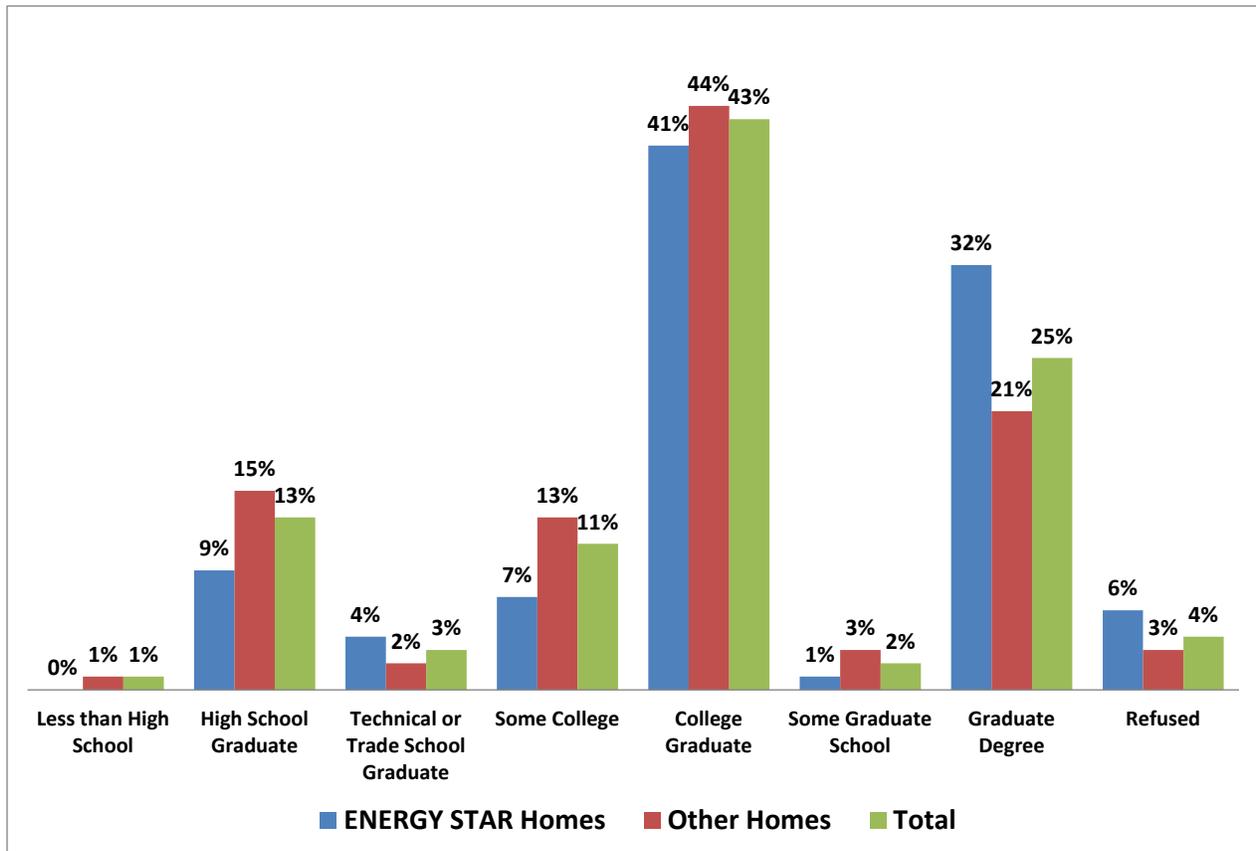


Table 2-10 Age

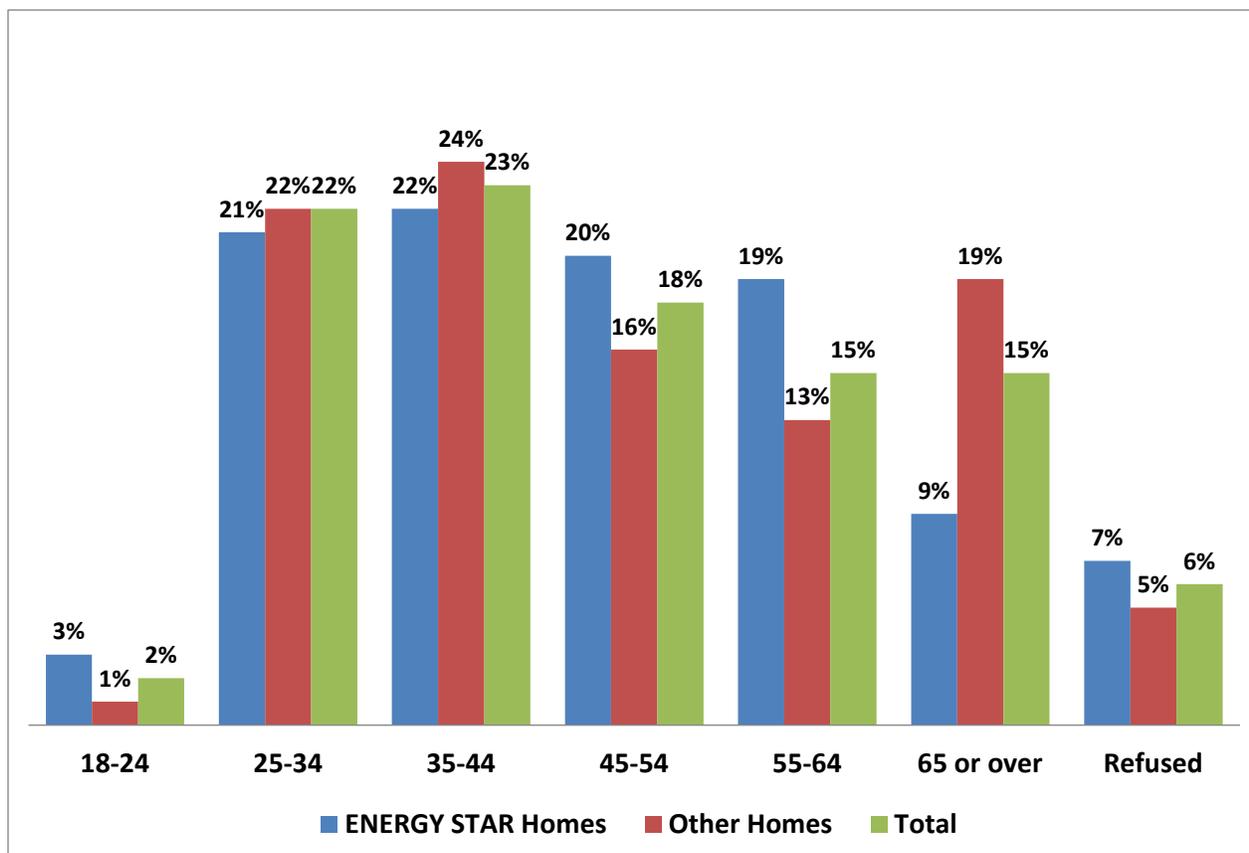
(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
18 to 24	3%	1%	2%
25 to 34	21%	22%	22%
35 to 44	22%	24%	23% [√]
45 to 54	20%	16%	18%
55 to 64	19%	13%	15%
65 or over	9%	19%*	15% [√]
(Refused)	7%	5%	6%
2002			
n	8	112	120
18 to 24	0%	1%	1%
25 to 34	25%	23%	23%
35 to 44	12%	32%	32%
45 to 54	62%	18%	18%
55 to 64	0%	13%	13%
65 or over	0%	9%	9%
(Refused)	0%	4%	4%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[√]Significantly different from 2002 at the 90% confidence level.

Figure 2-7: Age



None of the buyers of new ENERGY STAR homes surveyed who are 55 years or older bought homes in an over-55 community in 2010, while over one-third of the buyers of other homes who are 55 years or older bought homes in an over-55 community. (Table 2-11)

Table 2-11 Home in an Over-55 Community

(all home buyers 55 and older)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	28	44	72
Yes	0%	36%*	22%
No	82%	59%*	68%
Don't know	18%	5%	10%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Buyers of new ENERGY STAR homes have slightly smaller households in 2010 than buyers of other homes; this makes sense since these buyers are older and there are slightly more townhouses and duplexes among the buyers of ENERGY STAR homes surveyed. (Table 2-12 and Figure 2-8)

Table 2-12 Number of People in Household Most of Year

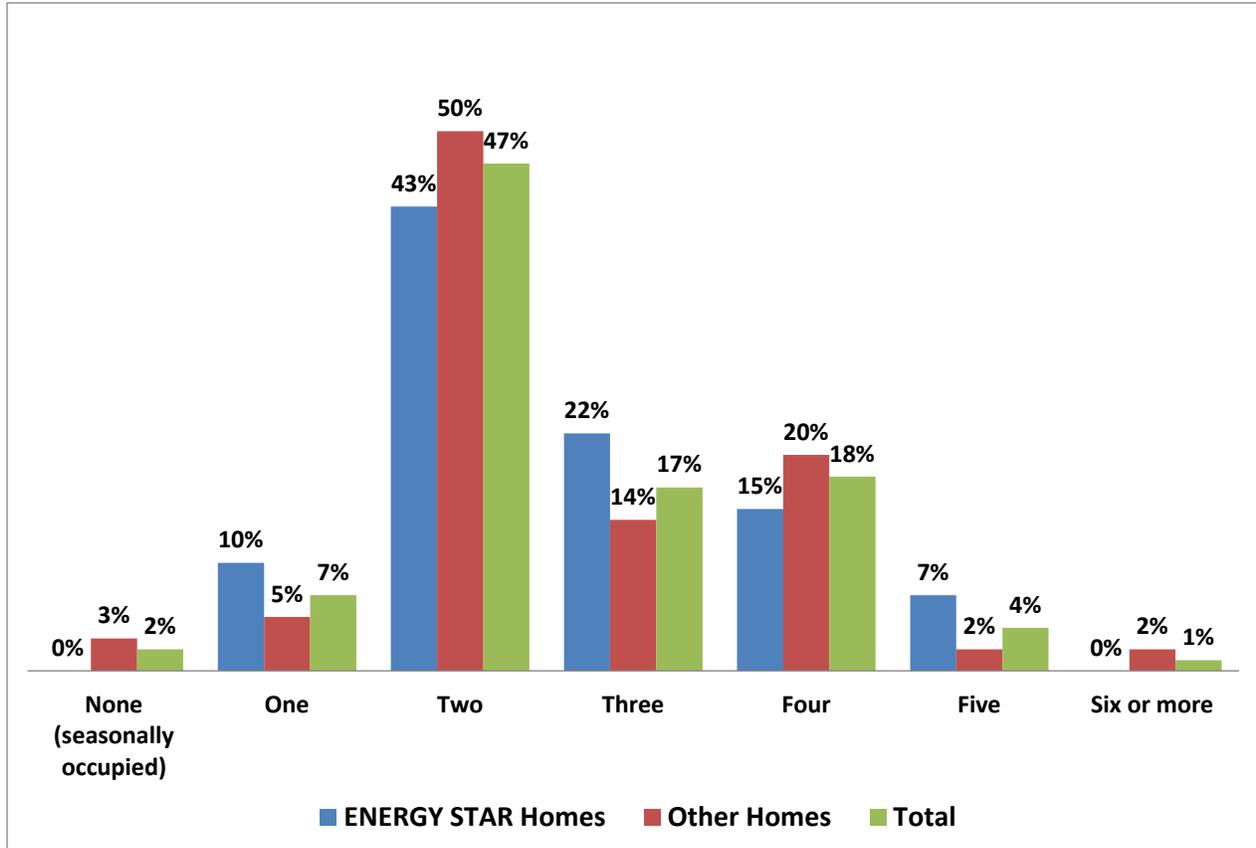
(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
None (seasonally occupied)	0%	3%*	2% [√]
One	10%	5%	7%
Two	43%	50%	47% [√]
Three	22%	14%	17%
Four	15%	20%	18%
Five	7%	2%	4% [√]
Six or more	0%	2%	1%
Mean	2.8	3.0	2.9
2002			
n	8	112	120
None (seasonally occupied)	0%	0%	0%
One	0%	9%	9%
Two	12%	35%	35%
Three	12%	18%	18%
Four	25%	20%	20%
Five	50%	15%	15%
Six or more	0%	4%	4%
(Don't know/refused)	0%	0%	0%
Mean	4.1	3.1	3.1

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[√]Significantly different from 2002 at the 90% confidence level.

Figure 2-8: Number of People in Household Most of Year



Most new home buyers expect to stay in their homes for a long time with about seven out of ten expecting to stay more than ten years or indefinitely. (Table 2-13 and Figure 2-9)

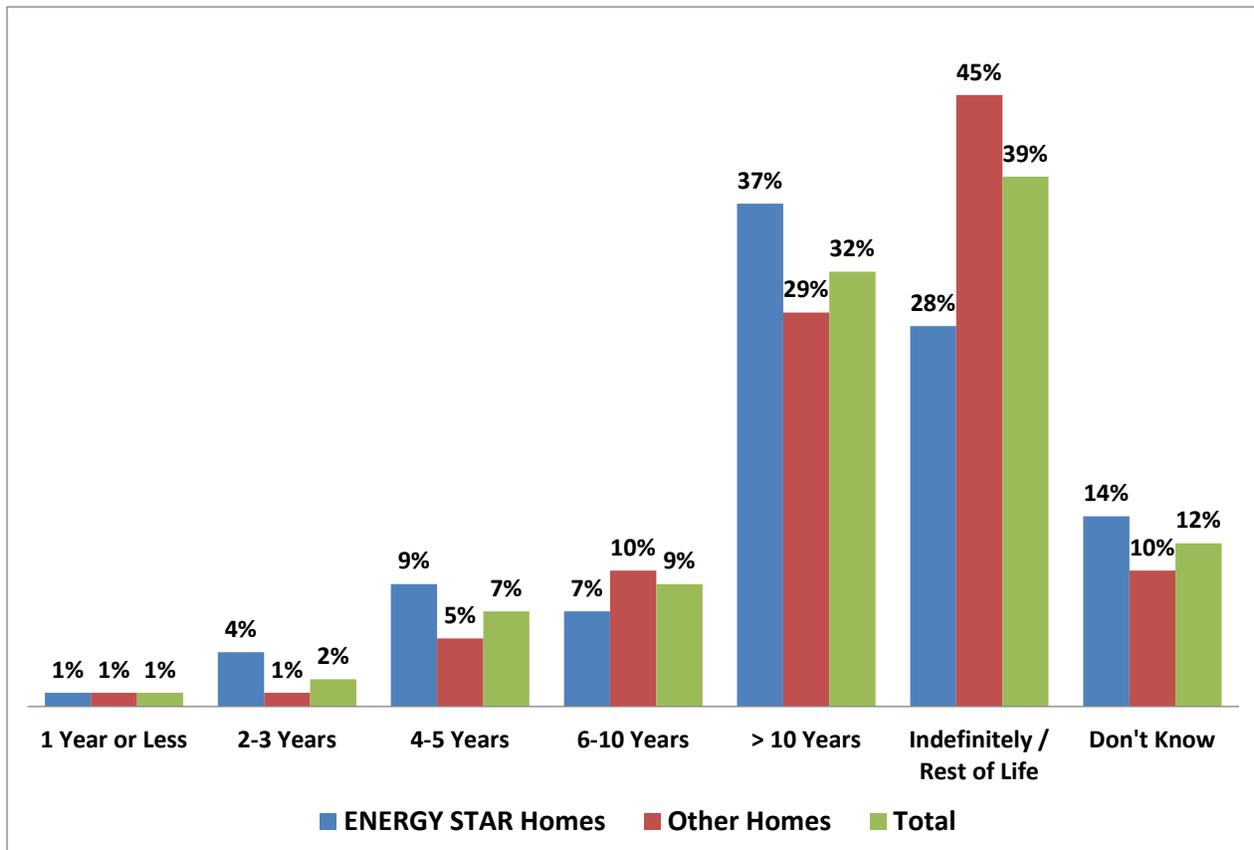
Table 2-13 Expected Stay in New Home

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
One year or less	1%	1%	1%
Two to three years	4%	1%	2%
Four to five years	9%	5%	7%
Six to ten years	7%	10%	9%
More than ten years	37%	29%	32%
Indefinitely/rest of life	28%	45% *	39%
Don't know	14%	10%	12%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Figure 2-9: Expected Stay in New Home



Finally, it appears in 2010, as in 2002, that buyers of new ENERGY STAR homes have slightly higher household incomes than buyers of other homes; probably due to the fact that the former are more likely to have built custom new homes. (Table 2-14 and Figure 2-10)

Table 2-14 Income

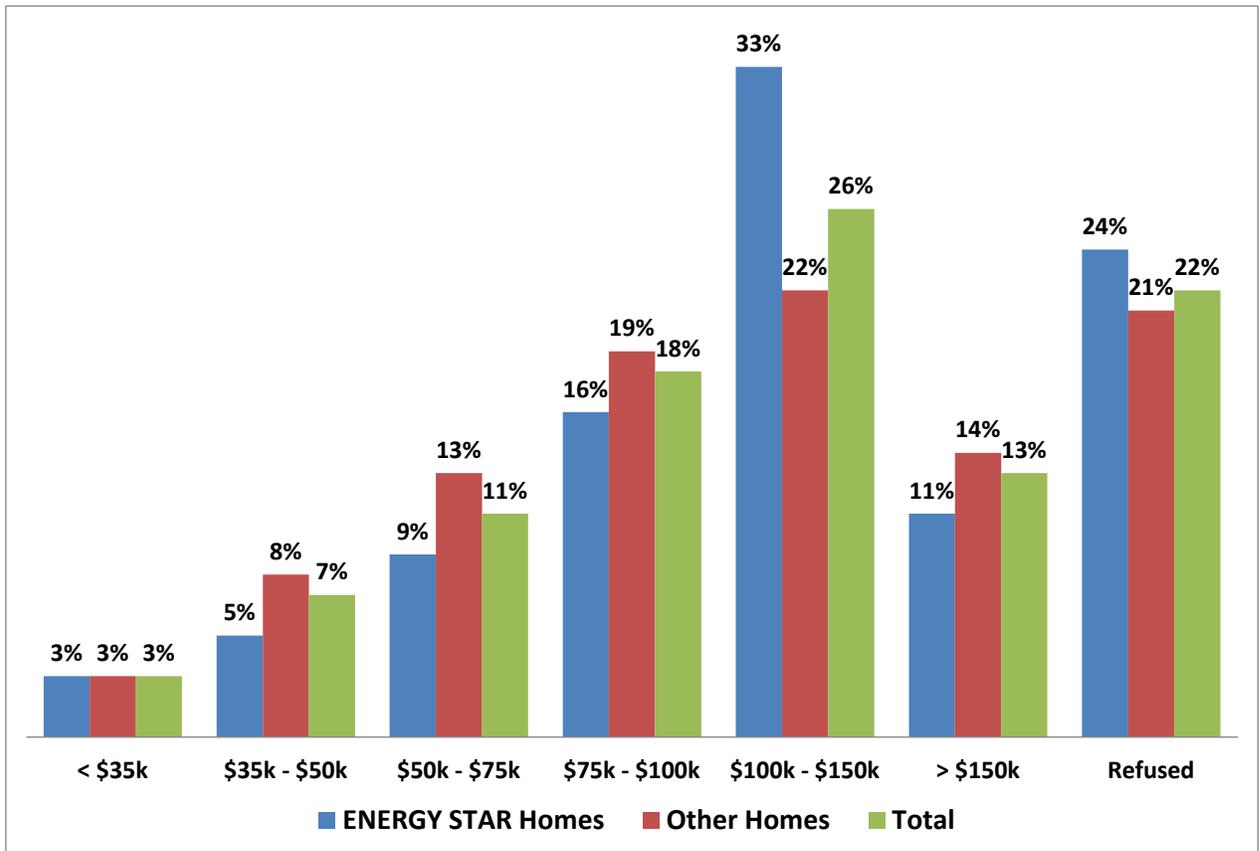
(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Less than \$35,000	3%	3%	3%
\$35,000 to \$49,999	5%	8%	7%
\$50,000 to \$74,999	9%	13%	11%
\$75,000 to \$99,999	16%	19%	18% [√]
\$100,000 to \$149,999	33%	22%*	26%
\$150,000 or more	11%	14%	13%
(Refused)	24%	21%	22%
2002			
n	8	112	120
Less than \$35,000	0%	4%	4%
\$35,000 to \$49,999	0%	12%	12%
\$50,000 to \$74,999	12%	12%	12%
\$75,000 to \$99,999	12%	27%	27%
\$100,000 to \$149,999	38%	21%	21%
(Refused)	38%	25%	25%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[√]Significantly different from 2002 at the 90% confidence level.

Figure 2-10: Income



3 What Home Buyers Seek and How They Shop for a New Home

All survey respondents, regardless of their knowledge of ENERGY STAR homes, answered questions about what factors are most important to them in deciding to buy or build their home as well as the new home shopping process and sources of information.

3.1 What Home Buyers Look for in a New Home

The most important factor in all new home buyers' decisions to buy or build their home rather than any other is the quality of construction (defined by the consumer), as shown in Table 3-1; this factor also ranked highest in 2002. However, the overall mean rating for getting a more efficient home with lower energy bills has risen for new home buyers from a mean of 7.8 on a scale of 0 to 10 in 2002 to 9.1 in 2010. In 2002, getting a more efficient home with lower energy bills was ranked fifth out of eleven factors; in 2010, it ranked second out of 26 factors. Moreover, there is not much variation in the mean rating for this factor among different demographic and economic groups in 2010, though respondents with higher incomes (over \$150,000 a year) give it a slightly lower rating (8.4 versus 9.2 for home buyers who reported incomes below \$150,000 a year) and respondents aged of 45 and older give it the highest ratings. Clearly, new home buyers have been reacting to higher energy prices and, possibly, increased publicity about global warming and other environmental concerns to place a high value on energy efficiency.

Energy efficiency measures such as more efficient windows, a more efficient furnace or boiler, better sealing of air leaks, more or better insulation, and more efficient appliances also get high ratings in 2010; all have mean ratings above 8. Respondents in 2002 were not asked to rate the importance of these more specific efficiency measures. In each case, buyers of new ENERGY STAR homes give slightly higher ratings than buyers of new other homes.

Other important reasons for choosing one new home over another in 2010 include its location and its room layout or design.

The mean rankings were analyzed by whether the respondents who bought ENERGY STAR homes knew that they had done so; for respondents who bought other homes, the rankings were analyzed by whether they were aware that new homes could be certified as ENERGY STAR. (Awareness of ENERGY STAR homes is explored in Chapter 4.) There are few significant differences. Among respondents who bought ENERGY STAR homes, those who are aware of the fact give higher rankings to being involved in decisions about the features of the home (9.2 vs. 6.8), better sealing of air leaks (9.2 vs. 7.8), and better comfort or fewer drafts (9.1 vs. 7.8).

The factors considered important by home buyers of newly constructed homes in New Hampshire and the changes over time are very similar to the findings from the Massachusetts home buyer survey. In Massachusetts, as in New Hampshire, the most important factor in all new home buyers' decisions to buy or build their home rather than any other is the quality of construction

(defined by the consumer); this factor has consistently ranked highest in every year the Massachusetts survey has been conducted—2010, 2006, 2004, 2003, and 2002. As in New Hampshire, the overall mean rating for getting a more efficient home with lower energy bills in Massachusetts has steadily risen for new home buyers in the five years surveys have been conducted. In 2002, this reason was ranked 7.2 on a scale of 0 to 10; in 2003, it rose to 7.7; then to 8.0 in 2004; to 8.7 in 2006; and in 2010 it rose again to 9.0.

Massachusetts respondents also give high ratings to energy efficiency measures such as more efficient windows and a more efficient furnace or boiler. Other important reasons for choosing one new home over another in Massachusetts, as in New Hampshire, include its location, being involved in decisions about features of the home, room layout or design, and builder reputation.

Table 3-1 Factors in Decision to Buy/Build This Home Rather than Another

(all home buyers;
0= “one of the least important factors,” 10= “one of the most important factors”)

	ENERGY STAR Homes		Other Homes		Total	
2010						
	n	Mean	n	Mean	n	Total
Quality of construction	81	9.6	118	9.3	199	9.4
Good location	77	9.0	116	9.1	193	9.1
Getting a more efficient home with lower energy bills	79	9.5	116	8.9	195	9.1
More efficient windows or windows with a low e value	76	9.3	113	8.9	189	9.0
A more efficient furnace or boiler	72	9.0	113	8.8	185	8.9
Room layout or design	79	8.7	117	8.9	196	8.8
Better comfort/fewer drafts	78	8.8	112	8.8	190	8.8
Better sealing of air leaks	76	8.9	106	8.8	182	8.8
Builder reputation	74	8.6	103	8.8	177	8.7
More or better insulation	71	9.2	112	8.5	183	8.7
Good exterior finish details—wood siding, exterior trim, no gaps in joints	77	8.7	115	8.5	192	8.6
More efficient appliances	78	8.9	109	8.4	187	8.6
Keeping down the overall purchase price of the home	79	8.2	115	8.7	194	8.6
Being involved in decisions about features of the home	67	8.8	98	8.4	165	8.5
Good interior finish details – no gaps in joints, ceiling medallions, wainscoting, chair rails	77	8.7	114	8.3	191	8.4
Healthier indoor air	78	8.5	113	8.4	191	8.4
Having a kitchen with upgraded cabinets and countertops and high end appliances	79	8.2	116	8.2	195	8.2
Size of the home	76	7.7	117	8.1	193	8.0
Certified as an ENERGY STAR home	79	8.9	106	6.8	185	7.5
Community amenities (e.g., bike trails, community pool, recreation center, access to public transportation)	72	6.2	116	7.6	188	7.2
Use of renewable energy and other green building measures	77	8.4	101	6.4	178	7.0
Good-sized lot	70	7.8	112	6.6	182	6.9
Good schools	61	6.1	90	6.8	151	6.6
Number of bathrooms and/or bathrooms with nice features such as whirlpool baths	73	5.7	114	7.0	187	6.6

Table 3-1 Factors in Decision to Buy/Build This Home Rather than Another (continued)

(all home buyers;
0= “one of the least important factors,” 10= “one of the most important factors”)

	ENERGY STAR Homes		Other Homes		Total	
2010						
	n	Mean	n	Mean	n	Total
Commuting distance or time to work	71	6.7	96	6.3	167	6.4
Lack of availability of other suitable homes	57	4.2	96	5.6	153	5.2
2002						
	n	Mean	n	Mean	n	Total
Quality of construction	8	9.1	112	9.0	112	9.0
Room layout or design	8	8.8	112	8.3	112	8.3
Keeping down overall purchase price	8	5.9	112	8.2	112	8.2
Size of the home	8	7.8	110	7.9	110	7.9
Being involved in decisions about features of the home	8	8.9	112	7.8	112	7.8
Getting a more efficient home with lower energy bills	8	8.6	112	7.8	112	7.8
Builder reputation	7	8.9	108	7.1	108	7.1
Landscaping or yard	8	5.4	111	6.1	111	6.1
Lack of availability of other suitable homes	7	6.0	111	5.5	111	5.5
Commuting distance or time to work	8	5.1	112	5.1	112	5.1
Schools	8	5.3	110	5.1	110	5.1
Community amenities (e.g., bike trails, community pool, recreation center)	8	5.0	111	4.6	111	4.6

While Table 3-1 presents reasons for buying or building a particular home that were read out loud to respondents, Table 3-2 shows other reasons they mention on their own. The most commonly mentioned reason in 2010 is the home having a geothermal heating system followed by energy efficiency and a good neighborhood, while the most commonly mentioned reasons in 2002 involved the home being in a rural setting with no neighbors and the neighborhood in general. It should be noted that few respondents, 39 in total, mentioned additional reasons in 2010.

Table 3-2 Other Reasons Mentioned to Buy/Build This Home Rather than Another
(all home buyers; multiple response)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Geothermal	5%	1%	3%
Energy efficient	5%	0%	2%
Good neighborhood	1%	2%	2%
View from home	1%	1%	1%
Good home layout	0%	1%	1%
Porch	0%	1%	1%
Maintenance free	0%	2%	1%
Wanted windmill	0%	1%	1%
Handicap accessible	0%	2%	1%
Over 55 community	0%	1%	1%
Bedrooms on same floor	0%	2%	1%
Close to family	0%	1%	1%
Proximity to neighbors	0%	2%	1%
Garage	0%	1%	1%
Quiet street	1%	0%	0%
Green home, good for environment	1%	0%	0%
LEED certification	1%	0%	0%
Good rebates	1%	0%	0%
Other	2%	4%	3%
No additional reasons	80%	81%	81%

**Table 3-2 Other Reasons Mentioned to Buy/Build This Home Rather than Another
(continued)**

(all home buyers; multiple response)

	ENERGY STAR Homes	Other Homes	Total
2002*			
n	8	112	120
Rural, no neighbors	0%	11%	11%
Neighborhood	25%	8%	8%
Family, neighbors	0%	6%	6%
Ocean, woods, open space, view	12%	4%	4%
Lot size	0%	4%	4%
Quiet	0%	4%	4%
Close to highways, airport	0%	4%	4%
Close to church	0%	2%	2%
Close to Massachusetts	0%	2%	2%
Pretty	12%	1%	1%
Close to city	0%	1%	1%
Shopping	0%	1%	1%
Small town	0%	1%	1%
Near recreation areas	0%	1%	1%
Single-floor living	0%	1%	1%
Easier to build than buy	0%	1%	1%
Already owned land	12%	0%	<1%
Don't know	0%	5%	5%

*A large minority of respondents offered no additional reasons in 2002

3.2 How Buyers Shop for a New Home

Buyers of new homes who purchased a finished home, a home under construction, or a lot from a builder who offered several house plans (spec home buyers) say they get most of their information from builders in 2010, closely followed by real estate agents. Buyers of new ENERGY STAR homes are significantly more likely (27% vs. 10%) to say they get most of their information from the building company's marketing department than buyers of other new homes. Buyers of new ENERGY STAR homes are also more likely to mention the Internet as a source of information (20% vs. 10%) than buyers of other new homes. (Table 3-3 and Figure 3-1) Among buyers of new ENERGY STAR homes, those who are aware of their home's certification are more likely to mention getting their information from builders than those not aware of certification (41% vs. 22%).

Table 3-3 How Spec Home Buyers Got Information about Their Home and Its Features

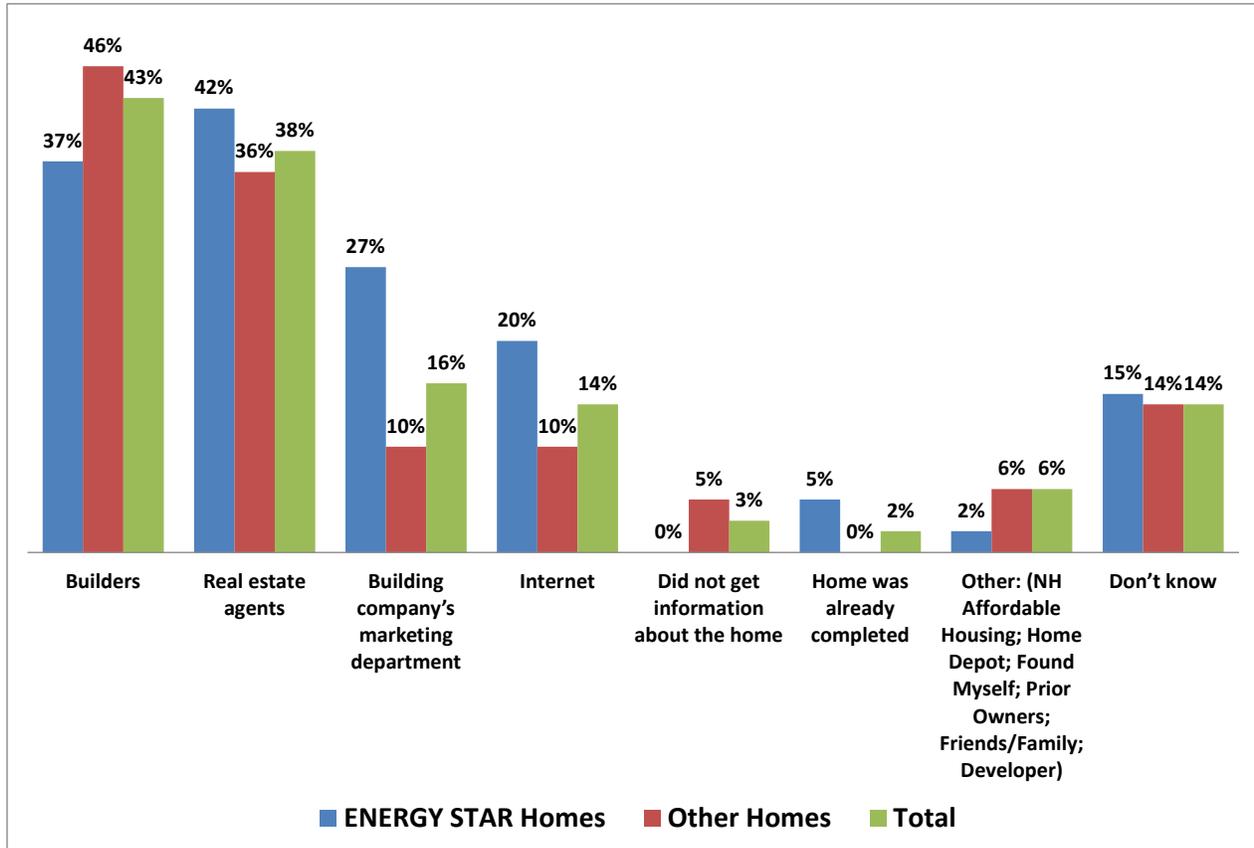
(spec home buyers; multiple response)

	ENERGY STAR Homes	Other Homes	Total
New Hampshire 2010			
n	41	81	122
Builders	37% [†]	46% [†]	43% [†]
Real estate agents	42%	36%	38% [†]
Building company's marketing department	27%	10% ^{*†}	16%
Internet	20%	10%	14%
Did not get information about the home	0%	5% [*]	3%
Home was already completed	5%	0%	2%
NH affordable housing	2%	0%	1%
Home Depot	0%	1%	1%
Found myself	0%	1%	1%
Prior owners	0%	1%	1%
Friends/family	0%	2%	1%
Developer	0%	1%	1%
Don't know	15%	14%	14%
Massachusetts 2010			
n	83	66	149
Builders	59%	61%	60%
Real estate agents	37%	24% [*]	28%
Internet	11%	26% [*]	21%
Building company's marketing department	16%	5% [*]	8%
Other	4%	3%	3%
General knowledge	1%	2%	2%
Advertising	1%	3%	2%
Lawyer/Architect	1%	2%	2%
Utility	0%	2%	1%
Don't know	10%	14%	13%

*Significantly different from buyers of ENERGY STAR homes at the 90% confidence level.

[†]New Hampshire significantly different from Massachusetts in 2010

Figure 3-1: How Spec Home Buyers Got Information about Their Home and Its Features



The Massachusetts home buyer survey included four of the New Hampshire sources of information—builders, real estate agents, the Internet, and the building company’s marketing department. Among all spec built home buyers, New Hampshire home buyers are significantly less likely to mention builders and more likely to mention real estate agents as a source of information compared to Massachusetts where more homebuyers mention builders as their source of information. This may be due to Massachusetts having more large developments where buyers believe they are dealing directly with builders. Respondents in New Hampshire who used the Internet as a source of information about their homes mention a variety of builder and utility websites; however, only 18 respondents in total answered this question. (Table 3-4)

Table 3-4 Internet Sites Visited
 (those who mentioned Internet usage; multiple response)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	8	10	18
Beangroup.com	1	0	1
Broker Sites	0	1	1
Energy Star rated homes website	1	0	1
HGTV	0	1	1
Homebuilding.com	0	1	1
Insulation sites	1	0	1
MLS property finder	1	0	1
Naturalspacesdomes.com	0	1	1
NH affordable housing	1	0	1
Newspaper Website	0	1	1
Pacificproducts.com	0	1	1
Builder and realtor websites	0	1	1
KeySpan website	1	0	1
EPA.gov	1	0	1
Don't remember	2	3	5

At least one-half of the home buyers surveyed say they discussed topics such as the energy efficiency of the heating and/or cooling equipment, the energy efficiency of the new home, the type of insulation used and how much it would cost to heat and/or cool the new home while shopping for, designing or constructing their new homes. Buyers of new ENERGY STAR homes are significantly more likely to have discussed energy efficiency of the home (69% vs. 55%), heating and cooling costs (59% vs. 45%), indoor air quality (59% vs. 35%), and green building (46% vs. 21%) than buyers of other new homes. (Table 3-5)

Not surprisingly, respondents who knew they bought ENERGY STAR homes are significantly more likely than those who did not know their new homes are ENERGY STAR to discuss how much it would cost to heat and cool the new home (67% vs. 36%) and the type of insulation used (74% vs. 29%); respondents who bought other homes and are aware of ENERGY STAR homes are also significantly more likely than those not aware of ENERGY STAR homes to discuss green building (28% vs. 13%).

Table 3-5 Topics Discussed by Home Buyers While Shopping for, Designing, or Constructing a Home

(all home buyers; multiple response)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Energy efficiency of heating and/or cooling equipment	72%	61%	65%
Energy efficiency of a new home	69%	55%*	60%
Type of insulation used	62%	54%	57%
How much it would cost to heat and cool the home	59%	45%*	50%
Indoor air quality	59%	35%*	44%
Green building	46%	21%*	31%

*Significantly different from buyers of ENERGY STAR homes at the 90% confidence level.

In response to an open-ended question, survey respondents report that discussions about the energy efficiency of new homes most often center on lower energy costs, more or better insulation, the efficiency level of the house as a whole, more efficient windows, and more efficient heating systems. Buyers of new ENERGY STAR homes are significantly more likely to report discussing lower energy costs (27% vs. 13%) and the efficiency level of the house as a whole (16% vs. 6%), while buyers of other new homes are significantly more likely to report discussing more efficient windows (12% vs. 5%). (Table 3-6)

Table 3-6 What Home Buyers Were Told About Energy Efficiency

(all home buyers; multiple response)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Lower energy costs	27%	13%*	18%
More or better insulation	11%	14%	13%
Efficiency level of the house as a whole	16%	6%*	10%
More efficient windows	5%	12%*	9%
More efficient furnace or boiler/heating system	6%	10%	8%
More efficient appliances	6%	5%	5%
Higher quality construction in general	4%	6%	5%
Home is tested to verify its energy efficiency	7%	3%	5%
More efficient central air conditioning	5%	4%	4%
Better sealing of air leaks	5%	4%	4%
Other	6%	2%	4%
Superior quality of construction	5%	2%	3%
Improved comfort year round	5%	1%	3%
Better framing materials	2%	3%	3%
Higher home resale value potential	4%	1%	2%
More efficient lighting	4%	1%	2%
Very little, they were not knowledgeable	4%	1%	2%
Nothing, we did not discuss	1%	3%	2%
Enhanced air quality	2%	1%	1%
Mortgage savings—may qualify for special mortgage	1%	1%	1%
Better ductwork	2%	0%	1%
Less moisture buildup	1%	1%	1%
Lowered taxes	2%	0%	1%
How to increase R factor	0%	1%	1%
Smaller carbon footprint	0%	1%	1%
The standards	1%	0%	<1%
Fossil fuel reduction	1%	0%	<1%
Business coding	1%	0%	<1%
New technologies	1%	0%	<1%
Don't know	17%	26%	23%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Just over one-half (51%) of respondents who could provide an estimate of how long discussions on energy efficiency lasted say they lasted two hours or less. Other respondents interpreted this question to indicate the time period over which they discussed energy efficiency with their builder or real estate agent. (Table 3-7)

Table 3-7 How Long Spent Discussing Energy Efficiency of New Home

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
1 to 30 minutes	19%	19%	19%
More than 30 minutes to 1 hour	5%	6%	6%
More than 1 hour to 2 hours	15%	10%	12%
More than 2 hours to 6 hours	5%	9%	7%
More than 6 hours to 1 day	1%	1%	1%
More than 1 day to 1 week	9%	3%*	5%
More than 1 week to 1 month	7%	0%*	3%
More than 1 month to 1 year	4%	10%*	8%
More than 1 year	5%	2%	3%
Other	14%	7%	10%
Did not discuss	4%	13%*	10%
Don't know	14%	21%	18%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

The vast majority of respondents report their questions were answered satisfactorily by builders and sales agents (Table 3-8); however a few respondents are unhappy, primarily because they feel they only received limited information from builders and sales agents. (Table 3-9)

Table 3-8 Whether Questions Were Answered Satisfactorily

(home buyers who discussed topics shown in Table 3.5)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	65	89	154
Yes	94%	90%	92%
No	3%	7%	5%
Don't know	3%	3%	3%

Table 3-9 Why Not Satisfied with the Answers Received

(home buyers who were not satisfied with answers to questions about topics discussed as shown in Table 3.5; unweighted numbers shown)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	2	6	8
He gave bad cost and investment return answers	0	1	1
Everything was very expensive	0	1	1
I did most of the research, not him	1	0	1
I did my homework	1	0	1
The answers didn't change insulation on my windows	0	1	1
They don't have knowledge on green practices	0	1	1
They just barely touched on the topics	0	1	1
They were not knowledgeable about the water system	0	1	1

4 Awareness and Understanding of ENERGY STAR and Green Building

Awareness and understanding of the ENERGY STAR label in general and of the label on newly constructed homes has increased dramatically since the last survey of new home buyers in New Hampshire was conducted in 2002. The current survey also examines awareness and understanding of green building.

4.1 Awareness and Understanding of ENERGY STAR

The percentage of new home buyers who express unaided awareness of the ENERGY STAR label—that is, those who say they have seen or heard of the label just by hearing the name—has risen to include almost all home buyers (97%) in 2010—up significantly from 62% in 2002. (Table 4-1) Buyers of new ENERGY STAR homes are more likely to have heard of the label than buyers of other homes. Although awareness of the ENERGY STAR label is very high in both New Hampshire and Massachusetts, New Hampshire buyers of new ENERGY STAR homes are significantly more likely than Massachusetts buyers of new ENERGY STAR homes to express unaided awareness of the ENERGY STAR label while New Hampshire buyers of other new homes are significantly less likely to be aware of the ENERGY STAR label in general.

Table 4-1 Unaided Recognition of ENERGY STAR Label

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
New Hampshire 2010			
n	81	119	200
Recognize label	99% [†]	95% ^{*†}	97% [∨]
Massachusetts 2010			
n	100	118	218
Recognize label	92%	99% [*]	97%
New Hampshire 2002			
n	8	112	120
Recognize label	100%	62%	62%

^{*}Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[†]New Hampshire significantly different from Massachusetts in 2010

[∨]Significantly different from 2002 at the 90% confidence level.

Asked what the ENERGY STAR label means to them, close to nine out of ten (89%) of all home buyers are able to explain what it means (high understanding). This is more than double from 2002 when only 44% of all home buyers had a high understanding of the ENERGY STAR label. (Table 4-2) Moreover, New Hampshire buyers of new ENERGY STAR homes and all New Hampshire home buyers are significantly more likely than their Massachusetts counterparts to

have a high understanding of the ENERGY STAR label.

Table 4-2 Understanding of ENERGY STAR

(all home buyers; multiple response)

	ENERGY STAR Homes	Other Homes	Total
New Hampshire 2010			
n	81	119	200
High understanding (not multiple response)	89%[†]	89%	89%^{√†}
Energy efficiency/savings	54%	45%	48% [†]
Efficient appliances, windows or lights	14% [†]	29% [*]	23%
Home/appliances meet energy efficiency standard	22% [†]	18%	20% [†]
Rating of energy usage	6%	9% [†]	8%
Environmental benefit	7%	3%	5%
Saving money on heating costs	4%	6%	5%
Better insulation	3%	3%	3%
Saving money on operation	1% [†]	3%	2%
Better air quality	0%	0%	0%
General understanding (not multiple response)	6%	3%	4%
Savings (type not specified)	10%	6% [†]	8% [†]
Quality	3%	0%	1%
Rebates	3%	0%	1%
No understanding	5%[†]	8%	7%^{√†}
Massachusetts 2010			
n	100	118	218
High understanding (not multiple response)	79%	82%	81%
Energy efficiency/savings	44%	35%	38%
Efficient appliances, windows or lights	25%	30%	28%
Home/appliances meet energy efficiency standard	12%	14%	13%
Environmental benefit	13%	3% [*]	6%
Saving money on heating costs	4%	5%	5%
Rating of energy usage	1%	5%	4%
Better insulation	3%	4%	4%
Saving money on operation	6%	1% [*]	3%
Better air quality	0%	0%	0%
General understanding (not multiple response)	6%	7%	7%
Savings (type not specified)	11%	15%	14%
Quality	3%	1%	2%
Rebates	2%	1%	1%
No understanding	15%	11%	13%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[†]New Hampshire significantly different from Massachusetts in 2010

[√]Significantly different from 2002 at the 90% confidence level.

Table 4-2 Understanding of ENERGY STAR (continued)

(all home buyers; multiple response)

	ENERGY STAR Homes	Other Homes	Total
New Hampshire 2002			
n	8	112	120
High understanding (not multiple response)	88%	44%	44%
Energy efficiency/savings	88%	37%	37%
Energy conservation	0%	1%	1%
Saving money on operation	0%	3%	3%
Environmental benefit	12%	0%	<1%
Energy or environmental product standards	0%	4%	4%
General understanding	0%	7%	7%
Savings (unspecified)	25%	2%	2%
Mentions specific products	0%	3%	3%
Confused with <i>EnergyGuide</i>	0%	2%	2%
Product standards, no link to energy/environment	0%	1%	1%
Government backing	0%	1%	1%
Rebate	0%	2%	2%
No understanding	12%	49%	49%

More than four out of five buyers of ENERGY STAR homes say they have seen or heard of the label on newly constructed homes as compared with just over one-half of the buyers of non-ENERGY STAR homes. (Table 4-3) This represents a marked and significant increase from 2002 levels for buyers of other homes and all home buyers.

Table 4-3 Have Seen or Heard of ENERGY STAR Label on Newly Constructed Home

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
New Hampshire 2010			
n	81	119	200
Yes	81% [†]	56% [*]	66% ^{√†}
Massachusetts 2010			
n	100	118	218
Yes	66%	54% [*]	58%
New Hampshire 2002			
n	8	112	120
Yes	100%	12%	12%

^{*}Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[†]New Hampshire significantly different from Massachusetts in 2010.

[√]Significantly different from 2002 at the 90% confidence level.

New Hampshire buyers of ENERGY STAR homes and all New Hampshire home buyers are significantly more likely than their Massachusetts counterparts to have seen or heard of the ENERGY STAR label on a newly constructed home. In the case of ENERGY STAR homes, this is most likely due, in some part, to the greater portion of custom homes bought in New Hampshire (50%) compared to Massachusetts (23%). Custom home buyers are more likely to be aware of ENERGY STAR homes than respondents who bought spec homes, though, in New Hampshire, the differences are not statistically significant. Among the respondents who bought ENERGY STAR homes in New Hampshire, 88% of custom home buyers are aware of ENERGY STAR homes compared to 78% of spec home buyers. Among respondents who bought other homes, 63% of custom buyers are aware of ENERGY STAR homes compared to only 52% of spec home buyers. In Massachusetts, these differences are more pronounced and statistically significant. Among the respondents who bought ENERGY STAR homes in Massachusetts, 83% of custom home buyers are aware of ENERGY STAR homes compared to 49% of spec home buyers. Among respondents who bought other homes, 63% of custom buyers are aware of ENERGY STAR homes compared to only 43% of spec home buyers.

The difference between New Hampshire and Massachusetts in the portions of custom and spec built homes, however, does not explain the higher (66% vs. 58%) awareness of ENERGY STAR homes among all the survey respondents; there were actually more overall custom home buyer respondents in the Massachusetts survey (45%) than in the New Hampshire survey (39%). It is thus reasonable to conclude that there is a small but significant amount of greater ENERGY STAR homes awareness in New Hampshire.

When asked to describe how ENERGY STAR-labeled homes are different, people who are aware of the label on new homes often mention more insulation, more efficient appliances, a higher level of efficiency for the house as a whole, more efficient heating systems, and more efficient windows. Only six percent of buyers of new ENERGY STAR homes and five percent of all respondents maintain that all newly constructed homes are energy efficient and ENERGY STAR homes are no better than others. (Table 4-4)

Table 4-4 Understanding of ENERGY STAR-Labeled Homes
 (home buyers who are aware of ENERGY STAR-labeled homes; multiple response)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	66	67	133
More or better insulation	41%	34%	37%
More efficient appliances	36%	31%	33%
A higher level of efficiency for the house as a whole	27%	25%	26%
More efficient furnace or boiler/heating system	24%	27%	26%
More efficient windows	24%	19%	21%
Higher quality construction in general	18%	15%	16%
Home is tested to verify its energy efficiency	18%	12%	14%
More efficient lighting	15%	10%	12%
More efficient central air conditioning	18%	6%*	11%
Better sealing of air leaks	11%	9%	10%
Better comfort/fewer drafts	6%	10%	8%
ENERGY STAR homes are no better than other homes—all new homes are energy efficient	6%	5%	5%
Other	3%	3%	3%
Better framing/two by six framing	5%	2%	3%
Less moisture buildup	2%	3%	3%
Certified to meet a certain standard	3%	2%	2%
Lower costs and better value	0%	3%	2%
Savings on electric bill	0%	3%	2%
Better ductwork	2%	0%	1%
Better air quality	2%	0%	1%
Geothermal	2%	0%	1%
Products are better for environment	2%	0%	1%
Advertising	2%	0%	1%
Better HERS rating	0%	2%	1%
More efficient water heater	0%	2%	1%
Don't know	11%	5%	7% [√]
2002			
n	8	14	22
More efficient general, uses less energy	75%	21%	21%
Save money on energy bills	12%	21%	21%
Certified, inspected	38%	0%	<1%
More comfortable	12%	0%	<1%
Don't know	12%	57%	57%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[√]Significantly different from 2002 at the 90% confidence level.

Most (57%) home buyers aware of ENERGY STAR homes say they first learned of the label being applied to new homes in the past three years, most likely while considering a new home. More than a third (36%), however, say they have known about ENERGY STAR homes for at least four years. (Table 4-5)

Table 4-5 When First Became Aware of ENERGY STAR Homes
(home buyers aware of ENERGY STAR homes)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	66	67	133
One year ago or less	12%	19%	16%
One to three years ago	42%	40%	41%
Four to five years ago	17%	12%	14%
Five to ten years ago	20%	12%	15%
More than ten years ago	6%	8%	7%
Don't know	3%	9%	7%

Awareness of the New Hampshire ENERGY STAR Homes Program funded by the New Hampshire utilities increased significantly between 2002 and 2010, but less than one-quarter (23%) of all buyers of newly constructed homes and just over two-fifths (42%) of buyers of new ENERGY STAR homes are aware of the program (Table 4-6).

Table 4-6 Awareness of the New Hampshire ENERGY STAR Homes Program
(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Yes	42%	11%*	23% [∨]
2002			
n	8	112	120
Yes	88%	3%	3%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[∨]Significantly different from 2002 at the 90% confidence level.

Similarly, awareness of the Home Energy Rating System (HERS) increased significantly between 2002 and 2010, but only one-quarter of all buyers of newly constructed homes and less than one-half (48%) of buyers of new ENERGY STAR homes say they are aware of HERS being used to rate the efficiency of a newly constructed home (Table 4-7).

Table 4-7 Awareness of the Home Energy Rating System (HERS)

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Yes	48%	11%*	25% [√]
2002			
n	8	112	120
Yes	100%	4%	4%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[√]Significantly different from 2002 at the 90% confidence level.

Three out of five respondents who are aware of HERS give fairly accurate descriptions. (Table 4-8)

Table 4-8 Self-Reported Meaning of HERS
(home buyers who are aware of HERS ratings; multiple response)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	39	13	52
Some understanding	69%	54%	60%
Rating of products, equipment, house	23%	31%	28%
More efficient, energy efficiency of home	17%	23%	21%
Test for leaks, how tight home is	20%	0%*	8%
Test for heating & cooling efficiency	9%	0%*	3%
No understanding	29%	46%	39%
Amount of electricity in the house	0%	15%	9%
Structure conforms to criteria	0%	8%	5%
Energy to cost ratio	6%	0%	2%
Don't know	23%	23%	23%
2002			
n	8	4	12
Some understanding	74%	50%	50%
Rating of products, equipment, house	62%	50%	50%
Test for leaks	12%	0%	<1%
No understanding	12%	50%	50%
Amount of energy used in an hour	0%	25%	25%
Don't know	12%	25%	25%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

√Significantly different from 2002 at the 90% confidence level.

Just over one-third of buyers of new ENERGY STAR homes who were aware of HERS say they know the HERS rating of their new home. (Table 4-9)

Table 4-9 Know HERS Rating of New Home
(home buyers aware of HERS ratings)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	39	13	52
Yes	36%	0%*	14%
No	46%	92%*	75%
Don't know	18%	8%	12%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

4.2 Awareness and Understanding of Green Building

Close to three-quarters of new home buyers (74%) say they are very or somewhat familiar with the term “green building.” Buyers of new ENERGY STAR homes are significantly more likely (48% vs. 31%) to say they are very familiar with the term, while buyers of other new homes are significantly more likely (45% vs. 25%) to say they are somewhat familiar with the term. In addition to energy efficiency, green building may include water efficiency, use of renewable electric energy generation, site selection to minimize use of undeveloped land, locating near public transportation to minimize car use, smaller or “right-sized” homes, and use of recycled or sustainable materials. Familiarity with green building among the Massachusetts respondents to the new home buyer survey is very similar to New Hampshire rates. (Table 4-10)

Table 4-10 Familiarity with Green Building

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
New Hampshire 2010			
n	81	119	200
Very familiar	48%	31%*	37%
Somewhat familiar	25%	45%*	37%
A little bit familiar	12%	20%	17%
Never heard of the term	15%	4%*†	8%
Massachusetts 2010			
n	100	118	218
Very familiar	43%	30%*	34%
Somewhat familiar	31%	44%*	40%
A little bit familiar	15%	15%	15%
Never heard of the term	11%	11%	11%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

†New Hampshire significantly different from Massachusetts in 2010.

Asked what green building means to them, most respondents, interestingly, mention energy efficiency. This may be partly due to the fact that, at this point in the survey, they had a good idea that energy efficiency was the topic of interest. Over one-half of respondents also mention the use of recycled or sustainable materials and over one-quarter mention the use of renewable energy. (Table 4-11)

Table 4-11 Meaning of Green Building

(home buyers with any familiarity of the term; multiple response)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	69	114	183
Energy efficiency	73%	67%	69%
Use of recycled, renewable, or sustainable materials such as bamboo	58%	49%	52%
Use of renewable energy such as solar or wind power	25%	27%	26%
Well insulated home	10%	16%	14%
ENERGY STAR homes	9%	4%	6%
Water conservation or recapturing wastewater	15%	5%*	9%
Home built on reclaimed or already used land	4%	4%	4%
LEED certified	3%	0%	1%
More comfortable home	3%	1%	2%
Healthy or clean indoor environment	4%	5%	5%
Good for environment	6%	4%	5%
Lower carbon footprint	1%	5%*	3%
Good home efficiency	0%	2%	1%
Good siding	0%	1%	1%
Efficient appliances	0%	1%	1%
Lower emissions	0%	1%	1%
Lower electric/heating bills	0%	1%	1%
Sustainable materials	0%	1%	1%
Smaller sized homes	3%	0%	1%
Other	3%	1%	2%
Don't know	0%	1%	1%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Asked to rate how “green” their new home is on a scale from 0 to 10, where 0 is “not green at all” and 10 is “very high on a green building scale”, buyers of ENERGY STAR homes give their homes significantly higher ratings than other home buyers (Table 4-12 and Figure 4-1) with over three out of five rating their homes 8 to 10. This is an encouraging sign that many buyers of ENERGY STAR homes are aware of the fact that their homes are built to exceed code in energy efficiency and associate them with green building.

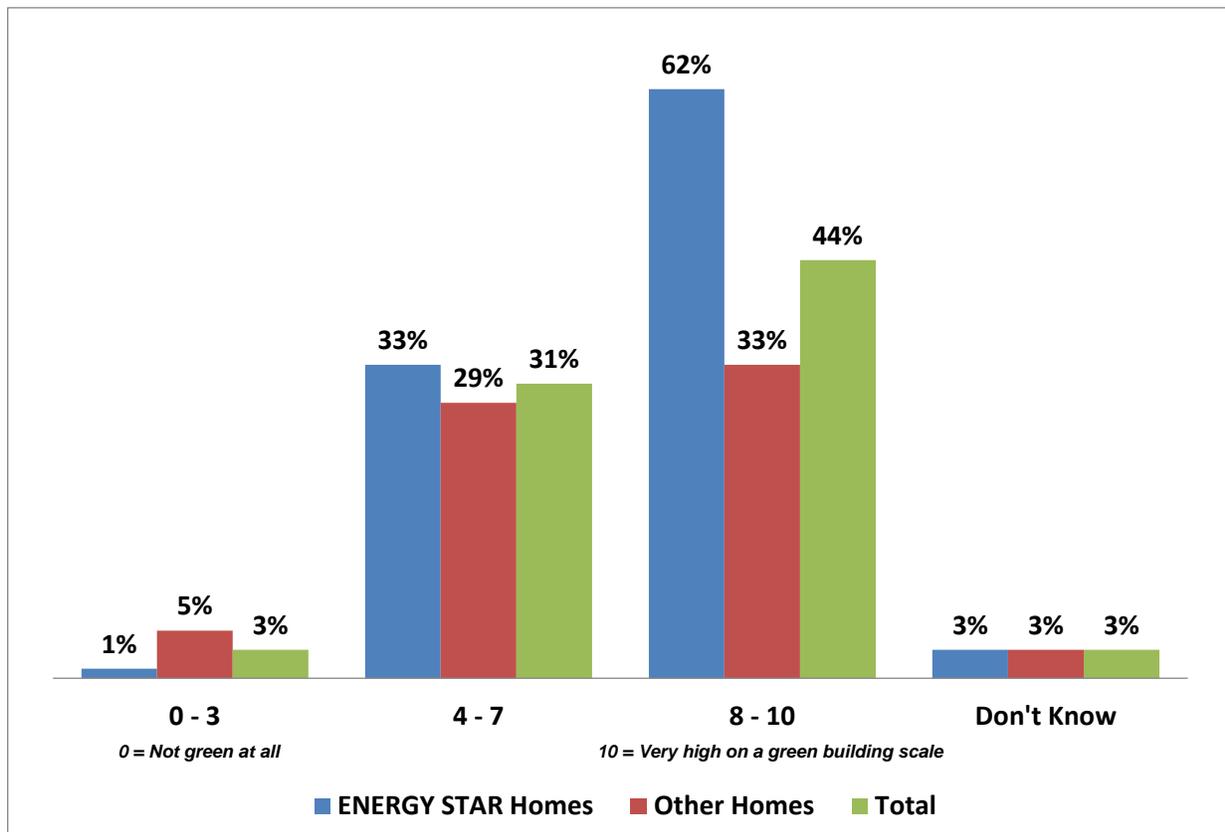
Table 4-12 How Green Do You Consider New Home To Be?

(home buyers with any familiarity with the term;
0 = “not green at all” and 10 = “very high on a green building scale”)

	ENERGY STAR Homes	Other Homes	Total
2010			
N	69	114	183
0-3 rating	1%	5%*	3%
4-7 rating	33%	29%	31%
8-10 rating	62%	33%*	44%
Don't know	3%	3%	3%
Mean rating	8.0	6.9*	7.2

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Figure 4-1: How Green Do You Consider New Home To Be?



5 Role of ENERGY STAR in New Home Shopping

Spec home buyers in 2010 are more likely to say they learned about ENERGY STAR homes after rather than before they started shopping for a new home. This finding is difficult to compare to 2002 when most spec home buyers had not heard of ENERGY STAR homes. (Table 5-1)

Table 5-1 When Spec Home Buyers Learned About ENERGY STAR Homes

(spec home buyers who have heard of ENERGY STAR homes in 2010; all spec home buyers in 2002)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	31	43	74
Already knew before starting shopping	42%	42%	42% [∨]
Learned after starting shopping	52%	51%	51% [∨]
Didn't know/not sure	7%	7%	7% [∨]
2002			
n	2	86	88
Already knew before starting shopping	100%	4%	4%
Learned after starting shopping	0%	8%	8%
Didn't know/not sure	0%	88%	88%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[∨]Significantly different from 2002 at the 90% confidence level.

One-third of all spec home buyers who are aware of ENERGY STAR homes report visiting at least one ENERGY STAR home while shopping for a new home. (Table 5-2) A large portion of buyers of new ENERGY STAR homes (42%) do not report visiting ENERGY STAR homes; some of these respondents may not know they have purchased an ENERGY STAR home, as shown later in Table 5-14, and some may have purchased a lot from a builder or a home under construction and thus did not visit a completed home before purchasing. (Respondents were explicitly instructed by the survey to include their own home in the number of homes visited while shopping.)

Table 5-2 Number of ENERGY STAR Homes Visited While Shopping

(spec home buyers who have heard of ENERGY STAR homes)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	31	43	74
None/not sure	42%	81%*	66% ^v
One	26%	9%*	15%
Two	16%	5%	9%
Three	3%	0%	1%
Four	3%	2%	2%
Five or more	10%	2%	5%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Home buyers who are aware of ENERGY STAR-labeled homes were asked if they had asked builders or real estate agents about ENERGY STAR, and if builders/real estate agents had brought up the subject. Among both buyers of new ENERGY STAR homes and buyers of other new homes, about 30 percent more heard about ENERGY STAR homes from builders rather than bringing up the subject themselves (50% vs. 38% for buyers of ENERGY STAR homes; 31% vs. 24% for buyers of other homes). (Table 5-3)

Table 5-3 Who Brought up the Subject of ENERGY STAR Homes

(home buyers aware of ENERGY STAR homes)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	66	67	133
Asked builders/agents	38%	24%*	29%
Builders/real estate agents brought it up	50%	31%*	38%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Table 5-4 and Table 5-5 show—among the few spec home buyers who talked to more than one category of people about ENERGY STAR homes—which categories the home buyers asked about ENERGY STAR homes and which categories brought up the topic with the home buyers, respectively.

Table 5-4 Who Buyers Asked About ENERGY STAR Homes

(spec home buyers who talked to more than one category—from Table 3-3—about ENERGY STAR homes; unweighted numbers shown)

	ENERGY STAR Homes	Other Homes	Total
2010			
N	1	3	4
Real estate agent	0	1	1
Parents	0	1	1
The builder	0	1	1
Finance people/builder	1	0	1

Table 5-5 Who Brought Up Subject of ENERGY STAR Homes

(spec home buyers who talked to more than one category—from Table 3-3—about ENERGY STAR homes; unweighted numbers shown)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	3	7	10
Builder	1	3	4
Myself	1	1	2
Realtor	1	0	1
Real estate agent	0	1	1
Parents	0	1	1
Listing agent	0	1	1

Home buyers who either asked or were told by builders or agents about ENERGY STAR homes were asked what the builder/agent said. Common responses include the same as what was said about energy efficiency (Table 3-6), lower energy costs, more or better insulation, superior quality of construction, more efficient windows, and a more efficient heating system. (Table 5-6)

Table 5-6 What Builders/Agents Said about ENERGY STAR Homes

(home buyers who asked or were told by builders/agents about ENERGY STAR homes; multiple response; unweighted numbers shown)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	45	30	75
Same as what they said about energy efficiency	12	8	20
Lower energy costs	7	2	9
More or better insulation	3	1	4
Superior quality of construction	3	1	4
More efficient windows	3	1	4
More efficient furnace or boiler/heating system	4	0	4
More efficient lighting	2	1	3
Nothing	2	1	3
Home is tested to verify its energy efficiency	1	2	3
Enhanced air quality	1	1	2
More efficient appliances	1	1	2
Geothermal	2	0	2
A higher level of efficiency for the house as a whole	1	1	2
More efficient central air conditioning	1	0	1
Better sealing of air leaks	0	1	1
HRV	1	0	1
Testing and rebate	1	0	1
Resale	1	0	1
Metal roofing	0	1	1
Other	1	1	2
Don't know	17	14	31
2002			
n	1	0	1
Lower energy bills	1	0	1
Rebates	1	0	1
High quality	1	0	1

Nine out of ten home buyers believe builders and sales agents answered their questions about ENERGY STAR homes satisfactorily (Table 5-7); the few who did not most often say the people they talked to were not particularly knowledgeable (Table 5-8).

Table 5-7 Were Your Questions Answered Satisfactorily

(home buyers who discussed topics shown in Table 5-6)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	45	30	75
Yes	91%	90%	90%
No	7%	10%	9%
Don't know	2%	0%	1%

Table 5-8 Why Not Satisfied with the Answers Received about ENERGY STAR

(home buyers who were not satisfied with answers to questions about topics discussed as shown in Table 5-6; unweighted numbers shown)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	3	3	6
They were not knowledgeable	3	1	4
We already had the information	0	1	1
Don't know	0	1	1

Spec home buyers in 2010 list 24 sources³ when they have seen or heard information about ENERGY STAR homes. The most commonly mentioned source is the Internet, followed by television ads, magazine ads, and real estate agents. In 2002, respondents were most likely to list magazine ads, television ads, newspaper ads, and builders' sales offices. The biggest change, not surprisingly is the Internet which was mentioned by less than one percent of respondents in 2002; by 2010, it was mentioned by close to two out of five respondents (Table 5-9 and Figure 5-1).

³ Some of the sources mentioned by the respondents such as retail stores and appliances probably indicate that they have confused ENERGY STAR homes with ENERGY STAR appliances or equipment.

Table 5-9 Where Seen or Heard About ENERGY STAR Homes

(spec home buyers aware of ENERGY STAR homes; multiple response)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	31	43	74
Internet	45%	33%	38% [√]
Television ad	10%	21%	17%
Magazine ad	3%	14%*	10% [√]
Real estate agent	16%	5%	9%
Retail store	7%	9%	8%
Newspaper ad	10%	5%	7%
Television news or announcement	7%	7%	7%
From where I work	0%	12%*	7%
Home show	7%	5%	6%
At builder's sales office/model homes	16%	0%*	6%
Driving around	3%	7%	5%
Radio ad	3%	5%	4%
Utility mailing	10%	0%*	4%
Builder sign	10%	0%*	4%
Mailings from builder	7%	2%	4%
ENERGY STAR website	7%	0%	3%
Newspaper article	0%	2%	1%
Recommendations by friends or family	0%	2%	1%
My own building experience	3%	0%	1%
EPA	3%	0%	1%
On appliances	0%	2%	1%
From the builder	0%	2%	1%
Appraisal classes	0%	2%	1%
Home expo	0%	2%	1%
Didn't see or hear any information	0%	5%	3%
Don't know	13%	5%	8%

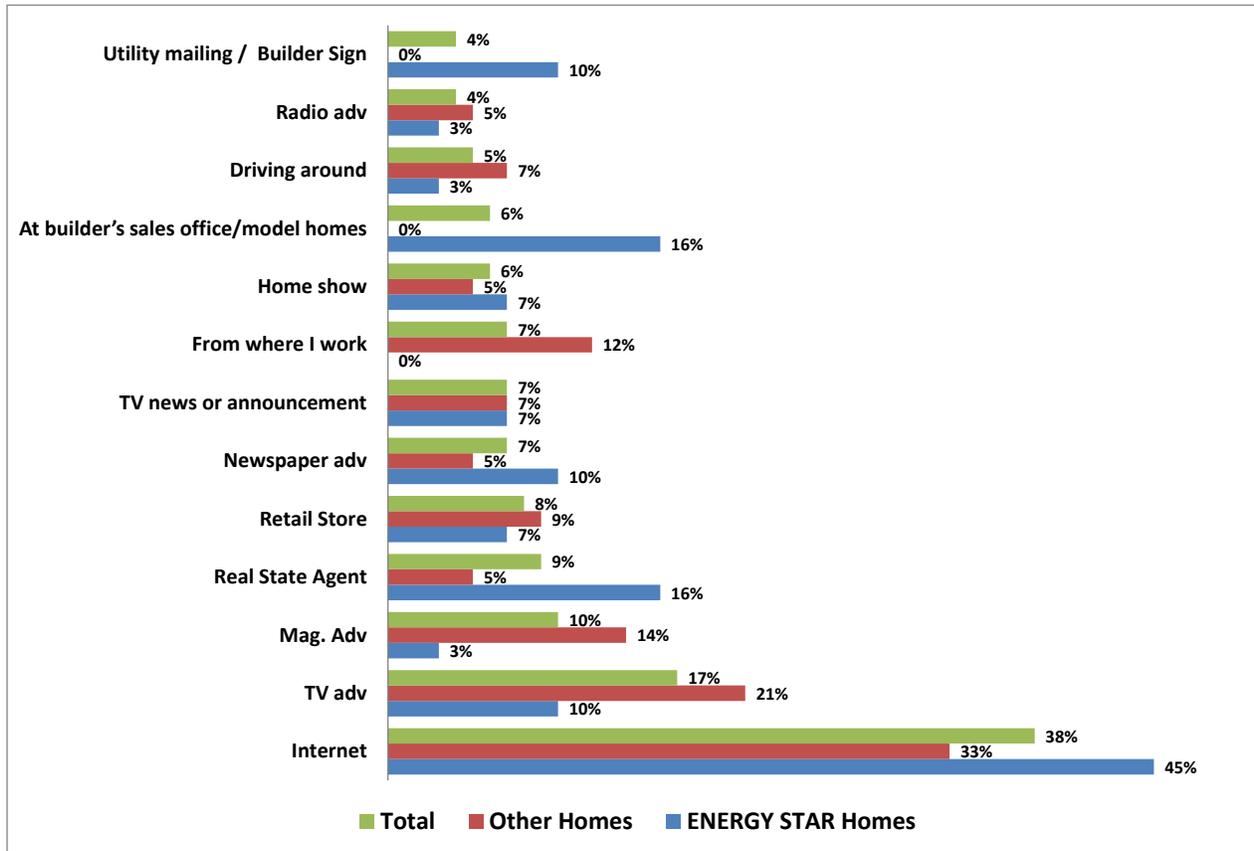
*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[√]Significantly different from 2002 at the 90% confidence level.

Table 5-9 Where Seen or Heard about ENERGY STAR Homes (continued)
 (home buyers aware of ENERGY STAR homes; multiple response)

	ENERGY STAR Homes	Other Homes	Total
2002			
n	8	14	22
Magazine ads	0%	29%	29%
Television ads	12%	29%	29%
Newspaper ads	0%	21%	21%
Builder's sales office	12%	14%	14%
Utility mailing	38%	7%	7%
Mailings from builders	0%	7%	7%
Is building one (respondent is contractor)	0%	7%	7%
Another state	0%	7%	7%
Coursework, college	25%	0%	<1%
Newspaper article	12%	0%	<1%
Internet	12%	0%	<1%
Don't know	25%	21%	21%

Figure 5-1: Where Seen or Heard About ENERGY STAR Homes



Respondents who were aware of ENERGY STAR homes were asked if they had visited specific websites. The most frequently visited website in 2010 is energystar.gov, the national ENERGY STAR website administered by the EPA. This is followed by the individual utility websites, and nhsaves.com. Close to one-half of respondents did not visit any websites about ENERGY STAR homes (Table 5-10).

Table 5-10 Websites Visited Regarding ENERGY STAR Homes

(home buyers aware of ENERGY STAR homes; multiple response)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	66	67	133
energystar.gov	49%	18%*	30%
Websites of individual NH utilities	41%	15%*	25%
nhsaves.com	23%	9%*	14%
NNEREN.com	2%	2%	2%
Geothermal sites	3%	0%	1%
Realtor.com	2%	0%	1%
Keyspanenergynorth.com	2%	0%	1%
MLS property finder	2%	0%	1%
EPA website	0%	2%	1%
Manufacturer website	0%	2%	1%
Greenbuildingadvisor.com	0%	2%	1%
Real estate site	0%	2%	1%
Hunterdouglas.com	0%	2%	1%
Realtor website	0%	2%	1%
Other	5%	4%	4%
Don't know	6%	12%	10%
Did not visit any websites	30%	54%*	45%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Of the spec home buyers aware of ENERGY STAR homes, over one-half had visited model homes while shopping for a new home. (Table 5-11) Of those, more than three out of five buyers of new ENERGY STAR homes had noticed the ENERGY STAR logos or literature pertaining to the home (Table 5-12).

Table 5-11 Visited Model Homes

(spec home buyers aware of ENERGY STAR homes)

	ENERGY STAR Homes	Other Homes	Total
New Hampshire 2010			
n	31	43	74
Yes	52%	58%	56%
No	48%	40%	43%
Don't know	0%	2%	1%

Table 5-12 Noticed Anything about ENERGY STAR Homes in the Model Home

(spec home buyers who answered ‘yes’ to Table 5-11; multiple response)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	16	25	41
ENERGY STAR logo on marketing materials, signs, or welcome mats	50%	20%*	31%
Literature about ENERGY STAR Homes	44%	16%*	27%
ENERGY STAR Label/info on appliances (not counted as noticing materials pertaining to ENERGY STAR homes)	0%	4%	2%
Did not notice anything about Energy Star	38%	72%*	59%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Nearly three out of five buyers of new ENERGY STAR homes who are aware of ENERGY STAR homes think the information they received was very useful—from 8 to 10 on a 0-to-10 scale; more than four out of ten of all home buyers agree that this information was very useful (Table 5-13).

Table 5-13 Usefulness of Information Gathered about ENERGY STAR Homes

(home buyers aware of ENERGY STAR homes; 0= “not useful at all,” 10= “extremely useful”)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	66	67	133
0-3 rating	5%	21%*	15%
4-7 rating	27%	31%	29%
8-10 rating	59%	36%*	45%
Don’t know	9%	12%	11%
Mean rating	8.2	6.4*	7.1
2002			
n	8	13	21
0-3 rating	0%	21%	21%
4-7 rating	12%	29%	29%
8-10 rating	88%	43%	43%
Don’t know	0%	7%	7%
Mean rating	8.8	6.2	6.2

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

√Significantly different from 2002 at the 90% confidence level.

Three-quarters of the buyers of new ENERGY STAR homes know they have bought an ENERGY STAR home in 2010. A number of other respondents think they have bought ENERGY STAR homes, which—as noted in Chapter 1—may be possible. Some of them may also

mistakenly think they have ENERGY STAR homes, just as some of the people who have bought ENERGY STAR homes are not aware of that fact (Table 5-14).

Table 5-14 Whether New Home is ENERGY STAR

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
N	81	119	200
Yes	75%	15%*	38%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Three-fifths of all buyers of ENERGY STAR homes, and the great majority of those who know they have ENERGY STAR homes, knew their homes were ENERGY STAR when they first viewed them or saw the plans (Table 5-15).

Table 5-15 Knew Home was ENERGY STAR When First Saw it or Viewed the Plans

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
N	81	119	200
Yes	60%	7%*	27%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

The few home buyers who did not know their home was an ENERGY STAR home when they first viewed it or saw the plans found out in a variety of ways, as shown in Table 5-16.

Table 5-16 When and How Found Out Home Is an ENERGY STAR Home

(home buyers with ENERGY STAR homes who did not know it when they first viewed it or saw the plans; multiple response; unweighted numbers shown)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	12	5	17
The builder	1	1	2
When the geothermal was first introduced	1	1	2
After we decided to build	0	1	1
From the Energy Star labels	1	0	1
The electrician	1	0	1
The realtor	1	0	1
The seller's agent	1	0	1
Brochure	0	1	1
My decision	1	0	1
Not until purchasing	0	1	1
The seller	1	0	1
Not until it was built	1	0	1
When I had an expert check it	1	0	1
Architect	1	0	1
Don't know	1	0	1

Asked how they know their home is an ENERGY STAR home, buyers of ENERGY STAR homes most often mention the home being certified, their having made a decision to build ENERGY STAR, and the home passing tests or an inspection. (Table 5-17)

Table 5-17 How Know Home Is ENERGY STAR

(home buyers who say they have ENERGY STAR homes; multiple response; unweighted numbers shown)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	61	18	78
Certification/literature	35	5	40
Passed inspection/tests	6	4	10
We made the decision, we built it that way	7	0	7
Efficient appliances	4	3	7
Builder/developer told us	3	3	6
Was advertised that way/has labels	2	3	5
Efficient AC	1	0	1
Don't know	3	0	2

Most home buyers who know their homes are not ENERGY STAR certified simply say their homes do not have any certification, rating, or label, or they have not been told their homes are ENERGY STAR. (Table 5-18)

Table 5-18 How Know Home Is Not ENERGY STAR

(home buyers who say they do not have ENERGY STAR homes; multiple response; unweighted numbers shown)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	5	49	54
There is no certification/rating/label	2	26	28
Builder/realtor did not tell us it was	0	7	7
Don't have high efficiency appliances or other equipment	0	4	4
Not willing to pay for certification	0	2	2
Other	0	2	2
Don't know	3	8	11

Close to seven out of ten (69%) of buyers of new ENERGY STAR homes who know their homes are ENERGY STAR, or 52% of all buyers of ENERGY STAR homes, say their homes have an ENERGY STAR label. (Table 5-19)

Table 5-19 Whether Home Has an ENERGY STAR Label

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Yes	52%	4%*	22% ^v
2002			
n	8	112	120
Yes	100%	4%	4%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

^vSignificantly different from 2002 at the 90% confidence level.

Respondents who say their home has an ENERGY STAR label give a variety of locations, some of which are likely to signify ENERGY STAR appliances and equipment, rather than a certified home. (Table 5-20)

Table 5-20 Where ENERGY STAR Label Is Posted

(respondents who say home has a label; multiple response)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	42	5	47
On circuit breaker, fuse box	21%	20%	20%
In sales arrangement, paperwork	12%	20%	17%
On appliances/windows [§]	7%	20%	15%
On HVAC equipment [§]	10%	20%	16%
In the basement	10%	0%*	4%
Office	7%	0%*	3%
Outside in front of house	5%	0%	2%
Not all tests finished, paperwork not in yet	5%	0%	2%
In the package	2%	0%	1%
By the door	2%	0%	1%
Not posted	2%	0%	1%
Other	7%	0%*	3%
Don't know	10%	20%	16%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

§Likely to signify ENERGY STAR appliances and equipment

Table 5-21 shows that just over one-half of buyers of ENERGY STAR homes decided to buy or build an ENERGY STAR-certified home after they started planning, not from the beginning. Most likely, they saw a home they liked that had an ENERGY STAR label. This points to the important role of builders or real estate agents in the decision to go with ENERGY STAR.

Table 5-21 When First Decided to Buy/Build ENERGY STAR Home

(home buyers who say they have ENERGY STAR homes)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	61	18	79
Intended from the beginning	46%	33%	38% [√]
Decided after started planning	51%	56%	54% [√]
Don't know	3%	11%	8%
2002			
n	8	4	12
Intended from the beginning	62%	0%	<1%
Decided after started planning	38%	100%	100%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[√]Significantly different from 2002 at the 90% confidence level.

Just over two out of five buyers of ENERGY STAR homes in 2010 who decided to buy or build an ENERGY STAR home after they started planning for a new home were aware that their homes were certified before they decided to buy or build a particular home; more than one-half found out only after they had made the decision to buy or build. (Table 5-22)

Table 5-22 When Became Aware Home Was ENERGY STAR-Certified

(home buyers who decided to buy/build an ENERGY STAR home after planning in 2010; all home buyers who say they have ENERGY STAR homes in 2002)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	33	12	45
Before decided to buy/build home	42%	33%	36%
After decided to buy/build home	55%	67%	62%
Don't know	3%	0%	1%
2002			
n	8	4	12
Before decided to buy/build home	88%	25%	25%
After decided to buy/build home	12%	75%	75%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Most custom home buyers in 2010 who know they have ENERGY STAR homes say they, rather than the builders, came up with the idea to build ENERGY STAR; that was also the case in 2002. Very few respondents answered this question. (Table 5-23)

Table 5-23 Who Came Up with Idea to Make Home ENERGY STAR-Labeled

(custom home buyers who say they have ENERGY STAR-labeled homes; unweighted numbers shown)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	26	6	32
Homeowner	16	5	21
Builder	6	1	7
Neighbor	1	0	1
Entire development	1	0	1
Spouse	1	0	1
Don't know	1	0	1
2002			
n	5	0	5
Homeowner	5	0	5

Buyers of custom-built ENERGY STAR homes were asked if they knew how their builders obtained the information they needed to build an ENERGY STAR home. Most respondents who could answer the question say that the builder used his own industry experience; five respondents say the builder obtained information on ENERGY STAR homes from them. (Table 5-24) Two homeowners who are also builders say they obtained information on building their ENERGY STAR home through online research.

Table 5-24 How Builder Obtained the Information Needed to Build ENERGY STAR

(custom home buyers who know they have ENERGY STAR homes)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	25	11	36
From his own industry experience	5	1	6
From us	5	0	5
From utility	2	0	2
I did not get my information from him	2	0	2
From government guidelines	1	0	1
From an energy auditor	1	0	1
He took classes on the subject	0	1	1
Other	1	0	1
Don't know	8	9	17

More than one-half of buyers who know they have ENERGY STAR homes say the label was very important (8 to 10 on a 0-to-10 scale) in their decision to buy or build their particular home. (Table 5-25) This is consistent with responses from the few buyers of ENERGY STAR homes surveyed in 2002.

Table 5-25 Importance of ENERGY STAR Certification in Deciding to Buy or Build a Particular Home

(home buyers who say they have ENERGY STAR homes;
0= “not at all important,” 10= “extremely important”; unweighted numbers shown for 2002)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	61	18	79
0-3 rating	7%	11%	9%
4-7 rating	33%	50%	44%
8-10 rating	52%	33%	40%
2002			
n	7	1	8
0-3 rating	0	1	1
4-7 rating	1	0	1
8-10 rating	6	0	6

6 Perceptions of ENERGY STAR Homes

Home buyer perceptions of the benefits and costs of ENERGY STAR homes include selling prices, operating costs, value for the money, perceived energy efficiency relative to other homes and expected utility bills. Respondents were also asked about their overall satisfaction with the New Hampshire ENERGY STAR Homes Program. Responses for some of these variables can be compared to 2002 survey findings though relatively few 2002 respondents were aware of ENERGY STAR homes and thus able to answer these questions. The current survey also asked home buyers about the non-energy benefits they believe ENERGY STAR homes provide.

6.1 Perceptions of the Benefits and Costs of ENERGY STAR Homes

More than two out of five (41%) respondents who are aware of ENERGY STAR homes continue to either not know or have incorrect perceptions of the typical price differential between ENERGY STAR homes and other homes. The correct responses are “about the same” or “a little higher.”⁴ Two out of five 2010 respondents gave different answers; the few respondents who answered this question in 2002 were even less likely to know the typical price differential. (Table 6-1)

⁴ A study of incremental costs in Massachusetts in 2007 estimated it would cost \$2,599 more to build a single family home to meet the minimum requirements for ENERGY STAR certification over the cost of a home built to the baseline level. (Nexus Market Research and Dorothy Conant, Evaluation of the New Homes with ENERGY STAR Program Incremental Cost Analysis, November 29, 2007.) This supports “about the same” or “a little higher” as the correct responses.

Table 6-1 How Prices for ENERGY STAR Homes Compare with Prices for Other Homes

(home buyers aware of ENERGY STAR homes)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	66	67	133
A lot lower	2%	0%	1%
A little lower	2%	2%	2%
About the same	21%	19%	20%
A little higher	47%	36%	40% [^]
A lot higher	15%	22%	19% [^]
(Don't know)	14%	21%	18% [^]
2002			
n	8	14	22
A lot lower	0%	0%	0%
A little lower	0%	7%	7%
About the same	0%	21%	21%
A little higher	62%	21%	21%
A lot higher	25%	7%	7%
(Don't know)	12%	43%	43%

[^]Significantly different from 2002 at the 90% confidence level.

About two-thirds of respondents in 2010 believe that ENERGY STAR homes have monthly costs that are a little or a lot lower than similar homes that are not certified. (Table 6-2)

Table 6-2 How Monthly Costs for ENERGY STAR Homes Compare with Those for Other Homes

(home buyers aware of ENERGY STAR homes)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	66	67	133
A lot lower	29%	19%	23% [√]
A little lower	44%	43%	43%
About the same	5%	13%	10%
A little higher	5%	5%	5%
A lot higher	2%	3%	3%
(Don't know)	17%	16%	16%
2002			
n	8	14	22
A lot lower	62%	7%	7%
A little lower	38%	50%	50%
About the same	0%	7%	7%
A little higher	0%	14%	14%
A lot higher	0%	7%	7%
(Don't know)	0%	14%	14%

[√]Significantly different from 2002 at the 90% confidence level.

Encouragingly, more than three-quarters (77%) of home buyers aware of ENERGY STAR homes believe they provide a little or a lot more value for the money; 57% of the few respondents that answered this question in 2002 believed this (Table 6-3).

Table 6-3 Value for the Money Provided by ENERGY STAR Homes Compared to Other Homes

(home buyers aware of ENERGY STAR homes)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	66	67	133
A lot less value for the money	0%	0%	0%
A little less value for the money	0%	2%	1%
About the same value for the money	11%	13%	12%
A little more value for the money	35%	51%*	45%
A lot more value for the money	50%	21%*	32% [√]
(Don't know)	5%	13%	10% [√]
2002			
n	8	14	22
A lot less value for the money	0%	7%	7%
A little less value for the money	0%	0%	0%
About the same value for the money	0%	7%	7%
A little more value for the money	50%	50%	50%
A lot more value for the money	50%	7%	7%
(Don't know)	0%	29%	29%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

[√]Significantly different from 2002 at the 90% confidence level.

Another encouraging finding is that relatively few respondents in 2010 (28%) agree or strongly agree with the statement that “all new homes are energy efficient”. (Table 6-4)

Table 6-4 Agreement with the Statement “All New Homes Are Energy Efficient”

(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Strongly agree	1%	5%*	3%
Agree	21%	28%	25%
Neither agree nor disagree	14%	22%	19%
Disagree	40%	33%	36%
Strongly disagree	24%	9%*	15%
Don't know	1%	3%	2%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Most (88%) home buyers, however, agree or strongly agree with the statement “my new home is energy efficient” with buyers of new ENERGY STAR homes significantly more likely to strongly agree with the statement than buyers of other homes. (Table 6-5)

Table 6-5 Agreement with the Statement “My New Home Is Energy Efficient”
(all home buyers)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	81	119	200
Strongly agree	59%	37%*	45%
Agree	37%	46%	43%
Neither agree nor disagree	3%	12%*	9%
Disagree	1%	3%	2%
Strongly disagree	0%	1%	1%
Don’t know	0%	1%	1%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Close to one-half of all respondents who are aware they have bought ENERGY STAR homes say their utility bills have been lower than they had expected since moving into their new homes. (Table 6-6)

Table 6-6 Notice Utility Bills Lower Than Expected Since Moving into New Home
(home buyers who say they have ENERGY STAR homes)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	61	18	79
As Expected	46%	22%*	31%
Lower	46%	50%	48%
Higher	5%	6%	6%
Don’t know/refused	3%	22%*	15%

*Significantly different from ENERGY STAR homes buyers at the 90% confidence level.

Overall satisfaction with the New Hampshire ENERGY STAR Homes Program is quite high with 85% of buyers of ENERGY STAR homes who know they have ENERGY STAR homes saying they are ‘satisfied’ or ‘extremely satisfied’. (Table 6-7) Very few respondents had answered this question in 2002; all had been ‘satisfied’ or ‘extremely satisfied’.

Table 6-7 Overall Satisfaction with the ENERGY STAR Homes Program

(home buyers who say they have ENERGY STAR homes)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	61	18	79
Extremely satisfied	46%	44%	45%
Satisfied	39%	39%	39% [√]
Neither satisfied nor dissatisfied	12%	11%	11% [√]
Dissatisfied	0%	0%	0%
Extremely dissatisfied	0%	0%	0%
(Don't know)	3%	6%	5% [√]
2002			
n	4	8	12
Extremely satisfied	62%	25%	25%
Satisfied	38%	75%	75%
Neither satisfied nor dissatisfied	0%	0%	0%
Dissatisfied	0%	0%	0%
Extremely dissatisfied	0%	0%	0%
(Don't know)	0%	0%	0%

[√]Significantly different from 2002 at the 90% confidence level.

6.2 Perceptions of Non-Energy Benefits

Most respondents who say they have bought ENERGY STAR homes believe those homes provide several non-energy benefits over what a newly constructed non-ENERGY STAR home would provide. (Table 6-8)

Table 6-8 Believe ENERGY STAR Homes Provide Non-Energy Benefits

(home buyers who say they have ENERGY STAR homes)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	61	18	79
Greater comfort/More even heating and cooling	89%	89%	89%
Quieter	87%	83%	85%
Healthier indoor air quality	71%	61%	65%
Better resale value	79%	72%	75%
Protection against energy price increases	71%	72%	72%

Most respondents who believe ENERGY STAR homes provide non-energy benefits also say these benefits influenced their decision to purchase an ENERGY STAR home. This means that, overall, the great majority (88%) of respondents who say they have bought an ENERGY STAR home also say that their purchase decision was influenced by at least one non-energy benefit. (Table 6-9)

Table 6-9 Whether Non-Energy Benefits Influenced the Purchase of an ENERGY STAR Home

(home buyers who say they have ENERGY STAR homes)

	ENERGY STAR Homes	Other Homes	Total
2010			
n	61	18	79
Greater comfort/More even heating and cooling	54%	61%	58%
Quieter	41%	50%	47%
Healthier indoor air quality	51%	39%	44%
Better resale value	57%	39%	46%
Protection against energy price increases	52%	50%	51%
Influenced by at least one non-energy benefit	90%	82%	88%

Appendix A: Survey Instrument for All Buyers of Newly Constructed Homes

NH RNC 2011—Home Buyer Survey Guide

Hello, my name is _____, and I'm calling on behalf of [READ SPONSOR FROM SAMPLE] about the needs and preferences of new home buyers. The survey should take around 15 minutes, and the information you provide will help [READ SPONSOR FROM SAMPLE] improve its energy efficiency programs and services which will, in turn, help keep energy costs as low as possible by reducing consumption. Your responses will be kept strictly confidential.

1. I just want to confirm that your home is newly constructed—that is, built within the last two years or so. Is that correct?
 1. Yes [**CONTINUE**]
 2. No [**THANK AND TERMINATE**]
 3. (Don't know/refused) [**THANK AND TERMINATE**]

2. Are you the person or one of the people who bought the home?
 1. Yes [**CONTINUE**]
 2. No, someone else in home [**ASK TO SPEAK TO PROPER PERSON AND BEGIN AGAIN OR RESCHEDULE FOR WHEN THE PROPER RESPONDENT WILL BE AVAILABLE**]
 3. No, not available [**THANK AND TERMINATE**]
 4. (Don't know/refused) [**THANK AND TERMINATE**]

3. What type of building is your home? [**READ RESPONSES**]
 1. Detached single-family home
 2. Townhouse or duplex, with a wall separating the units from basement to roof, and with separate utilities for each unit
 3. Two, three, or four family building—with no basement walls separating the units, or with one water and sewer bill for the whole building
 4. Part of a building with 5 or more units
 5. Other [**SPECIFY: _____**]
 6. (Don't know/refused) [**THANK AND TERMINATE**]

4. **[IF “DETACHED SINGLE-FAMILY HOME” “TOWNHOUSE OR DUPLEX”OR “TWO- TO FOUR-FAMILY HOME” TO Q.#3]** Which of the following best describes how you purchased your home?
1. Purchased land and worked with an architect and/or builder to design and build the home.
 2. Had a house plan and a lot and hired a contractor/builder to build the home.
 3. Purchased a lot from a builder, selected one of several house plans offered by the builder and selected from various available upgrade options.
 4. Purchased a home that was under construction and selected from various available upgrade options.
 5. Purchased a finished home
 6. (Other [**SPECIFY:** _____])
 7. I/we am/are the owner(s) and builder(s)
 8. (Don't know)

[IF Q.#4 NE 1, 2, OR 7 READ:] How important were the following factors in your decision to buy this home rather than another home?

[IF Q.#4 EQ 1, 2, OR 7 READ:] How important were the following factors in your decision to build this home rather than buying another home?

[FOR ALL, READ:] Use a scale from 0 to 10, where 0 is “one of the least important factors” and 10 is “one of the most important factors.” If a particular feature does not apply to your home or your purchase decision, say “does not apply” **[READ AND ROTATE Q.#5 -30] [11=DOES NOT APPLY; 12=DON'T KNOW]**

5. The size of the home
6. Keeping down the overall purchase price of the home
7. Room layout or design
8. Quality of construction
9. Builder reputation
10. Being involved in decisions about features of the home
11. Having a kitchen with upgraded cabinets and countertops and high end appliances
12. Getting a more efficient home with lower energy bills
13. Number of bathrooms and/or bathrooms with nice features such as whirlpool baths
14. Lack of availability of other suitable homes
15. More or better insulation including blown-in insulation with a higher R value
16. Good-sized lot
17. A more efficient furnace or boiler
18. Better sealing of air leaks
19. Good location
20. More efficient appliances
21. More efficient windows such as double and triple pane or windows with a low e value
22. Better comfort/fewer drafts
23. Healthier indoor air

24. Use of renewable energy and other green building measures
25. Having a certified ENERGY STAR home or a home with an ENERGY STAR label
26. Good interior finish details—no gaps in joints, ceiling medallions, wainscoting, chair rails, wood doors and trim
27. Good exterior finish details—wood siding, exterior trim details, no gaps in joints
28. Community amenities (such as a good neighborhood feel, bike trails, community pool, recreation center, access to public transportation)
29. Commuting distance or time to work
30. Good schools

31. Is there anything I have not mentioned that was an important factor in you choosing to build or buy this particular home than another home? [**MULTIPLE RESPONSE**]
 1. Yes [**SPECIFY:** _____]
 2. No

32. How familiar would you say you are with the term “green building”? Would you say you are [**READ RESPONSES**]
 1. Very familiar
 2. Somewhat familiar
 3. A little bit familiar
 4. I’ve never heard of the term [**SKIP TO Q#35**]

33. What does green building mean to you? [**DO NOT READ RESPONSES; PROBE (IS THERE ANYTHING ELSE?) RECORD AS MANY AS APPROPRIATE**]
 1. (Energy efficiency)
 2. (ENERGY STAR)
 3. (Well insulated)
 4. (More comfortable home)
 5. (Use of recycled/renewable/sustainable materials; use of bamboo)
 6. (Healthy/clean indoor air)
 7. (Smaller sized homes)
 8. (Use of renewable/solar/photovoltaic/wind power)
 9. (Water conservation; recapturing wastewater)
 10. (Home is near public transportation/within walking distance of where I need to go)
 11. (Home is built on reclaimed/already used land)
 12. (Other [**SPECIFY** _____])
 99. (Don’t know)

34. Using a scale from 0 to 10, where 0 is “not green at all” and 10 is “very high on a green building scale,” how green do you consider your new home to be? [**RECORD NUMBER; 11=DON’T KNOW**]

35. How strongly do you agree or disagree with the following statement: “All new homes are energy efficient.” **[READ RESPONSES]**

1. Strongly agree
2. Agree
3. Neither agree nor disagree
4. Disagree
5. Strongly disagree
6. (Don't know)

36. How strongly do you agree or disagree with the following statement: “My new home is energy efficient.” **[READ RESPONSES]**

1. Strongly agree
2. Agree
3. Neither agree nor disagree
4. Disagree
5. Strongly disagree
6. (Don't know)

37. Have you ever seen or heard of the ENERGY STAR label?

1. Yes **[CONTINUE]**
2. No **[SKIP TO Q.#47]**
3. (Don't know/refused) **[SKIP TO Q.#47]**

38. What does the ENERGY STAR label mean to you? **[PROBE UP TO THREE RESPONSES]**

39. Have you ever seen or heard of a newly constructed home being referred to as an ENERGY STAR home?

1. Yes
- 2.No **[GO TO Q.#47]**
- 3.(Don't know) **[GO TO Q.#47]**

[ASK Q.#40-46 IF Q.#39=1]

40. How is a new ENERGY STAR home different from a new non-ENERGY STAR home? **[PROBE FOR SPECIFICS; DO NOT READ RESPONSES; MULTIPLE RESPONSE]**

1. (More or better insulation)
2. (More efficient central air conditioning)
3. (More efficient furnace or boiler/heating system)
4. (Better ductwork)
5. (Better sealing of air leaks)
6. (More efficient appliances)
7. (More efficient lighting)
8. (More efficient windows)
9. (Better framing/two by six framing)

- 10. (Better comfort/fewer drafts)
- 11. (Less moisture buildup)
- 12. (A higher level of efficiency for the house as a whole)
- 13. (Higher quality construction in general)
- 14. (ENERGY STAR homes are no better than other homes—all new homes are energy efficient)
- 15. (Home is tested to verify its energy efficiency)
- 16. (Other [SPECIFY: _____])
- 99. (Don't know)

41. Are you aware of the New Hampshire ENERGY STAR Homes Program funded by New Hampshire utilities and specifically tailored for New Hampshire home buyers and builders?

- 1. Yes
- 2. No
- 3. (Don't know)

42. **[IF Q.#4 NE 1 OR 2 OR 7]** Did you know about ENERGY STAR homes before you started shopping for your new home, or did you learn about ENERGY STAR homes after you started shopping?

- 1. Already knew before I started shopping
- 2. Learned after I started shopping
- 3. (Don't know)

43. Is your home an ENERGY STAR home?

- 1. Yes
- 2. No **[SKIP TO Q.#46]**
- 3. (Don't know) **[SKIP TO Q.#46]**

44. **[IF Q.#43=YES]** Did you know your home was an ENERGY STAR home when you first viewed it or first saw the plans?

- 1. Yes **[SKIP TO Q.#46]**
- 2. No
- 3. (Don't know)

45. **[IF Q.#44 EQ 2 OR 3]** When and how did you find out your home is an ENERGY STAR home? **[PROBE FOR DETAILS]**

46. **[IF Q.#4 NE 1 OR 2 OR 7]** Including your own home **[USE PRECEDING PHRASE ONLY IF Q.#43=1]** How many ENERGY STAR homes did you visit when you were shopping for a new home? **[0=NONE, 99=DON'T KNOW]**

47. **[IF Q.#4 NE 1 OR 2 OR 7]** Did you get information about your new home and the features and options to consider for it from real estate agents, the building company's marketing department, the builders themselves, the Internet, and/or some other source? **[MULTIPLE RESPONSE]**

1. Real estate agents
2. Building company's marketing department
3. Builders
4. Internet **[GO TO Q.#47a]**
5. (Other **[SPECIFY: _____]**)
6. (Don't know)

47a. **[IF Q.#47 EQ 4]** What types of, or, if you remember, specific Internet sites did you visit to get information about your new home? **[PROBE UP TO THREE RESPONSES]**

48. **[IF Q.#4 NE 1 OR 2]** Did you discuss any of the following with people you talked to while shopping for, designing, or constructing your new home? **[IF Q.#4 EQ 1 OR 2]**
Did you discuss any of the following with your builder?

1. Energy efficiency of a new home
2. Energy efficiency of heating and/or cooling equipment
3. Type of insulation used
4. How much it would cost to heat and cool the home
5. Indoor air quality
6. Green building

48a. **[IF YES TO ANY OF Q#48]** What did they tell you about energy efficient homes? **[PROBE FOR SPECIFICS FOR UP TO FIVE RESPONSES, “WHAT ELSE CAN YOU REMEMBER?”; DO NOT READ RESPONSES; MULTIPLE RESPONSE]**

1. (Lower energy costs)
2. (Superior quality of construction)
3. (Improved comfort year round)
4. (Enhanced air quality)
5. (Mortgage savings—may qualify for special mortgage)
6. (Higher home resale value potential)
7. (More or better insulation)
8. (More efficient central air conditioning)
9. (More efficient furnace or boiler/heating system)
10. (Better ductwork)
11. (Better sealing of air leaks)
12. (More efficient appliances)
13. (More efficient lighting)
14. (More efficient windows)
15. (Better framing materials)
16. (Less moisture buildup)
17. (A higher level of efficiency for the house as a whole)
18. (Higher quality construction in general)
19. (Home is tested to verify its energy efficiency)
20. (Other [SPECIFY: _____])
99. (Don't know)

48b. About how long did you spend discussing energy efficient features of the home or energy efficiency in general with **[IF Q.#4 NE 1 OR 2]** people you talked to while shopping for, designing, or constructing your new home **[IF Q.#4 EQ 1 OR 2]** your builder?

48c. **[IF YES TO ANY OF Q#48]** Did they answer your questions satisfactorily?

1. Yes **[SKIP TO BEFORE Q.#49]**
2. No
3. (Don't know) **[SKIP TO BEFORE Q.#49]**

48d. Why were you not satisfied with the answers you received? **[PROBE FOR DETAILS]**

[IF Q#39 NE 1, SKIP TO Q#83]

49. Did you ask **[IF Q#4 EQ 1 OR 2]** (your builder) **[IF Q#4 NE 1 OR 2]** (anyone) about ENERGY STAR when you were making your plans for building or buying a home?

1. Yes **[CONTINUE]**
2. No **[SKIP TO Q.#51]**
3. (Don't know/refused) **[SKIP TO Q.#51]**

50. **[IF Q.#4 NE 1 OR 2 AND Q#47 HAS MORE THAN ONE RESPONSE]** Who did you ask about ENERGY STAR homes?

51. Did [IF Q.#4 EQ 1 OR 2] (your builder) [IF Q.#4 NE 1 OR 2] (they) bring up the subject of ENERGY STAR homes?

1. Yes
2. No
3. (Don't know/refused)

[ASK Q#52 TO Q#53b IF Q#49 OR Q#51 EQ 1; ELSE SKIP TO Q#54]

52. [IF Q.#4 NE 1 OR 2 AND Q#44 HAS MORE THAN ONE RESPONSE] Who brought up the subject of ENERGY STAR homes? [MULTIPLE RESPONSE]

53. What, if anything, did they tell you about ENERGY STAR homes that we have not already covered in the question about energy efficient homes? **[PROBE FOR SPECIFICS FOR UP TO FIVE RESPONSES, "WHAT ELSE CAN YOU REMEMBER?"; DO NOT READ RESPONSES; MULTIPLE RESPONSE]**

1. (Lower energy costs)
2. (Superior quality of construction)
3. (Improved comfort year round)
4. (Enhanced air quality)
5. (Mortgage savings—may qualify for special mortgage)
6. (Higher home resale value potential)
7. (More or better insulation)
8. (More efficient central air conditioning)
9. (More efficient furnace or boiler/heating system)
10. (Better ductwork)
11. (Better sealing of air leaks)
12. (More efficient appliances)
13. (More efficient lighting)
14. (More efficient windows)
15. (Better framing materials)
16. (Less moisture buildup)
17. (A higher level of efficiency for the house as a whole)
18. (Higher quality construction in general)
19. (ENERGY STAR homes are no better than other homes—all new homes are energy efficient)
20. (Homes is tested to verify its energy efficiency)
21. (Same as what they said about energy efficiency)
22. (Other [SPECIFY: _____])
99. (Don't know)

53a. Did they answer your questions about ENERGY STAR Homes satisfactorily?

1. Yes **[SKIP TO Q.#54]**
2. No
3. (Don't know) **[SKIP TO Q.#54]**

53b. Why were you not satisfied with the answers you received? **[PROBE FOR DETAILS]**

54. [IF Q.#4 EQ 7] How did you get the information you needed to build an ENERGY STAR home? [PROBE: WHO DID THEY WORK WITH; WHAT SITES OR OTHER SOURCES OF INFORMATION THEY USED]

55. [IF Q.#4 EQ 1 OR 2] Do you know how your builder got the information they needed to build an ENERGY STAR home? [PROBE: WHO DID THEY WORK WITH; WHAT SITES OR OTHER SOURCES OF INFORMATION THEY USED]

56.[IF Q.#4 NE 1 OR 2 OR 7] Where have you seen or heard information about ENERGY STAR homes? [DO NOT READ RESPONSES; PROBE UP TO FOUR RESPONSES]

1. (Newspaper ad)
2. (Magazine ad)
3. (Television ad)
4. (Radio ad)
5. (Radio news or announcement)
6. (Television news or announcement)
7. (Newspaper article)
8. (Utility mailing)
9. (Retail store)
10. (Home show)
11. (Billboard)
12. (Builder sign)
13. (Internet)
14. (Driving around)
15. (Recommendations by friends or family)
16. (Mailings from builders)
17. (Real estate agent)
18. (Grand opening event)
19. (ENERGY STAR web site)
20. (At builder's sales office/model homes)
21. (Town building department)
22. (Other [SPECIFY _____])
23. (Didn't see or hear any information)
99. (Don't know)

57. [IF Q.#4 NE 1 OR 2 OR 7] Did you visit any model homes while shopping for a home?

1. Yes
2. No [SKIP TO Q.#59]
3. (Don't know) [SKIP TO Q.#59]

58. Did you notice anything about ENERGY STAR Homes in the model home such as...

1. Literature about ENERGY STAR Homes
2. The ENERGY STAR logo on marketing materials, signs, or welcome mats
3. Other [SPECIFY _____]
4. Did not notice anything about ENERGY STAR

59. How useful has the information you have received about ENERGY STAR homes from all sources been? Use a scale from 0 to 10 where 0 is “not useful at all” and 10 is “extremely useful.” [11=DON’T KNOW]

60. Which of the following websites did you visit when shopping or planning for your home?

1. nhsaves.com
2. energystar.gov—the national ENERGY STAR website run by the EPA
3. websites of individual New Hampshire utilities (Unitil, National Grid, New Hampshire Electric Coop, Public Service of New Hampshire or PSNH)
4. Other websites [SPECIFY: _____]
5. No websites visited
6. (Don’t know)

61. When did you first become aware of ENERGY STAR homes?

1. One year ago or less
2. One to three years ago
3. Four to five years ago
4. Five to ten years ago
5. More than 10 years ago
6. (Don’t know)

62. How do you think the purchase price of an ENERGY STAR home compares to the price of a similar home without the label? Would you say the price of the ENERGY STAR home is:

[READ RESPONSES]

1. A lot lower
2. A little lower
3. About the same
4. A little higher
5. A lot higher
6. (Don’t know)

63. How do you think monthly costs of owning an ENERGY STAR home compare to the costs of a similar home without the label? By monthly costs, I mean the combined cost of the mortgage payment and the utility bills. Would you say the monthly costs of the ENERGY STAR home are:

[READ RESPONSES]

1. A lot lower
2. A little lower
3. About the same
4. A little higher
5. A lot higher
6. (Don’t know)

64.How much value for the money do you think an ENERGY STAR home provides compared to a similar home without the label? Would you say an ENERGY STAR home provides: **[READ RESPONSES]**

- 1.A lot less value for the money
- 2.A little less value for the money
- 3.About the same value for the money
- 4.A little more value for the money
- 5.A lot more value for the money
- 6.(Don't know)

65.Are you aware of the Home Energy Ratings System, or HERS, used to rate the efficiency of a newly constructed home?

1. Yes **[CONTINUE]**
2. No **[SKIP TO Q.#67]**
3. (Don't know/refused) **[SKIP TO Q.# 67]**

66.Would you please describe what a HERS rating means? **[PROBE]**

66a.Do you know the HERS rating of your new home?

1. Yes [SPECIFY:_____]
2. No
3. (Don't know)

67.**[IF Q.#43=1]** Earlier you said your home was an ENERGY STAR home. Why do you think so? **[PROBE—WHAT HAVE YOU SEEN OR HEARD THAT MAKES YOU THINK SO?]**

68.**[IF Q.#43=2 OR 3]** Earlier you said your home is NOT an ENERGY STAR home or you are not sure. Why do you think that? **[PROBE, THEN SKIP TO Q.#83]**

69.Does your new home have an ENERGY STAR label?

1. Yes **[CONTINUE]**
2. No **[SKIP TO Q.#71]**
3. (Don't know/refused) **[SKIP TO Q.#71]**

70.**[IF Q.#69=1]** Where is the ENERGY STAR label for your new home posted—that is, where in your house can you see the ENERGY STAR label? **[PROBE; MULTIPLE RESPONSES]**

71.Did you intend to buy or build an ENERGY STAR home when you first started planning to buy or build a new home, or did you decide on an ENERGY STAR home after you started planning?

1. Intended to buy ENERGY STAR home from the beginning
2. Decided to buy ENERGY STAR home after started planning
3. (Don't know)

72.[IF Q.#71=2 OR 3] Did you become aware that your new home is ENERGY STAR before you decided to buy or build it, or after you had already decided to buy or build it?

1. Before decided to buy or build
2. After decided to buy or build
3. (Don't know)

73.[IF Q.#4 EQ 1 OR 2] Who first came up with the idea of building an ENERGY STAR house?

1. You, the home owner
2. The builder
3. The architect
4. Or someone else? [SPECIFY: _____]
5. (Don't know)

74. How important was the ENERGY STAR certification in your decision to buy or build this home instead of another home? Use a scale from 0 to 10, where 0 is "not at all important" and 10 is "extremely important." [99=DON'T KNOW]

75.Since moving into your new ENERGY STAR home, have your utility bills been about what you expected, higher, or lower?

1. As expected
2. Higher
3. Lower
4. (Don't know/refused)

Do you believe your new ENERGY STAR home provides any of the following non-energy benefits , that is, benefits other than saving energy or money on energy bills, over what a newly constructed non ENERGY STAR home would provide? [FOR EACH ITEM RECORD 1. YES, 2. NO, 3. DON'T KNOW]

76. Greater comfort due to fewer drafts and more even heating and cooling
77. Quieter with less outdoor noise
78. Healthier indoor air quality
79. Better resale value
80. Protection against energy price increases

[For each YES in Q.#76-80] Did this non-energy benefit have any influence in your decision to purchase an ENERGY STAR home?

1. Yes
2. No
3. (Don't know)

81. [ASK Q.#81 AND 82 IF Q.# 41 EQ 1] Overall, how satisfied are you with the New Hampshire ENERGY STAR Homes Program?
1. Extremely satisfied
 2. Satisfied
 3. Neither satisfied nor dissatisfied
 4. Dissatisfied
 5. Extremely dissatisfied
 6. (Don't know)
82. [IF 4 OR 5 TO Q.#81] Why are you dissatisfied with the program?
83. What is the main fuel used to heat this home?
1. Natural gas
 2. Propane or bottled gas
 3. Electricity
 4. Fuel oil
 5. Solar
 6. Wood
 7. Coal
 8. Other [SPECIFY: _____]
 9. Don't know
84. What is the main type of heating system in this home?
1. Forced hot air furnace
 2. Hot water or steam boiler
 3. Heat pump—air-to-air or ground source
 4. Solar panels
 5. Electric radiant heating—baseboard, floor, or ceiling panel
 6. Or something else? ([SPECIFY: _____])
 7. (Don't know)
85. What is the main fuel used for water heating in this home?
1. Natural gas
 2. Propane or bottled gas
 3. Electricity
 4. Fuel oil
 5. Solar
 6. Wood
 7. Coal
 8. (Other [SPECIFY: _____])
 9. (Don't know)

Now I have a few last questions for statistical purposes only.

86. Are you a first-time homebuyer, or did you already own a home before you bought this one?
1. First-time homebuyer
 2. Already owned home
 3. (Don't know/refused)
87. Including yourself, how many people live in your household most of the year?
1. One
 2. Two
 3. Three
 4. Four
 5. Five
 6. Six or more
 7. None—seasonally occupied
 8. (Refused)
88. Approximately how many square feet is your home?
1. Less than 1,500
 2. 1,500 – 1,999
 3. 2,000 – 2,499
 4. 2,500 – 2,999
 5. 3,000 – 3,999
 6. 4,000 – 4,999
 7. 5,000 or more
 8. (Don't know/Refused) **[ASK Q.#88a; else go to Q.#89]**
- 88a. **[IF Q.#88=8]** How many rooms are in your home, not counting bathrooms?
1. 1
 2. 2
 3. 3
 4. 4
 5. 5
 6. 6
 7. 7
 8. 8
 9. 9
 10. 10 or more
 11. (Don't know/refused)
89. Does your home have central air conditioning?
1. Yes
 2. No
 3. (Don't know)

90. What is the highest level of education that you have completed? **[READ CATEGORIES]**

1. Less than high school
2. High school graduate
3. Technical or trade school graduate
4. Some college
5. College graduate
6. Some graduate school
7. Graduate degree
8. (Refused)

91. What is your age? Are you . .

1. 18 to 24
2. 25 to 34
3. 35 to 44
4. 45 to 54
5. 55 to 64
6. 65 or over
7. (Refused)

91a. **[IF Q.#91=5, 6, OR 7]** Is your new home in an over-55 community?

1. Yes
2. No
3. (Don't know)

92. How long do you expect to stay in your new home?

1. One year or less
2. Two to three years
3. Four to five years
4. Six to ten years
5. More than ten years
6. (Indefinitely/the rest of my life)
7. (Don't know)

93. What category best describes your total household income in 2010, before taxes?

1. Less than \$35,000
2. \$35,000 to \$49,999
3. \$50,000 to \$74,999
4. \$75,000 to \$99,999
5. \$100,000 to 149,999
6. \$150,000 or more
7. (Refused)

94. **[DO NOT READ]** Sex

1. Female
2. Male

Thank you very much!