



NATIONAL AWARENESS OF ENERGY STAR® FOR 2013

ANALYSIS OF CEE HOUSEHOLD SURVEY



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EXECUTIVE SUMMARY

In the fall of 2013, members of the Consortium for Energy Efficiency (CEE) sponsored the fourteenth national household survey of consumer awareness of ENERGY STAR. Each year, the survey objectives have largely been the same: to collect national data on consumer recognition, understanding, and purchasing influence of the ENERGY STAR label, as well as data on messaging and product purchases. CEE members may choose to supplement the national sample by adding additional data points in order to assess label awareness in their local service territories.

This report discusses the results of the CEE 2013 ENERGY STAR Household Survey, building on prior years' survey results and focusing on the extent to which consumers recognize the ENERGY STAR label, understand its intended messages, and utilize (or are influenced by) the label in their energy-related purchase decisions. Research questions of interest included:

- Where do consumers see or hear about the ENERGY STAR label?
- How does increased publicity affect recognition, understanding, and influence of the ENERGY STAR label?
- Which key messages about the ENERGY STAR label are consumers retaining?
- Do consumers demonstrate loyalty to the ENERGY STAR label?

Key Findings at the National Level

- Eighty-seven percent of households recognized the ENERGY STAR label when shown the label. This is the same as the 2012 finding.
- Eighty percent of households had a high or general understanding of the label's purpose. Furthermore, the proportion of households that demonstrated a general understanding was small compared with the proportion that demonstrated a high understanding (10 percent versus 70 percent).
- The proportion of households with at least a general understanding of the ENERGY STAR label is similar from 2012 to 2013, 82 percent and 80 percent, respectively (p -value = 0.4182).
- Sixty-five percent of households associated the ENERGY STAR label with "efficiency or energy savings."
- Of households that recognized the ENERGY STAR label (aided) and purchased a product in a relevant product category within the past 12 months, 75 percent purchased an ENERGY STAR-labeled product.

- Among all households, 43 percent knowingly purchased an ENERGY STAR-labeled product in the past 12 months.
- For 70 percent of the households that recognized the ENERGY STAR label (aided), and knowingly purchased an ENERGY STAR-labeled product, the label influenced at least one of their purchase decisions “very much” or “somewhat.” For another 14 percent of these households, the label influenced their purchase decisions “slightly.”
- Eighteen percent of households that knowingly purchased an ENERGY STAR-labeled product received a financial incentive for doing so in 2013; this is the same as 2012. Eighty-six percent of these households report they would have been “very likely” (39 percent) or “somewhat likely” (47 percent) to purchase the labeled product without the financial incentive.
- Seventy-one percent of households that recognized the label and purchased a product in a category where ENERGY STAR-labeled products are an option were likely to recommend ENERGY STAR-labeled products to a friend; 27 percent of these households reported that they were “extremely likely” to recommend ENERGY STAR-labeled products.

Key Findings from Publicity-Level Analyses

High-publicity areas are defined as having a locally sponsored energy-efficiency program [sponsored by a utility, state agency, or other organization] that has actively and continuously promoted ENERGY STAR for two or more years.

- When the ENERGY STAR label was shown to them, 88 percent of households in high-publicity areas recognized the label versus 86 percent in non-high-publicity areas; this difference is not statistically significant ($p\text{-value} = 0.376$). Without a visual aid, a similar proportion of households in high- and non-high-publicity areas recognized it, 74 percent in high publicity and 72 percent in non-high-publicity areas ($p\text{-value} > 0.10$).
- Sixty-six percent of the households in high-publicity areas associated the ENERGY STAR label with “efficiency or energy savings,” compared with 64 percent of households in non-high-publicity areas; this difference is similar.
- Considering only households that recognized the label (with a visual aid), a smaller proportion of households in high-publicity areas than in non-high-publicity areas heard or saw something about ENERGY STAR from homebuilders or contractors; these differences are statistically significant at the 5-percent level ($p\text{-value} \leq 0.05$).

Conclusions

This fourteenth national study of household awareness of the ENERGY STAR label confirms key findings from the previous years' surveys:

- Substantial portions of U.S. households in the surveyed population recognize, understand, and are influenced by the ENERGY STAR label.
- The proportion of households with at least a general understanding of the ENERGY STAR label is similar from 2012 to 2013, 82 percent and 80 percent, respectively (p-value = 0.4182).
- The proportion of households that exhibit only a general understanding of the label is small (10 percent) compared with the proportion of households that exhibit a high understanding (70 percent).

INTRODUCTION

In the fall of 2013, members of the Consortium for Energy Efficiency (CEE) sponsored the fourteenth national household survey of consumer awareness of ENERGY STAR. Each year, the survey objectives have largely been the same: to collect national data on consumer recognition, understanding, and purchasing influence of the ENERGY STAR label, as well as data on messaging and product purchases.

This report discusses the results of the CEE 2013 ENERGY STAR Household Survey, building on prior years' survey results and focusing on the extent to which consumers recognize the ENERGY STAR label, understand its intended messages, and utilize (or are influenced by) the label in their energy-related purchase decisions. Research questions of interest included the following:

- Where do consumers see or hear about the ENERGY STAR label?
- How does increased publicity affect recognition, understanding, and influence of the ENERGY STAR label?
- Which key messages about the ENERGY STAR label are consumers retaining?
- Do consumers demonstrate loyalty to the ENERGY STAR label?

The remainder of this report summarizes the survey and analysis methodology; it provides key findings regarding ENERGY STAR label recognition, understanding, influence, and information sources. It also contains appendices presenting detailed survey methodology (Appendix A), demographic information (Appendix B), additional questions from the 2013 survey (Appendix C), and a copy of the 2013 questionnaire (Appendix D). In all cases, the results presented in this report were weighted to obtain results applicable at the national level (please refer to Appendix A for details on the weighting methodology).

METHODOLOGY OVERVIEW

During September and October of 2013, CEE fielded a questionnaire to obtain information at the national level on consumer awareness of the ENERGY STAR label (please refer to Appendix A for a more detailed outline of the survey methodology). A random sample of households that are members of an Internet panel was surveyed. Both the Internet panel as a whole and the sample of households completing the survey were selected by address-based sampling and recruited by telephone.¹ The panel is designed to be representative of the U.S. population.

This year's questionnaire was similar to the ones CEE fielded in 2000 – 2012. As in previous years, CEE and its sponsoring members made the survey data available to EPA for analysis.

The sampling frame for this national survey included all households in the largest 57 Nielsen Designated Market Areas® (DMAs) that together accounted for about 70 percent of U.S. television households. In addition, some CEE members periodically chose to sponsor more intensive sampling (i.e., an oversample) in selected localities, referred to here as *sponsor areas*. In 2013, no CEE members chose to sponsor an oversample.

As in previous years' studies, the Top-57 DMAs in the sampling frame were classified by publicity category. The original intent of the classification was to be able to assess the effect of local energy efficiency program publicity on awareness. The majority of these local efficiency programs historically have been supported by utility rate-payer funding.

A decision was made to retain the same publicity classification procedure used in the past 12 years and to retain the prior year's publicity classification of the 57 largest DMAs—in essence preserving the historical classification for future study years, which was based on the following criteria:

- **High publicity:** Active local ENERGY STAR promotion *recently* sponsored by a utility, state agency, or other organization for two or more continuous years. The activities must include *sustained* promotions and publicity from non-federal sources.
- **Low publicity:** Federal campaign activities only and no *significant* regional program sponsor activities.
- **Other:** All other DMAs.

¹ In previous years, the panel was recruited via random-digit dial. GfK, formerly Knowledge Networks, the firm that conducts the survey each year, believes that address-based sampling (ABS) offers advantages, including coverage of cell-phone-only households, and analysis of non-response bias. More information is available at [The Knowledge Networks Information webpage](#).

The key working definitions are below:

- **Recent:** The 2 years of activity must include the time period during which the survey was in the field.
- **Sustained:** The 2 years of activity must be continuous.
- **Significant:** In addition to any direct federal publicity efforts, a DMA's publicity efforts must include a deliberate and multifaceted regional program sponsor investment in ENERGY STAR programming, such as direct marketing efforts or the creation and distribution of promotional material.

Although the sample design was based on the 2013 publicity classifications, *low publicity* and *other publicity* are combined in the analysis and referenced as *non-high-publicity* areas. One reason to combine these categories in the analysis is that over time, the population of low-publicity DMAs has dropped to about 15 percent, while high-publicity DMAs now account for about half of U.S. television households.

The sample was stratified by area and within an area by publicity category. While the dataset has always been appropriately weighted in the national analysis, beginning in 2010, the number of respondents in each stratum was chosen in proportion to that stratum's share of the U.S. population living in DMAs. As in the past for the national sample, the three publicity categories (the top 57 DMAs) comprise 1,000 respondents.

This report presents the 2013 survey results at the national level and by publicity category. Results are presented on consumer recognition and understanding, and purchasing influence of the ENERGY STAR label, as well as on messaging, product purchases, and information sources that consumers use in their purchasing decisions.

In this report, the following terminology is used in comparing results across years or sub-categories. (1) The term "significant" implies statistical significance. In other words, differences between proportions that are described as "significant" are at least statistically different at the 10-percent level of significance. In some cases, the p-values are given to provide the exact level of statistical significance. (2) Unless stated otherwise, terms such as "smaller," "larger," "increase," or "decrease" refer to changes that are statistically significant at the 10-percent level or better. (3) The term "similar" implies that there is no statistical difference between the results being compared at the 10-percent level of significance. In other words, the difference between the results is within the bounds that would be expected from chance variation in a random sample.

KEY FINDINGS

RECOGNITION

In 2013, 87 percent of households recognized the ENERGY STAR label when shown the label (i.e., *aided recognition*). Seventy-three percent of households recalled having seen or heard of the ENERGY STAR label without first being shown the label (i.e., *unaided recognition*).

For purposes of this analysis, respondents were said to recognize the ENERGY STAR label if they had seen or heard of the label before the survey. Recognition of the label was explored in two ways. Unaided recognition was measured by asking if the respondent had seen or heard of the ENERGY STAR label without showing the label. Delivery of the survey by Internet made it possible to measure aided recognition. Aided recognition was measured by showing respondents the ENERGY STAR label and then asking if they had seen or heard of the label. Both methods are useful measurements of label recognition, although unaided recognition is the more conservative of the two.

Recognition results for both the 2013 and 2012 surveys are summarized in the following table. Aided and unaided recognition of the ENERGY STAR label results were similar in 2012 and 2013.

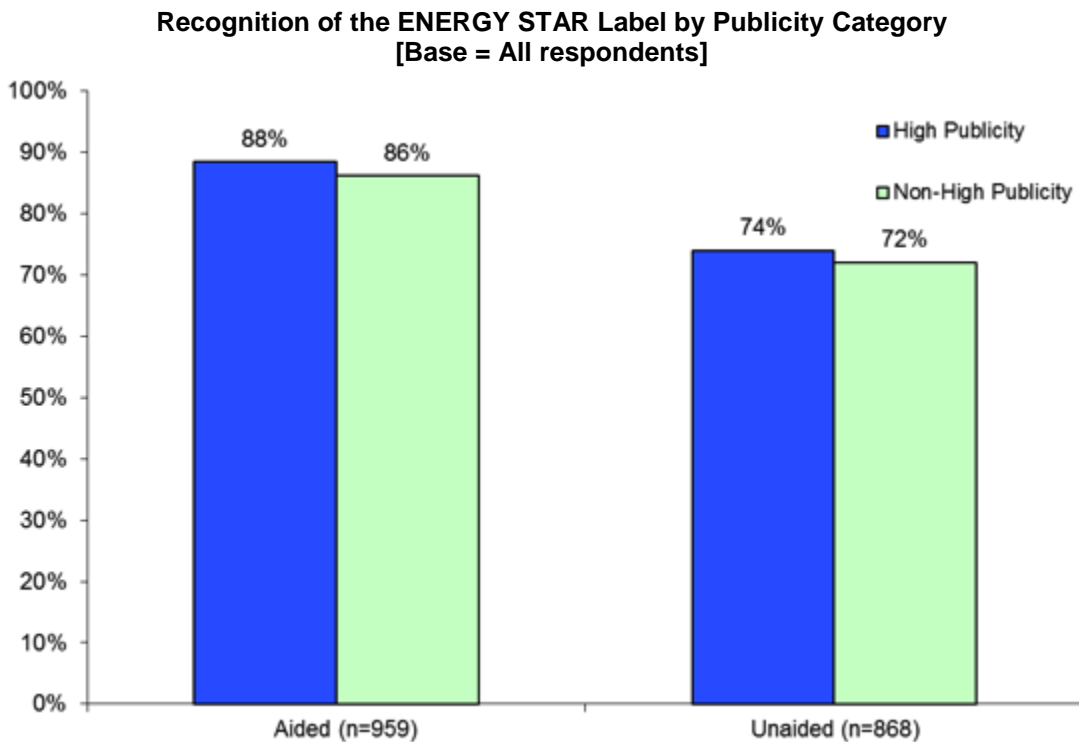
Recognition of the ENERGY STAR Label
[Base = All respondents]

Recognize ENERGY STAR Label	2013		2012	
	Aided (n=959)	Unaided (n=868)	Aided (n=1,523)	Unaided (n=1,407)
Yes	87%	73%	87%	74%
Standard error	1.3%	1.9%	1.3%	1.8%

Note: The unaided recognition results for both years were based on the question ES1: "Have you ever seen or heard of the ENERGY STAR label?" The aided recognition results were based on five questions. (1) ES3A and (2) ES3B were asked if ES1 = "yes." ES3A: "Is this the label you have seen or heard of before?"—whether the old or new label was shown was randomly determined. ES3B: "Have you seen or heard of this version of the ENERGY STAR label?" — where the label shown was the one not shown previously. (3) ES3C and (4) ES3D were asked if ES1 = "no." ES3C: "Please look at the ENERGY STAR label on the left. Have you ever seen or heard of this label?"—whether the old or new label was shown was randomly determined. ES3D: "Have you seen or heard of this version of the ENERGY STAR label?"—where the label shown was the one not shown previously. (5) ES6 was asked if either ES1 = "no" or both ES3A and ES3B = "no." ES6: "Now that you have had the opportunity to see the ENERGY STAR label, do you recall seeing or hearing anything about it before this survey?"—where both the old and new labels were shown.

Recognition by Publicity Category

After being shown the ENERGY STAR label (aided), 88 percent of households in high-publicity areas, and 86 percent in non-high-publicity areas recognized the label; this difference was not statistically significant (p-value = 0.376). Unaided recognition was 74 percent in high-publicity areas and 72 percent in non-high-publicity areas; this difference was not statistically significant (p-value = 0.610).



High- and non-high publicity area proportions are statistically similar to each other.

Product Associations

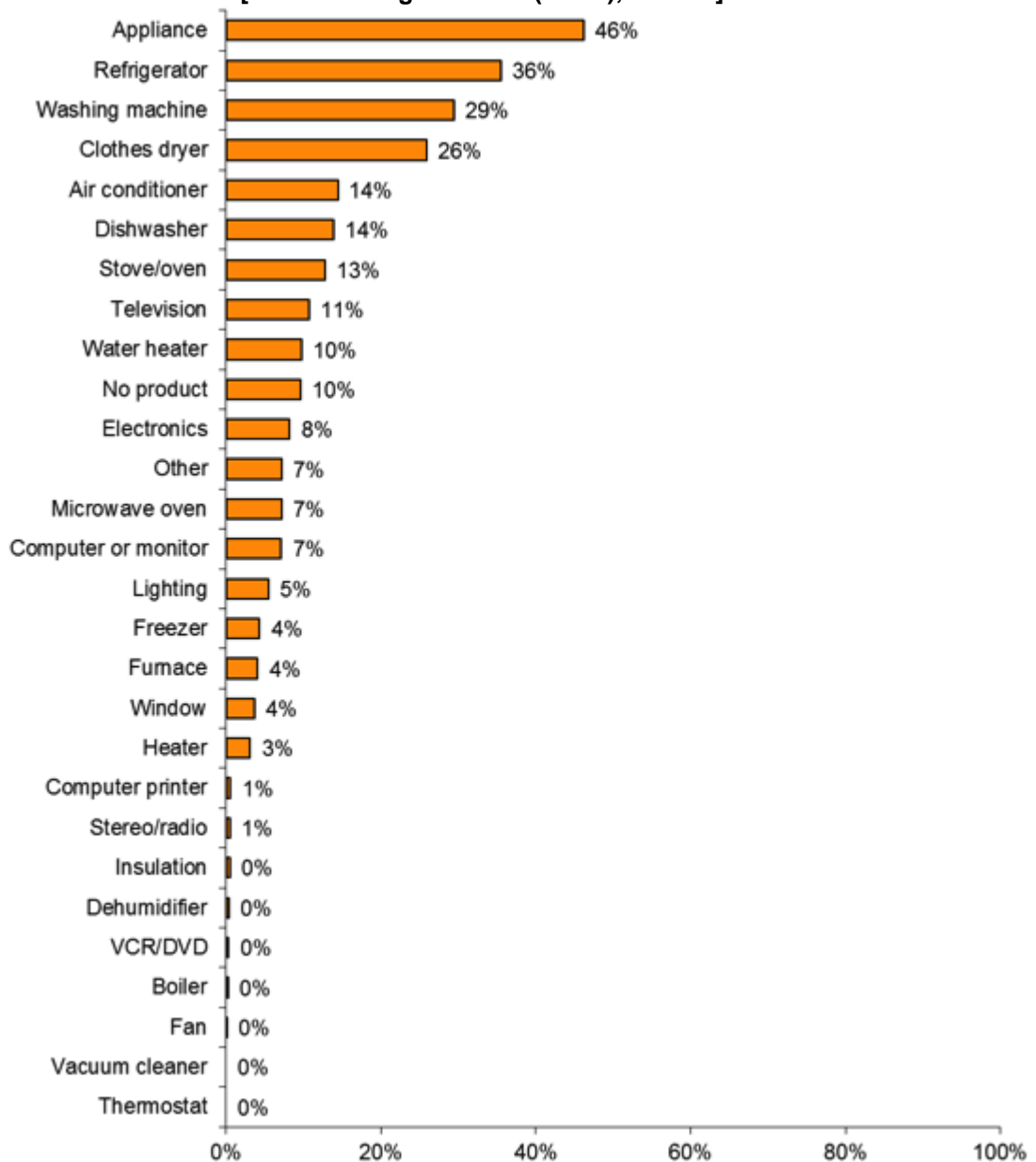
Households that recognized the ENERGY STAR label (aided) indicate strong association between the label and products historically supported by regional energy efficiency programs (refrigerators, washing machines, dishwashers, compact fluorescent light bulbs, etc.).

Survey respondents that recognized the ENERGY STAR label (aided) were asked, “What types of products, goods, and services do you think of when you think of the ENERGY STAR label?” (survey question QA). The figure on the next page presents the results for this question, which indicate *unprompted* product associations.

Appliances, refrigerators, and washing machines showed the strongest unprompted associations with the label at 46, 36, and 29 percent, respectively. Though the product category is not yet eligible for ENERGY STAR certification, clothes dryers showed the fourth strongest association with the label at 26 percent. The next most strongly associated products (unprompted) were air conditioners, dishwashers, and stoves/ovens, at 14, 14, and 13 percent, respectively. For all product associations, none are significantly different from the 2012 results. The list of products mentioned by households without prompting also includes two products, in addition to clothes dryers, that do not have an ENERGY STAR specification: microwave ovens and stoves/ovens.

When prompted, 85 percent of households had seen the label on refrigerators. Washing machines (75 percent) and dishwashers (70 percent) were the next products most commonly associated with the ENERGY STAR label. Windows, microwave ovens, televisions, central A/C, room air conditioners, and gas water heaters followed next in a range of 46 to 48 percent. While 48 percent of households associated microwave ovens with the ENERGY STAR label, as mentioned above, they are not a product category eligible for ENERGY STAR labeling.

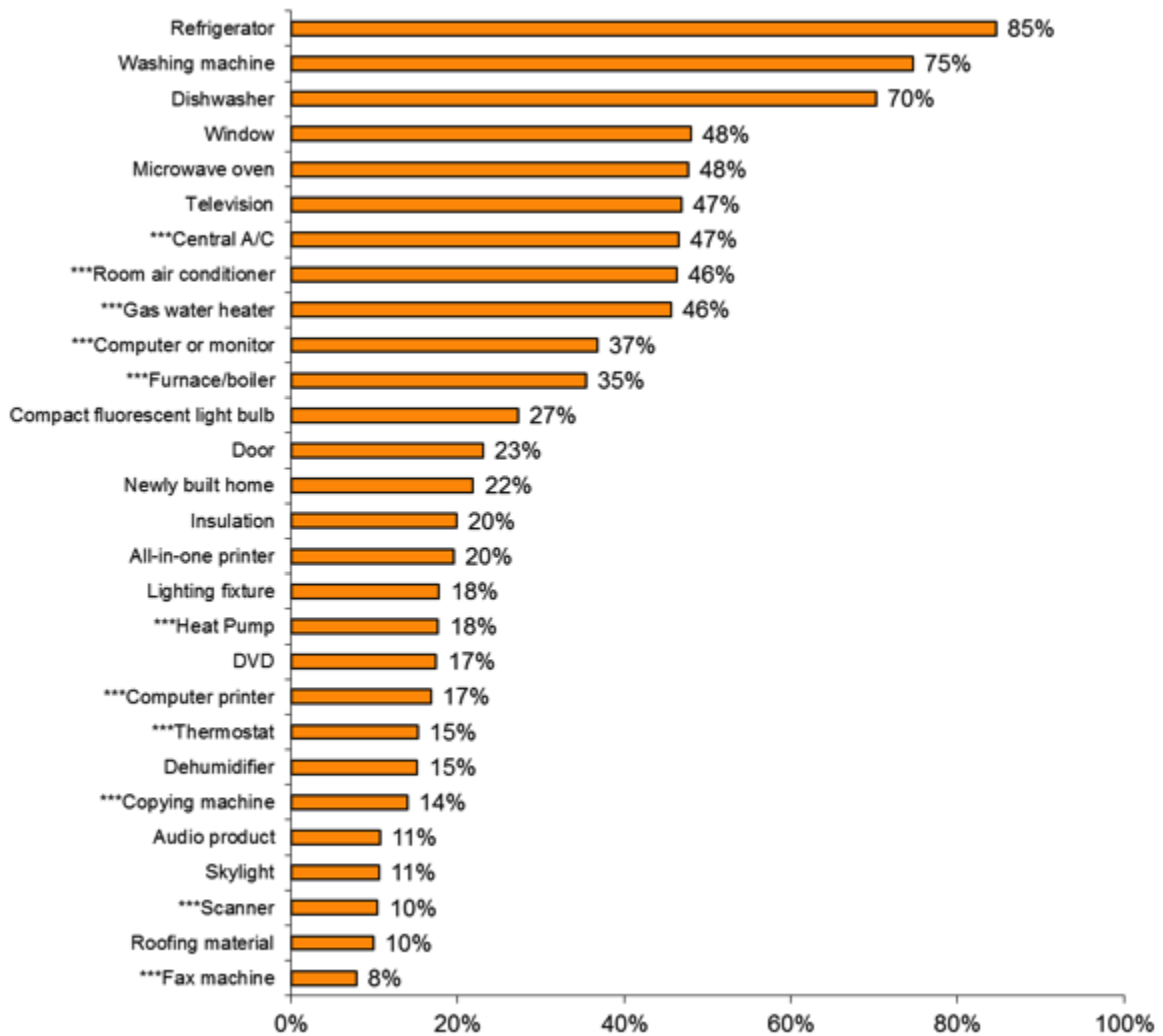
Unprompted Product Association with the ENERGY STAR Label
[Base = Recognize label (aided), n = 706]



Note: QA: "What types of products, goods, or services do you think of when you think of the ENERGY STAR label? Please write your answers below."

For all product associations, 2013 and 2012 proportions are statistically similar to each other.

Prompted Product Association with the ENERGY STAR Label
[Base = Recognize label (aided)²]



Note: Q5 (a, b, and c): “Now we’re going to ask you about several groups of products. As you review the list, please select each of the products, product literature, or packaging on which you have seen the ENERGY STAR label.”

*** 2013 and 2012 proportions are statistically different from each other at the 1-percent level of significance (p-value ≤ 0.01). The proportion of households in 2013 is larger than 2012 for central A/C, room air conditioner, gas water heater, computer or monitor, furnace/boiler, heat pump, computer printer, thermostat, copying machine, scanner, and fax machine.

² Respondents were asked about three sets of product groupings: (1) (a) Heating and Cooling Products and Home Office Equipment, (2) (b) Home Appliances/Lighting and Home Electronics, and (3) (c) Building Materials and Buildings. The sample sizes, n, for these sets of product groupings are 726, 726, and 702 respectively.

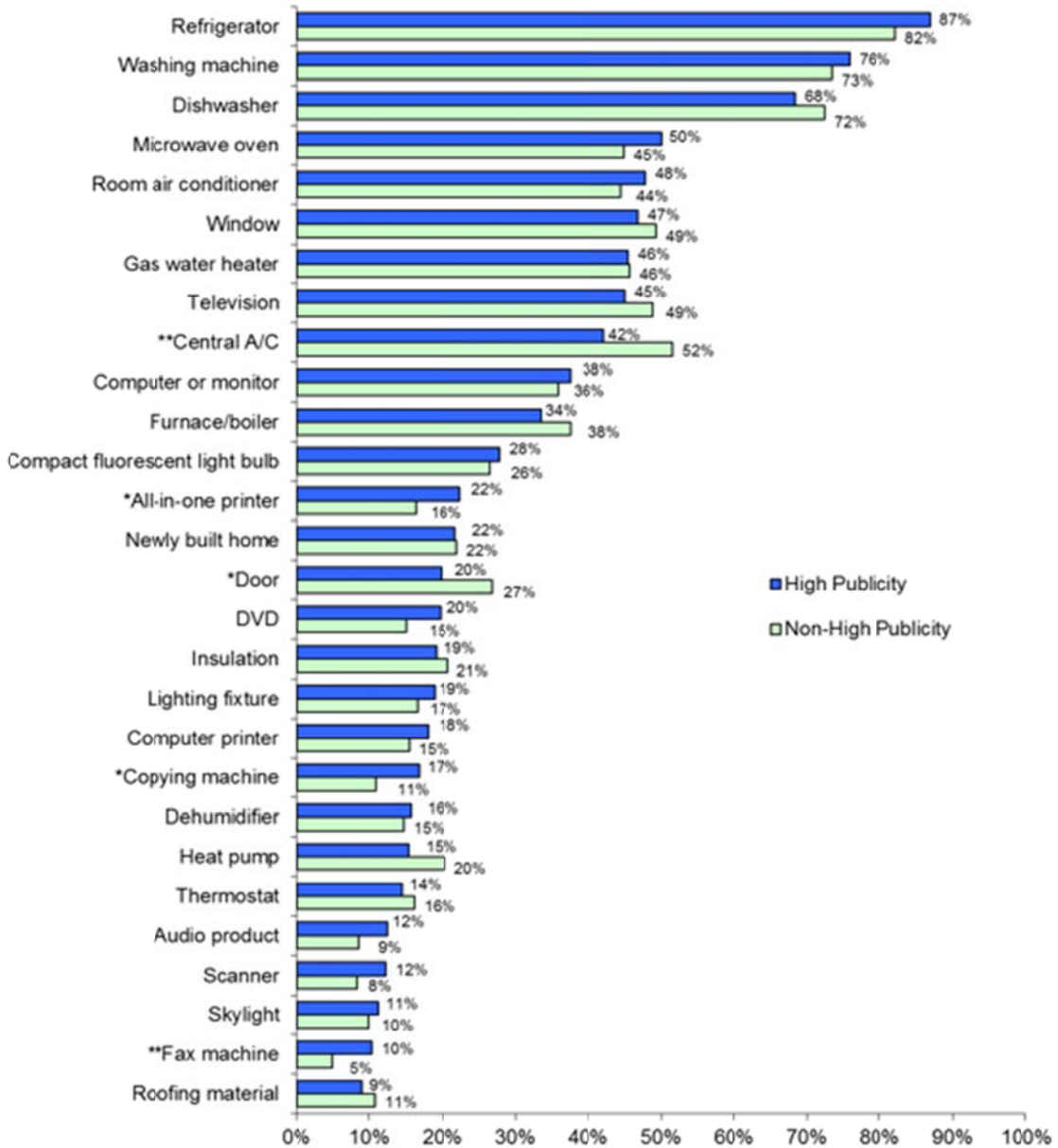
Product Associations by Publicity Category

Regional energy efficiency program sponsors have traditionally focused on promoting ENERGY STAR certified lighting, refrigerators, room air conditioners, washing machines, dishwashers, programmable thermostats³, and new homes. More recently, program sponsors have begun to promote ENERGY STAR certified water heaters and TVs in some parts of the country. Key findings from this year's analysis of product association by publicity category include the following.

- A significantly larger proportion of households in high-publicity areas than non-high-publicity areas associated all-in-one printers (22 percent and 16 percent, respectively), copying machines (17 percent and 11 percent, respectively), and fax machines (10 percent and 5 percent, respectively) with the ENERGY STAR label when prompted.
- A significantly smaller proportion of households in high-publicity areas than non-high-publicity areas associated central A/C (42 percent and 52 percent, respectively) and doors (20 percent and 27 percent, respectively) with the ENERGY STAR label when prompted.

³ EPA suspended the use of the ENERGY STAR label for programmable thermostats December 31, 2009. While EPA recognizes the potential for programmable thermostats to save significant amounts of energy, there continue to be questions regarding the net savings and environmental benefits achieved due to variations in consumer understanding and usage of programmable thermostats. EPA is working to develop a related Residential Climate Control specification. For more information visit: www.energystar.gov/productdevelopment.

Prompted Product Association with the ENERGY STAR Label by Publicity Category
[Base = Recognize label (aided)^{4,5}]



** High- and non-high-publicity area proportions are statistically different from each other at the 5-percent level of significance (p-value ≤ 0.05).

* High- and non-high-publicity area proportions are statistically different from each other at the 10-percent level of significance (p-value ≤ 0.10).

⁴ As discussed in footnote 3, respondents were asked about three sets of product groupings. In Heating and Cooling Products and Home Office Equipment, the sample sizes for high- and non-high- publicity areas are 386 and 340, respectively. For Home Appliances/Lighting and Home Electronics they are 384 and 342, and for Building Materials and Buildings they are 375 and 327.

⁵ The percent labels on the bars are rounded to the nearest whole number. Therefore bars with the same label may not be the same length.

UNDERSTANDING

In 2013, 80 percent of households had at least a general understanding of the ENERGY STAR label. Furthermore, the proportion of households that exhibited only a general understanding (10 percent) was small compared with the proportion that exhibited a high understanding (70 percent). The level of understanding was investigated by asking respondents what messages came to mind when they saw the ENERGY STAR label. Based on the reported messages, a respondent's understanding was classified as *high*, *general*, or *no understanding*.

The 2013 and 2012 survey results on the level of understanding of the ENERGY STAR label are provided in the following table. The proportion of respondents with a high understanding of the label is similar from 2012 to 2013, 70 percent for both years (p-value = 0.8360). The proportion of respondents with at least a general understanding of the label from 2012 to 2013 is also similar, 82 percent and 80 percent, respectively (p-value = 0.4182).

Understanding of the ENERGY STAR Label
[Base = All respondents]

Level of Understanding of the Label	2013 (n=1,000)	2012 (n=1,579)
High understanding	70%	70%
General understanding	10%	12%
No understanding	20%	18%
Total	100%	100%

Note: The level of understanding of the ENERGY STAR label is determined using the open-ended responses to two questions (1) ES2: "What does the ENERGY STAR label mean to you?", and (2) ES4A1: "Please look at the ENERGY STAR labels on the left. Type the messages that come to mind when you see the ENERGY STAR label."

In all years except 2006, all respondents were asked either ES2 or ES4A1, depending on their answers to ES1. Respondents that answered "Yes" to ES1 were then asked ES2, while all other respondents were asked ES4A1.

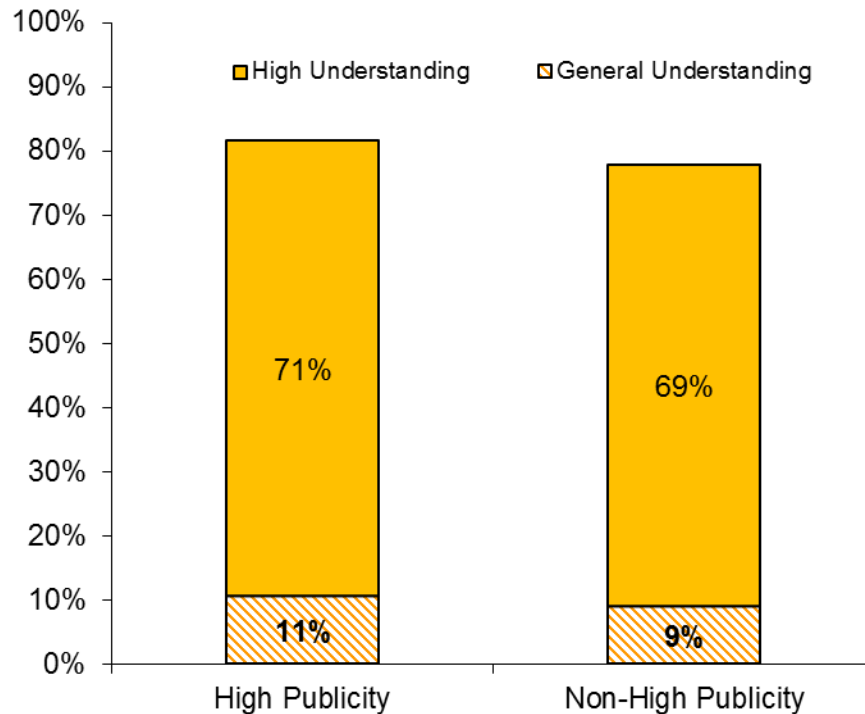
Understanding by Publicity Category

Eighty-two percent of households in high-publicity areas had at least a general understanding of the label compared with 78 percent of households in non-high-publicity areas. Additionally, a large percent of households exhibited a high degree of understanding in both high- (71 percent) and non-high-publicity areas (69 percent). Neither of these differences is significant at the 10 percent level.

Understanding of the ENERGY STAR Label by Publicity Category
[Base = All respondents]

Publicity Category	At Least General Understanding of Label
High	82%
Non-high	78%
Difference (High minus Non-high)	4%
p-value	0.247

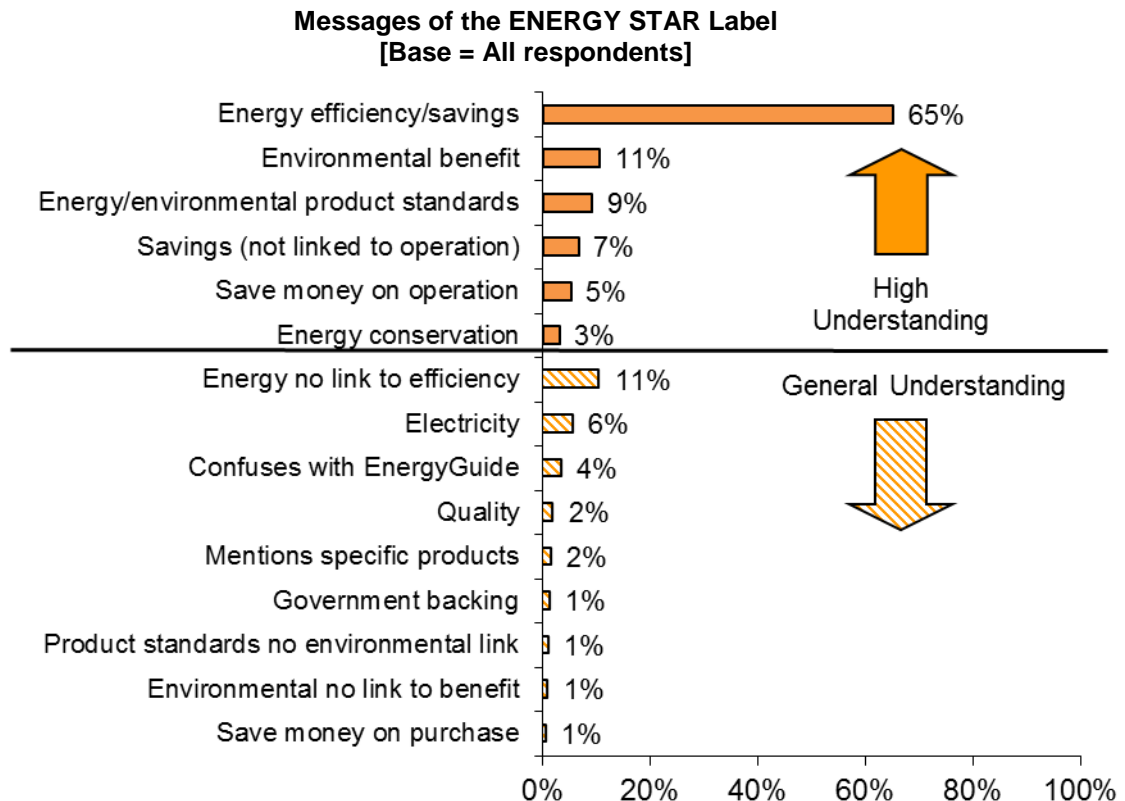
Understanding of the ENERGY STAR Label by Publicity Category
[Base = All respondents]



Understanding of Label Messaging

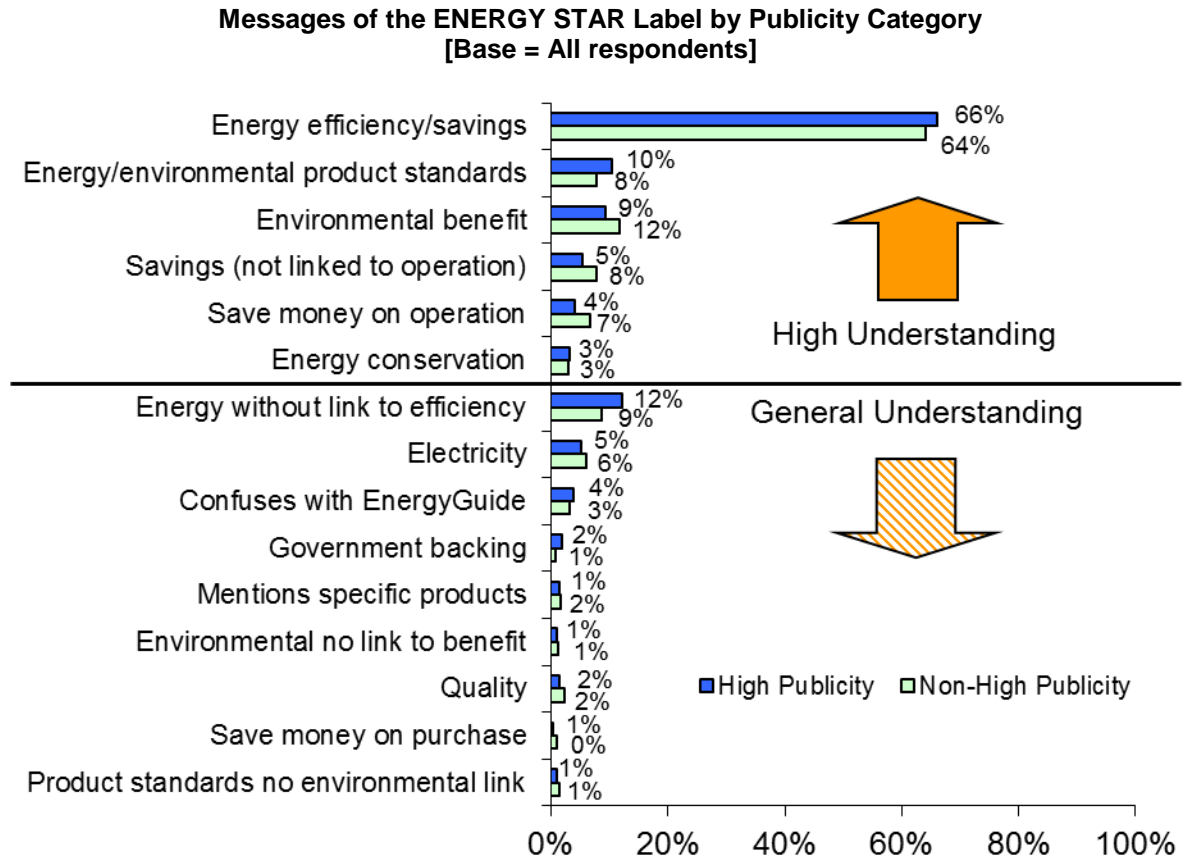
Open-ended responses to the questions on the level of understanding of the ENERGY STAR label are an indicator of how effectively EPA communicates its messages through the label. These responses are used in the analysis of understanding in the previous section. By far, the most common message associated with the label was “energy efficiency or energy savings,” which is considered high understanding of the label. Sixty-five percent of households surveyed associated the ENERGY STAR label with this message. The second most common response was “environmental benefit” offered by 11 percent of households, which is also considered high understanding of the label; this is similar to the 2012 result (9 percent).

Between 2012 and 2013 there was a decrease in the proportion of respondents who associated the ENERGY STAR label with “energy/environmental product standards” (10 percent to 9 percent), “save money on operation” (6 percent to 5 percent) and “energy conservation” (4 percent to 3 percent); “savings (not linked to operation)” was 7 percent in 2012 and 2013. Proportions are statistically similar for all messages in 2012 and 2013.



Understanding of Label Messaging by Publicity Category

A similar number of respondents in high-publicity regions (66 percent) and non-high-publicity regions (64 percent) associated the ENERGY STAR label with “energy efficiency/savings.” The proportion of households that associated the ENERGY STAR label with the messages below was similar for high- and non-high-publicity areas.



High- and non-high publicity area proportions are statistically similar to each other.

Understanding of the ENERGY STAR Label by Aided Recognition

Households that recognized the ENERGY STAR label when shown the label were more likely to have at least a general understanding of the label than those that did not recognize the label. In 2013, 84 percent of households that recognized the ENERGY STAR label had at least a general understanding of it, while among households that did not recognize the label, 55 percent had at least a general understanding of it. This 29 percentage point difference in understanding between households that recognized the label and those that did not is statistically significant at the 1-percent level. The proportion of households that had at least a general understanding of the label in 2013 is not statistically different from the 2012 result (87 percent).

Among households that did not recognize the label when shown it, the proportion that had at least a general understanding of the label in 2013 (55 percent) is similar to the 2012 result (53 percent).

Understanding of the ENERGY STAR Label by Aided Recognition
[Base = All respondents]

Recognize ENERGY STAR Label Aided	At Least General Understanding of Label	
	2013	2012
Yes	84%	87%
No	55%	53%
Difference (Yes minus No)	29%	34%
p-value	<0.0001	<0.0001

INFLUENCE

The survey provided some insight into consumers' decisions to purchase ENERGY STAR-labeled products, including the following:

- The proportion of households nationwide that recognized the ENERGY STAR label and knowingly purchased an ENERGY STAR-labeled product.
- The influence of the ENERGY STAR label on purchase decisions.
- The role of rebates or financing in decisions to buy ENERGY STAR-labeled products.
- The loyalty of purchasers to ENERGY STAR-labeled products.

Purchases of ENERGY STAR-labeled Products

In order to estimate the percent of *all* households that knowingly purchased an ENERGY STAR product, the following three proportions were multiplied:

- The proportion of all households that recognized the ENERGY STAR label (aided)
- Of the households that recognized the label (aided), the proportion that purchased a product in a product category that has an ENERGY STAR specification
- Of the households that recognized the label (aided) and purchased a product in a relevant category, the proportion that knowingly purchased an ENERGY STAR-labeled product

For each of the three proportions, the results for 2012 and 2013 are similar. In 2013, of the households that recognized the label (aided) and purchased a product in a relevant product category, 75 percent purchased an ENERGY STAR-labeled product.

**National Household Market Penetration of
ENERGY STAR Products by Year**

	Aided Recognition (2012 n=1,523) (2013 n=959)	Purchased Product (2012 n=1,334) (2013 n=835)	Knowingly Purchased ENERGY STAR product (2012 n=638) (2013 n=383)
2012	87%	63%	75%
2013	87%	65%	75%
Difference	-0.1%	-2.4%	-0.2%
p-value	0.959	0.411	0.951

Overall, 43 percent of all households knowingly purchased an ENERGY STAR product in the past 12 months. This is similar to the 2012 result (41 percent).

**Knowingly Purchased ENERGY STAR Product by Year
(Base = All respondents)**

Purchased ENERGY STAR product	2013 (n=959)	2012 (n=1,523)
Estimate (yes)	43%	41%
Standard Error	2.6%	2.4%

Purchases of ENERGY STAR by Publicity Category

The proportion of *all* households that knowingly purchased an ENERGY STAR product in high- versus non-high-publicity areas is 40 and 46 percent, respectively. This difference is not statistically significant (p-value = 0.2539). In 2013, a larger proportion of households in non-high-publicity areas (46 percent) knowingly purchased ENERGY STAR products than in 2012 (37 percent). This difference is statistically significant at the 10 percent level (p-value = 0.0741). The proportions of respondents who knowingly purchased ENERGY STAR products in high-publicity areas was similar between 2012 and 2013 (p-value = 0.3190).

**Knowingly Purchased ENERGY STAR
Product by Publicity Category and Year**
[Base = All respondents]

Publicity Category	% Households	
	2013	2012
High	40%	45%
Non-High	46%	37%
Difference (High minus Non-High)	-6%	8%
p-value	0.254	0.091

As noted above, three proportions are used to calculate the proportion of *all* households that knowingly purchased an ENERGY STAR product: aided recognition of the program label, purchase of a product in a relevant product category, and the proportion of those purchasers that knowingly bought ENERGY STAR products. A larger proportion of respondents in non-high publicity areas (71 percent) purchased products when compared to high-publicity areas (61 percent). This difference is statistically significant at the 5 percent-level (p-value ≤ 0.05).

**National Household Market Penetration of
ENERGY STAR Products by Publicity Category**

	Aided Recognition (n=959)	Purchased Product (n=835)	Knowingly Purchased ENERGY STAR product (n=383)
High Publicity	88%	61%	75%
Non-High Publicity	86%	71%	76%
Difference	2.3%	-10.2%	-0.8%
p-value	0.376	0.012	0.888

Influence of the ENERGY STAR Label

In 2013, nearly three quarters (70 percent) of the households that recognized the ENERGY STAR label (aided), and knowingly purchased an ENERGY STAR-labeled product reported having been influenced “very much” or “somewhat” by the label. For 14 percent of households, the label influenced their purchase decisions “slightly” and 16 percent of households reported the presence of the ENERGY STAR label had no influence on their purchase. These findings are not significantly different from those of 2012.

Influence of the ENERGY STAR Label on Purchase Decisions⁶
[Base = Recognize label (aided) and ENERGY STAR purchasers]

Influence of the Label on Purchasing Decisions	2013 (n=277) Maximum	2012 (n=458) Maximum
Very much	46%	46%
Somewhat	24%	27%
Slightly	14%	11%
Not at all	16%	16%
Total	100%	100%

Note: Q8: “For each ENERGY STAR-labeled product you purchased, how much did the ENERGY STAR label influence your purchase decision?”

⁶ Respondents that recognize the label (aided) and purchased an ENERGY STAR-labeled product are asked Q8 (“For each ENERGY STAR-labeled product you purchased, how much did the ENERGY STAR label influence your purchase decision?”) for each ENERGY STAR-labeled product they purchased. The results presented in this table use the highest influence rating provided by respondents that purchased more than one ENERGY STAR-labeled product.

Influence of the ENERGY STAR Label by Publicity Category

The purchase decisions of 48 percent of households in high-publicity areas were influenced "very much" by the ENERGY STAR label, compared to 44 percent in non-high-publicity areas; this difference is not significant at the 10-percent level. When these proportions are added to the proportions of households for which the ENERGY STAR label was "somewhat" influential in their purchasing decisions, the high- to non-high-publicity area comparison is 73 to 67 percent, respectively, which is not statistically different at the 10-percent level of significance. The combined "very much, somewhat, or slightly" proportion is 86 percent in high-publicity areas, and 83 percent in non-high-publicity areas, which is not statistically different at the 10 percent level.

Influence of the ENERGY STAR Label on Purchase Decisions by Publicity Category
 [Base = Recognize label (aided) and ENERGY STAR purchasers, n = 277]

Publicity Category	Very much	Very much or somewhat	Very much, somewhat, or slightly
High	48%	73%	86%
Non-High	44%	67%	83%
Difference (High minus Non-High)	4%	5%	3%
p-value	0.553	0.424	0.600

Rebate and Financing Influence

From 2012 to 2013, the percentage of households that knowingly purchased an ENERGY STAR-labeled product and received rebates or reduced-rate financing was at 18 percent. Of these households in 2013, 39 percent would have been “very likely” to purchase the ENERGY STAR product if financial incentives had not been available. This is similar to the 2012 result (42 percent).

Another 47 percent would have been “somewhat likely” to purchase without a rebate in 2013. This leaves 9 percent that would have been “slightly likely” and 5 percent “not at all likely.” None of these are significantly different from 2012.

Received Financial Incentive for an ENERGY STAR Product Purchased [Base = Recognize label (aided) and ENERGY STAR purchaser]

Received Financial Incentive for an ENERGY STAR Product Purchased	% Households	
	2013 (n=261)	2012 (n=429)
Yes	18%	18%
No	82%	82%
Total	100%	100%

Note: Q9: “Did you receive rebates or reduced-rate financing for any ENERGY STAR-labeled product(s) you purchased?”

Influence of Rebates and Financing on Purchasing Decisions [Base = Recognize label (aided), ENERGY STAR purchaser, and received an incentive]

Likelihood of Purchasing ENERGY STAR Product Without Financial Incentive	% Households	
	2013 (n=47)	2012 (n=75)
Very likely	39%	42%
Somewhat likely	47%	32%
Slightly likely	9%	14%
Not at all likely	5%	12%
Total	100%	100%

Note: Q10: “If rebates or reduced-rate financing had not been available, how likely is it that you would have purchased the ENERGY STAR-labeled product?”

Loyalty to ENERGY STAR

Loyalty to ENERGY STAR is investigated by asking respondents who knowingly purchased an ENERGY STAR-labeled product how likely they would be to recommend ENERGY STAR products to a friend. Respondents were asked to report this likelihood on a scale of 0 to 10, where 0 means “extremely unlikely” and 10 means “extremely likely.” As can be seen in the table below, 27 percent of households who knowingly purchased an ENERGY STAR-labeled product reported they would be “extremely likely” to recommend ENERGY STAR products to a friend. This proportion is similar to the 2012 value.

The likelihood of recommending ENERGY STAR products to a friend is greater than “6” for 71 percent of these households. This is similar to the previous year’s result of 75 percent.

Loyalty to ENERGY STAR
[Base = Recognize label (aided) and purchasers]

Likelihood Recommend ENERGY STAR Products	% Households	
	2013 (n=283)	2012 (n=481)
10 - Extremely likely	27%	30%
9	19%	18%
8	15%	17%
7	10%	10%
6	12%	7%
5	11%	12%
4	1%	2%
3	2%	1%
2	1%	1%
1	1%	0%
0 - Extremely unlikely	1%	2%
Total	100%	100%

Notes: Q11: “How likely are you to recommend ENERGY STAR labeled products to a friend?” is measured on an 11-point scale, where 0 =“Extremely unlikely” and 10 =“Extremely likely.”

INFORMATION SOURCES

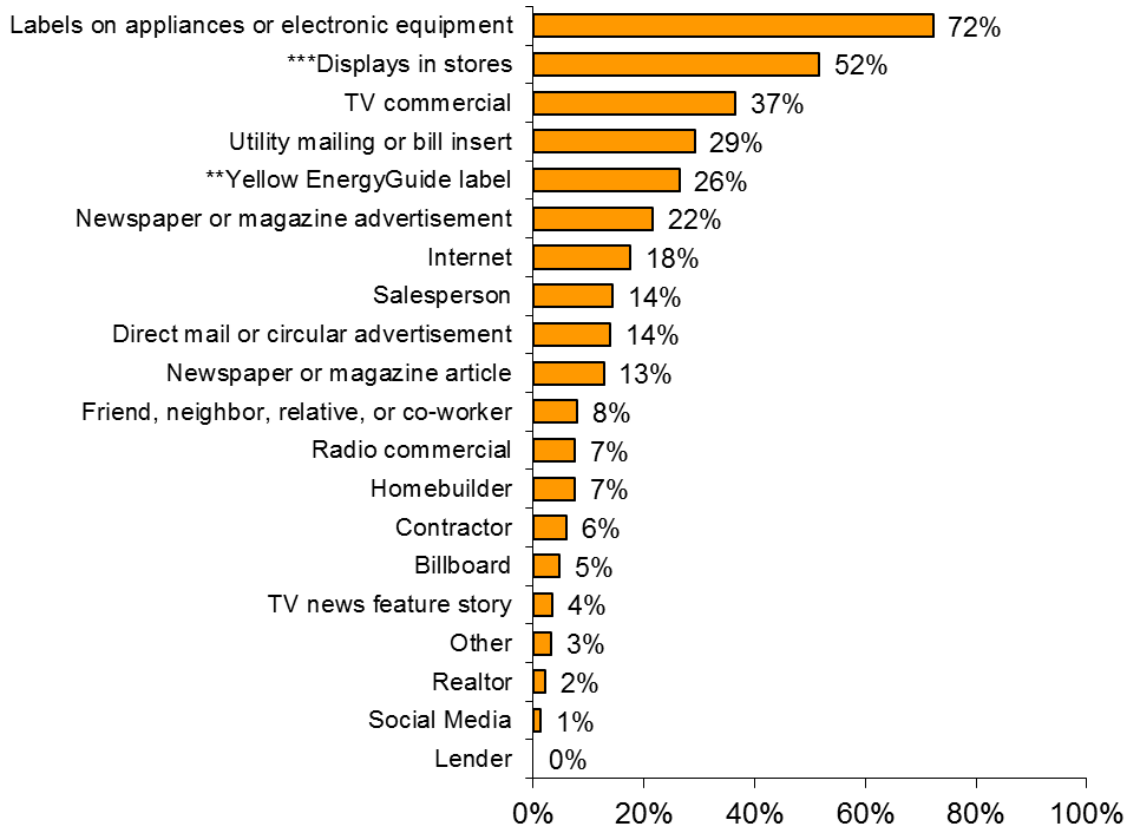
Sources Seen

Seventy-two percent of households have seen something about ENERGY STAR on appliance or electronics labels, and 52 percent of households have seen something about ENERGY STAR in store displays. Thirty-seven percent of households heard or saw something about ENERGY STAR on TV commercials. Between 22 and 29 percent of households saw something about ENERGY STAR in utility mailings or bill inserts, on EnergyGuide labels, or in newspaper or magazine advertisements.

Significantly fewer households in 2013 than in 2012 saw something about ENERGY STAR in store displays (52 percent compared to 60 percent). The proportion informed by the yellow EnergyGuide label increased from 20 percent in 2012 to 26 percent in 2013. All other responses were statistically similar to the proportions from the 2012 survey.⁷

⁷ Social Media was added as a new response in 2013 and therefore there is no 2012 result to compare to; a comparison for this information source can be made in 2014.

Sources Saw or Heard Something about ENERGY STAR
[Base = Recognize label (aided), n = 698]



Note: SO1: "Where did you see or hear something about ENERGY STAR? Please mark all that apply."

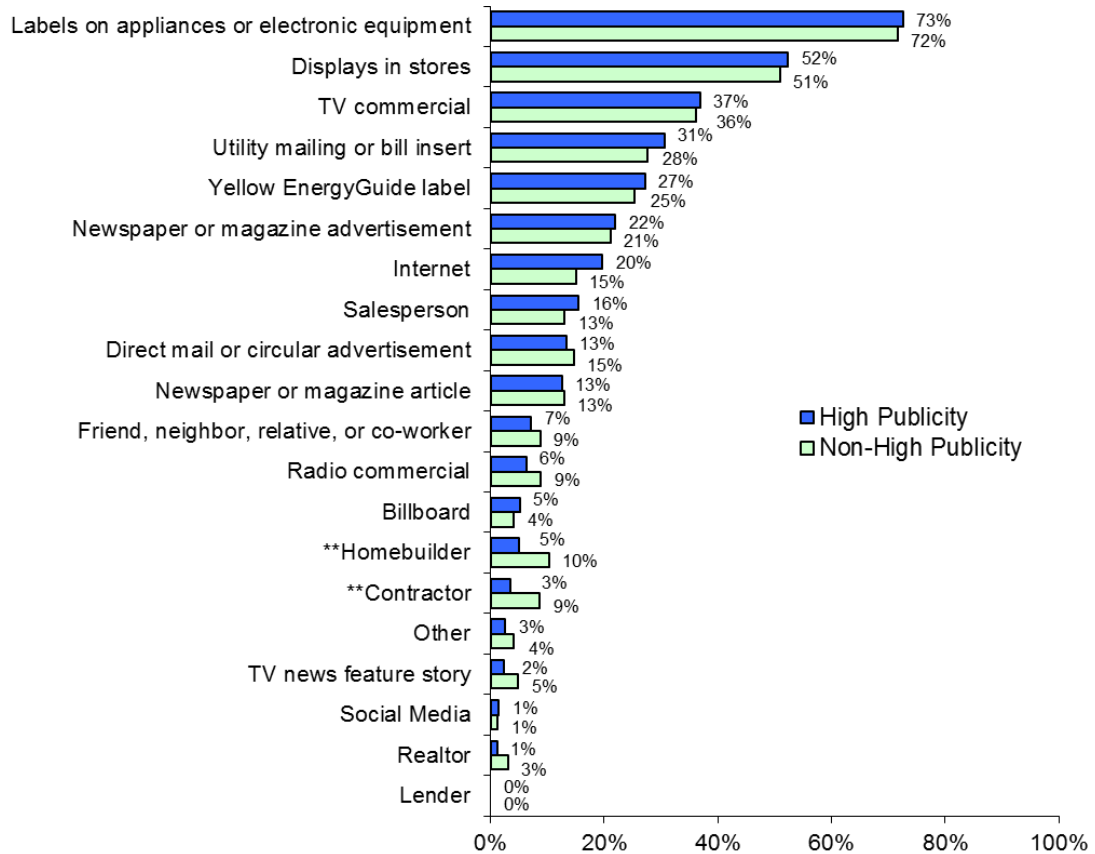
*** 2013 and 2012 proportions are statistically different from each other at the 1-percent level of significance (p-value ≤ 0.01). Proportion of households in 2013 is smaller than in 2012 for displays in stores.

** 2013 and 2012 proportions are statistically different from each other at the 5-percent level of significance (p-value ≤ 0.05). Proportion of households in 2013 is larger than in 2012 for yellow EnergyGuide label.

Sources Seen by Publicity Category

The proportion of households that heard or saw something about ENERGY STAR was significantly smaller in high- than in non-high-publicity areas for homebuilders (5 percent and 10 percent, respectively) and contractors (3 percent and 9 percent, respectively). Other sources of information are not significantly different between high- and non-high-publicity areas.

Sources Saw or Heard Something about ENERGY STAR by Publicity Category
 [Base = Recognize label (aided), n = 698]



** High- and non-high-publicity area proportions are statistically different from each other at the 5-percent level of significance (p-value ≤ 0.05). Proportion of households in high-publicity areas is smaller than in non-high.

APPENDIX A: DETAILED METHODOLOGY

During September and October of 2013, the Consortium for Energy Efficiency (CEE) fielded a questionnaire to obtain information at the national level on consumer awareness and understanding of the ENERGY STAR label, the value accrued to the label in the eyes of consumers, satisfaction with labeled products, and other ENERGY STAR-related information. The questionnaire was similar to the Internet/WebTV-based questionnaires fielded in previous years (2001 through 2012). As in the 13 previous years, CEE and its members sponsoring the survey made the survey data available to the U.S. Environmental Protection Agency (EPA) for analysis. In 2001, a rigorous comparative analysis of the results obtained via a mail survey versus an Internet survey was conducted. The results from the two survey methods were comparable for most major indicators.⁸ Results from that time-frame were also analogous to telephone surveys for aided recognition.⁹

This report discusses the results of the 2013 CEE ENERGY STAR Household Survey, building on prior years' survey results and focusing on the extent to which consumers recognized the ENERGY STAR label, understood its intended messages, and utilized (or were influenced by) the label in their energy-related purchase decisions. Research questions of interest included:

- Where do consumers see or hear about the ENERGY STAR label?
- How does increased publicity impact consumer ENERGY STAR label recognition, understanding, and influence?
- Which key messages about the ENERGY STAR label are consumers retaining?
- Do consumers demonstrate loyalty to the ENERGY STAR label?

The survey was fielded from September 17 through October 1, 2013.

The remainder of Appendix A discusses the questionnaire design, sampling and weighting methodologies, data collection, and the national analysis. See Appendix D for survey questions.

⁸ National Analysis of CEE 2001 ENERGY STAR Household Surveys. U.S. EPA, 2002.

⁹ Tannenbaum, Bobbi and Shel Feldman. "ENERGY STAR Awareness as a Function of Survey Method." IEPEC, 2001.

1 QUESTIONNAIRE DESIGN

In 2013, CEE conducted the ENERGY STAR survey using a questionnaire designed to be delivered by Internet/WebTV. The survey was conducted via an interactive Internet format with a random sample of households that are members of an Internet-based panel. Both the panel as a whole and the sample of households completing the survey were selected by address-based sampling (ABS) and recruited by telephone.¹⁰ Participants in this survey were then randomly selected from the panel. Only one member per household in the random sample was contacted. Households selected for previous years' surveys were not eligible to participate in the 2013 survey.

The panel is designed to be representative of the U.S. population. Panel members without their own Internet access are provided with a laptop and an Internet service connection. Households that already have Internet service receive other incentives to participate in the panel. Panel members respond to questionnaires administered to them via the Internet. They receive no more than three to four short questionnaires each month, and are expected to respond to a certain percentage of them.

Data collected using the 2013 Internet questionnaire may in most cases be compared with data collected using the internet questionnaires fielded in previous years, for which CEE was also responsible.

1.1 Survey Objectives

CEE had several broad objectives in designing the 2013 questionnaire including:

- To fine-tune the questionnaire based on lessons learned from prior years' analyses of the CEE survey while maintaining the ability to analyze the results of the 2013 survey against those from the 2012 CEE survey.

¹⁰ In previous years, the panel was recruited via random-digit dial. GfK believes that ABS offers advantages, including coverage of cell-phone-only households, and analysis of non-response bias. More information is available at [The Knowledge Networks Information page](#).

The 2013 Internet questionnaire addressed the following:

- Respondent recognition and understanding of the ENERGY STAR label.
- Key messages communicated by the ENERGY STAR label.
- Products on which respondents have seen the ENERGY STAR label.
- Products that respondents have shopped for or purchased in the past year.
- Products that respondents have purchased that displayed the ENERGY STAR label on the product, packaging, or instructions.
- Influence of the presence or absence of the ENERGY STAR label on the purchase decision.
- Whether purchases of ENERGY STAR-labeled products involved rebates or reduced-rate financing.
- Likelihood of having purchased ENERGY STAR-labeled products in the absence of rebates or reduced-rate financing.
- Likelihood of recommending ENERGY STAR-labeled products to a friend and other measures of loyalty to the ENERGY STAR label.
- Satisfaction with ENERGY STAR-labeled products versus products without the ENERGY STAR label.
- Demographic questions (most of the demographic questions were not asked in the Internet survey as the demographic characteristics of the respondents were already on file).
- Recognition and understanding of the yellow EnergyGuide label.

1.2 Internet Questionnaire

The interactive format of an Internet questionnaire allows questions to be asked in a way that is not possible with a printed questionnaire. On printed questionnaires, respondents can see questions in advance and may be tempted to read the entire questionnaire before completing it, potentially educating themselves in a limited way about the subject and affecting their responses.

The Internet questionnaires (after questions about the yellow EnergyGuide label) ask respondents—without showing the ENERGY STAR label—whether they have ever seen or heard of the ENERGY STAR label. Responses to this question should thus be comparable to those obtained through a telephone survey. The Internet questionnaires then show the ENERGY STAR label(s) (which is not possible with a telephone survey) and ask again about recognition and understanding. As a result, responses to these questions should be comparable to those obtained through a mail survey where respondents are shown the label.

Another difference between a mail questionnaire and an Internet questionnaire is that the latter—like a telephone questionnaire using computer-assisted telephone interviewing (CATI)—can program lines of questions based on responses to earlier questions. For example, respondents to an Internet questionnaire who say they bought a given product in the past year can then be asked whether that specific product (or its packaging or instructions) had the ENERGY STAR label.

Thus, the Internet survey is able to combine some of the attributes of both print and telephone surveys.

1.3 Changes to the Questionnaire

The 2013 questionnaire was very similar to the 2012 questionnaire. The only changes to the 2013 questionnaire from the previous year were the addition of a new response, two new questions, and a changed skip pattern.¹¹

A new response (social media) was added to the following question:

SO1. Where did you see or hear something about ENERGY STAR? Please mark all that apply.

The new questions asked in 2013 were:

Q16w: On a scale by the following statement (1 = Strongly Disagree to 5 = Strongly Agree), please indicate how strongly you agree or disagree with the statement: I consult energystar.gov for information on saving energy.

Q20. Were you aware that products designated ENERGY STAR Most Efficient 2013 represent a subset of ENERGY STAR qualified products within a given product category?

A skip pattern was changed in the ENERGY STAR Most Efficient series. Last year only those who confirmed recognition of ENERGY STAR Most Efficient (Q21. Is this the graphic you have seen or heard of before?) were asked Q22: All other things equal, I would buy a product because it is designated as ENERGY STAR Most Efficient. This year, all Q21 respondents regardless of confirmation of aided recognition of the ENERGY STAR Most Efficient label were asked about purchasing an ENERGY STAR Most Efficient product (Q22).

¹¹ Appendix D: 2013 Survey Questions and Flow Chart provide a graphical presentation of the survey questions and skip patterns.

1.4 Determination of Aided Recognition

In the 2013 analysis, the determination of *aided* recognition was based on the responses to five questions. This is the same sequence and numbering used in the 2012 survey. Specifically:

ES3A: Is this the label you have seen or heard of before? (Respondents were randomly shown either the old or new ENERGY STAR label. This question was asked to respondents who said they had seen or heard of the ENERGY STAR label.)

ES3B: Have you seen or heard of this version of the ENERGY STAR label? (In this question, asked after ES3A, respondents were shown the label not shown in the previous question.)

ES3C: Please look at the ENERGY STAR label on the left. Have you ever seen or heard of this label? (Respondents were randomly shown either the old or new ENERGY STAR label. This question was asked to respondents who said they had not seen or heard of or didn't know whether they had seen or heard of ENERGY STAR.)

ES3D: Have you seen or heard of this version of the ENERGY STAR label? (In this question, asked after ES3C, respondents were shown the label not shown in the previous question.)

ES6: Now that you had the opportunity to see the ENERGY STAR label, do you recall seeing or hearing anything about it before this survey? (This question was asked to respondents who answered "no" or "don't know" to ES3A and ES3B. It was also asked to all respondents who answered ES3C and ES3D.)

- Respondents who answered ES3A, ES3B, ES3C, ES3D, or ES6 "yes" were categorized as recognizing the ENERGY STAR label (aided).
- Respondents who did not answer ES3A, ES3B, ES3C, or ES3D "yes" and answered ES6 "no," were categorized as not recognizing the label (aided).
- Respondents who did not answer ES3A, ES3B, ES3C, or ES3D "yes" and answered ES6 "don't know" or refused to answer ES6 were not included in the analysis of aided recognition. (Their data were set to missing.)

2 SAMPLING

2.1 Designated Marketing Areas' Publicity Categories

The same publicity classification procedure used in the past 12 years was used in 2013. The original intent of the classification was to be able to assess the effect of local energy efficiency program publicity on awareness. The majority of these local efficiency programs historically have been supported by utility rate-payer funded energy efficiency programming. A decision was made to retain the same publicity classification used in the past 12 years and to retain the prior year's publicity classification of the 57 largest DMAs—in essence preserving the historical classification for future study years, which was based on the following criteria:

- **High publicity:** Active local ENERGY STAR program *recently* sponsored by a utility, state agency, or other organization for 2 or more continuous years. The activities must include *sustained* promotions and publicity from non-federal sources.
- **Low publicity:** Federal campaign activities only and no *significant* regional program sponsor activities.
- **Other:** All other DMAs.

The key working definitions are:

- **Recent:** The 2 years of activity must include the time period during which the survey was in the field.
- **Sustained:** The 2 years of activity must be continuous.
- **Significant:** In addition to any direct federal publicity efforts, publicity efforts must include a deliberate and multifaceted regional program sponsor investment in ENERGY STAR programming, such as direct marketing efforts or the creation and distribution of promotional material.

Each of the Top 57 DMAs was classified according to these three criteria, and sampled based on that classification. For the purpose of this report, *low publicity* and *other publicity* are combined in the analysis and referenced as *non-high-publicity* areas. One reason for combining these categories in the analysis is that over time, the population of low-publicity DMAs has dropped to about 15 percent, while high-publicity DMAs now account for about half of U.S. television households.

2.2 Sample Design

The sampling frame for this national survey included all households in any DMAs that together accounted for about 70 percent of U.S. television households. As in prior years, to facilitate comparison across years, the national results were based only on data collected from respondents from the 57 largest DMAs.¹²

CEE members may choose to sponsor more intensive sampling (i.e., an oversample) in selected localities. In 2013, no CEE member chose to sponsor an oversample.

As in previous years' studies, the Top-57 DMAs in the sampling frame were classified by publicity category, so the effect of local energy-efficiency program publicity on national awareness could be considered. The same publicity classification procedure used in the past 12 years was used this year.¹³

Program publicity has expanded over the past thirteen years. Originally, high-publicity, low-publicity, and other groups had similar numbers of households, and so the sample was allocated equally among the three groups. Beginning in 2010, the number of respondents in each stratum was chosen in proportion to that stratum's share of the U.S. population living in DMAs. As in the past for the national sample, the three publicity categories (the top 57 DMAs) comprise 1,000 respondents.

A list of the large DMAs and their publicity category assignments is provided in the table below. A map that shows the large DMAs and their publicity categories follows.

¹² Analysis included in the 2010 report showed no statistical difference for key metrics between the 57 largest DMAs and all 210 DMAs.

¹³ None of the 57 largest DMAs changed publicity category between 2012 and 2013.

Large (Top 57) DMAs¹⁴

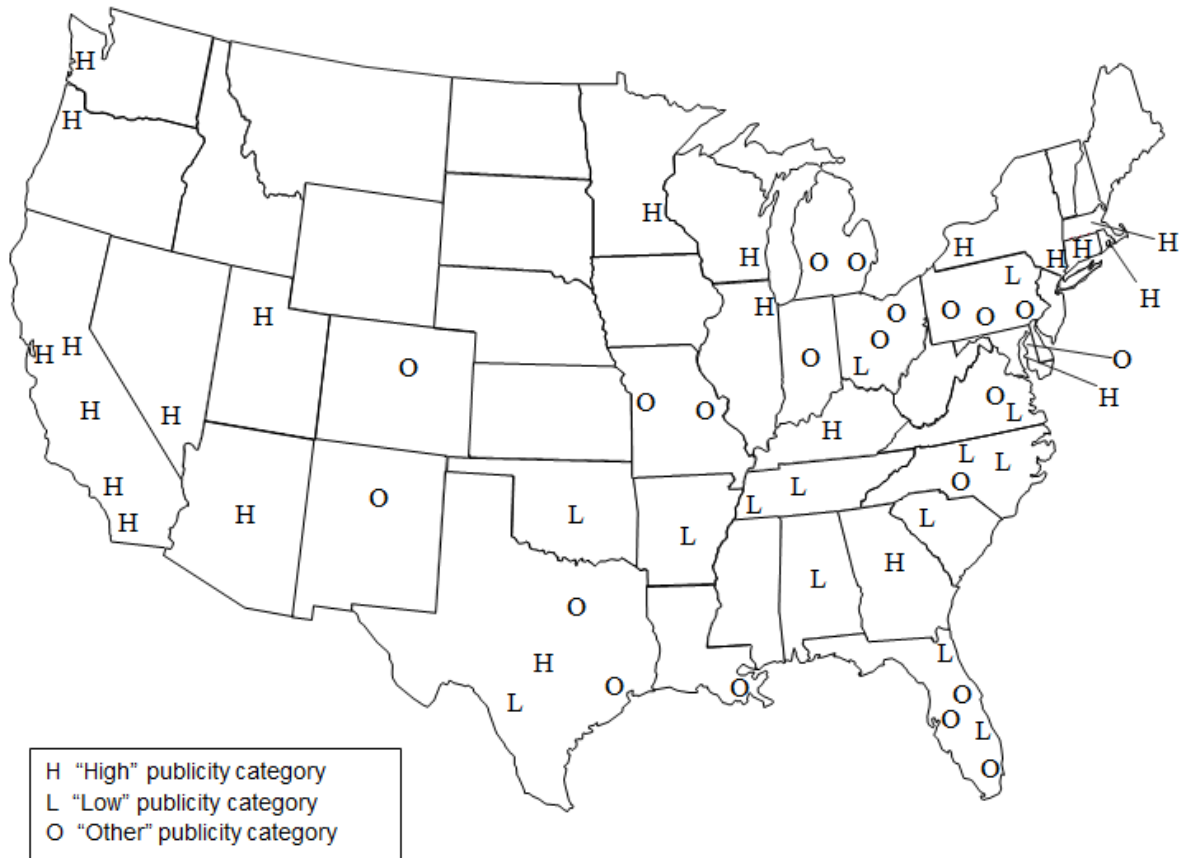
Rank	Designated Market Area (DMA)	TV Households 2012-2013		Publicity Category
		Number	% of US	
1	New York	7,384,340	6.468	High
2	Los Angeles	5,613,460	4.917	High
3	Chicago	3,484,800	3.052	High
4	Philadelphia	2,949,310	2.583	Other
5	Dallas-Ft. Worth	2,588,020	2.267	Other
6	San Francisco-Oak-San Jose	2,502,030	2.191	High
7	Boston (Manchester)	2,366,690	2.073	High
8	Washington, DC (Hagrstwn)	2,359,160	2.066	High
9	Atlanta	2,326,840	2.038	High
10	Houston	2,215,650	1.941	Other
11	Detroit	1,845,920	1.617	Other
12	Seattle-Tacoma	1,818,900	1.593	High
13	Phoenix (Prescott)	1,812,040	1.587	High
14	Tampa-St. Pete (Sarasota)	1,806,560	1.582	Other
15	Minneapolis-St. Paul	1,728,050	1.514	High
16	Miami-Ft. Lauderdale	1,621,130	1.420	Other
17	Denver	1,566,460	1.372	Other
18	Cleveland-Akron (Canton)	1,485,140	1.301	Other
19	Orlando-Daytona Bch-Melbrn	1,453,170	1.273	Other
20	Sacramnto-Stkton-Modesto	1,387,710	1.215	High
21	St. Louis	1,243,490	1.089	Other
22	Portland, OR	1,182,180	1.035	High
23	Pittsburgh	1,165,740	1.021	Other
24	Raleigh-Durham (Fayetvll)	1,150,350	1.008	Low
25	Charlotte	1,136,420	0.995	Other
26	Indianapolis	1,089,700	0.954	Other
27	Baltimore	1,085,070	0.950	Other
28	San Diego	1,075,120	0.942	High
29	Nashville	1,014,910	0.889	Low
30	Hartford & New Haven	996,550	0.873	High
31	Kansas City	931,320	0.816	Other
32	Columbus, OH	930,460	0.815	Other
33	Salt Lake City	917,370	0.803	High
34	Milwaukee	902,190	0.790	High
35	Cincinnati	897,890	0.786	Low
36	San Antonio	881,050	0.772	Low
37	Greenvll-Spart-Ashevll-And	846,030	0.741	Low
38	West Palm Beach-Ft. Pierce	794,310	0.696	Low

¹⁴ Publicity categories are the same as 2012.

Rank	Designated Market Area (DMA)	TV Households 2012-2013		Publicity Category
		Number	% of US	
39	Grand Rapids-Kalmzoo-B.Crk	720,150	0.631	Other
40	Las Vegas	718,990	0.630	High
41	Oklahoma City	718,770	0.630	Low
42	Birmingham (Ann and Tusc)	717,530	0.628	Low
43	Harrisburg-Lncstr-Leb-York	716,990	0.628	Other
44	Norfolk-Portsmth-Newpt Nws	709,730	0.622	Low
45	Austin	705,280	0.618	High
46	Greensboro-H.Point-W.Salem	695,100	0.609	Low
47	Albuquerque-Santa Fe	691,450	0.606	Other
48	Louisville	670,880	0.588	High
49	Memphis	662,830	0.581	Low
50	Jacksonville	659,170	0.577	Low
51	New Orleans	641,550	0.562	Other
52	Buffalo	632,150	0.554	High
53	Providence-New Bedford	606,400	0.531	High
54	Wilkes Barre-Scranton-Hztn	581,020	0.509	Low
55	Fresno-Visalia	576,820	0.505	High
56	Little Rock-Pine Bluff	561,760	0.492	Low
57	Richmond-Petersburg	553,390	0.485	Other
Total		81,095,490	71.028	

Large (Top 57) DMAs by Publicity Category¹⁵

2013



¹⁵ There were no large DMAs in either Alaska or Hawaii.

2.3 Weighting Procedures

GfK, the company that provided the Internet survey service, developed the weights used in the analysis. GfK first adjusted its panel members for known disproportions due to the panel's original selection and recruitment design and then proceeded with a post-stratification weighting that accounted for differences between the panel and the U.S. population. The adjustment to this typical sampling weight approach was based on geographic and demographic characteristics known for both the panel and the population (refer to Appendix B). It effectively scales up under-represented population dimensions in the panel and scales down dimensions that are over-represented in the panel. This more closely aligned the panel with the basic demographic characteristics of the U.S. population.

After the field data were collected, GfK further adjusted the sampling weight to account for survey non-response. The correction for survey non-response is analogous to the adjustment for differences between the panel members and the U.S. population. It was based on geographic and demographic characteristics known for both the sample of panel survey completes and the entire sampling frame for the study. The weighting scaled up under-represented population dimensions and scaled down over-represented dimensions in the sample of survey completes. This more closely aligned the sample of survey completes with the basic demographic characteristics of the entire sampling frame for the study.

3 DATA COLLECTION

3.1 Survey Fielding Period

The survey began on September 17 and closed on October 1, 2013.

3.2 Response Rate

The overall response rate was 8 percent for the CEE 2013 ENERGY STAR Household Survey. This level of response is typical for GfK's surveys.

For an Internet survey, the response rate is defined as the product of the *return rate*, which is survey-specific, and the *recruitment rate*. The *return rate* is the ratio of the number of questionnaires completed to the number of panel members asked to complete the questionnaire. For the CEE 2013 ENERGY STAR Household Survey, the return rate was 60 percent. While this number is quite high, it must be adjusted by the *recruitment rate*, which is the number of households that agreed to participate in GfK's panel as a proportion of the number of households asked to participate. The recruitment rate was 13 percent. Thus, the response rate for the CEE 2013 ENERGY STAR Household survey was the product of the survey-specific return rate of 60 percent and the recruitment rate of 13 percent. This product is equivalent to the ratio of the number of questionnaires completed to the number of households that were offered the opportunity to be in the study.

CEE 2013 ENERGY STAR Household Survey Response Rate¹⁶

Response Rate Factors	Number or % of Respondents
Send out/requested	1,664
Completed	1,000
Return rate	60%
Recruitment rate	13%
Response rate	8%

¹⁶ Only respondents from Top-57 DMAs are included in this table.

4 NATIONAL ANALYSIS

4.1 DMAs Included

To facilitate comparisons across years, the national results were based only on data collected from respondents from the 57 largest DMAs. Data collected from respondents not in the 57 largest DMAs are not included in this analysis.

4.2 Treatment of “Don’t Know” Responses and Refusals

For most questions, how “don’t know” responses or refusals are handled has a negligible effect on the results. Still, it is necessary to make a decision as to how they should be handled. The results presented in this report for a given question do not include “don’t know” responses or refusal to answer (i.e., the results for a given question were calculated after any “don’t know” responses to that question or refusals to answer that question were set to missing).

APPENDIX B: DEMOGRAPHICS

This appendix presents the relationship between the demographic characteristics found in the weighted survey data and the corresponding characteristics in the study population of all U.S. households. Professional survey and data collection firms make significant efforts to ensure the rigor of their methods and to produce the highest quality results. Each year, GfK—the company that maintains the Internet-based survey panel used in this analysis—strives to create a panel that is representative of the U.S. population. However, as in any survey effort, those who respond to surveys tend to be different from those who do not. In this case, the panel used for this survey may contain subjects that are receptive to the incentive-for-service tradeoff and introduce associated biases.

Weighting used in the analyses of this report is applied to account for differences between the Internet-based panel and the U.S. population. If weighting was accomplished perfectly, the distribution of various demographic characteristics in the weighted survey data would be the same as the distribution of those characteristics in national Census data. For most demographic characteristics, the two distributions are quite similar. This suggests the weighted survey results are a reasonable representation of the study population. A summary of the comparisons of demographic characteristics is provided in the table below. Detailed comparisons are provided in tables presented at the end of this appendix.

Summary of Distribution Comparisons

Demographic Characteristic	Largest Difference (Absolute Value): Survey Estimate Less Census %	
Number of persons in household	One	-6.7%
Householder/respondent age	18-24 ^a	7.5%
Householder/respondent gender	Gender	+/- 0.9%
Dwelling type	Mobile home	-3.1%
Own/rent	Own/rent	+/- 0.1%
Household annual income	\$75,000 and over ^b	9.5%

^aCensus, under 25 years; WebTV/Internet, 18-24 years.

^bCensus, \$50,000-\$80,000 and \$80,000 and over.

The largest differences (in absolute value) between the weighted survey data and national Census data, at 9.5 and 7.5 percentage points, are the proportion of households in the \$75,000 and over income category and the proportion of householder/respondent age 18-24, respectively. The difference in the proportion of one person households is the next largest, at -6.7 percentage points, and the number of mobile home dwellings is the next largest, at -3.1 percentage points. The combined under-representation of single-person households and over-representation of higher income households are not expected to bias the survey results in any particular direction. Differences between the weighted survey data and

Census data for other demographic characteristics of the population—own/rent, and gender—are all quite small, at less than one percentage point.

Household Size Distribution

Number of Persons in Household	Census % Dwelling Units ^a	Survey Estimate Minus Census % Dwelling Units
One	27%	-6.7%
Two	33%	1.6%
Three	16%	1.8%
Four	14%	0.4%
Five or more	10%	2.9%
Total (%)	100%	
Total (1,000s)	114,907	

^a U.S. Census Bureau, American Housing Survey, 2011, Table C-08-AO.

Age Distribution

Householder/ Respondent Age	Census % Householders ^a	Survey Estimate Minus Census % Householders
18-24 ^b	5%	7.5%
25-34	17%	0.3%
35-44	18%	-0.8%
45-54	20%	-2.5%
55-64	18%	1.3%
65 or older	22%	-5.8%
Total (%)	100%	
Total (1,000s)	114,907	

^a U.S. Census Bureau, American Housing Survey, 2011, Table C-08-AO.

^b Census, under 25 years; WebTV/Internet, 18-24 years.

Gender Distribution

Householder/ Respondent Gender	Census % Population^a	Survey Estimate Minus Census % Population
Female	51%	0.9%
Male	49%	-0.9%
Total (%)	100%	

^aU.S. Census Bureau, 2008-2012 American Community Survey 5-Year Estimates.

Dwelling Type Distribution

Dwelling Type	Census % Dwelling Units^a	Survey Estimate Minus Census % Dwelling Units
Single-family, unattached	64%	0.0%
Single-family, attached	6%	2.5%
Bldg. (>=2 units)	24%	-0.4%
Mobile home	6%	-3.1%
Total (%)	100%	
Total (1,000s)	114,908	

^a U.S. Census Bureau, American Housing Survey, 2011, Table C-01-AO.

Own/Rent Distribution

Own/Rent	Census % Households^a	Survey Estimate Minus Census % Households
Own	66%	0.0%
Rent	34%	0.1%
Total (%)	100%	
Total (1,000s)	114,908	

^a U.S. Census Bureau, American Housing Survey, 2011, Table C-01-AO.

Income Distribution

Total Household Annual Income (before taxes)	Census % Households^a	Survey Estimate Minus Census % Households
Less than \$15,000	13%	-3.1%
\$15,000-\$24,999	12%	-4.9%
\$25,000-\$49,999	24%	-2.2%
\$50,000-\$74,999	17%	0.7%
\$75,000 and over	34%	9.5%
Total (%)	100%	
Total (1,000s)	122,459	

^a U.S. Census Bureau, CPS Annual Social and Economic Supplement 2013, Table HINC-01 Selected Characteristics of Households, by Total Money Income (2012 data).

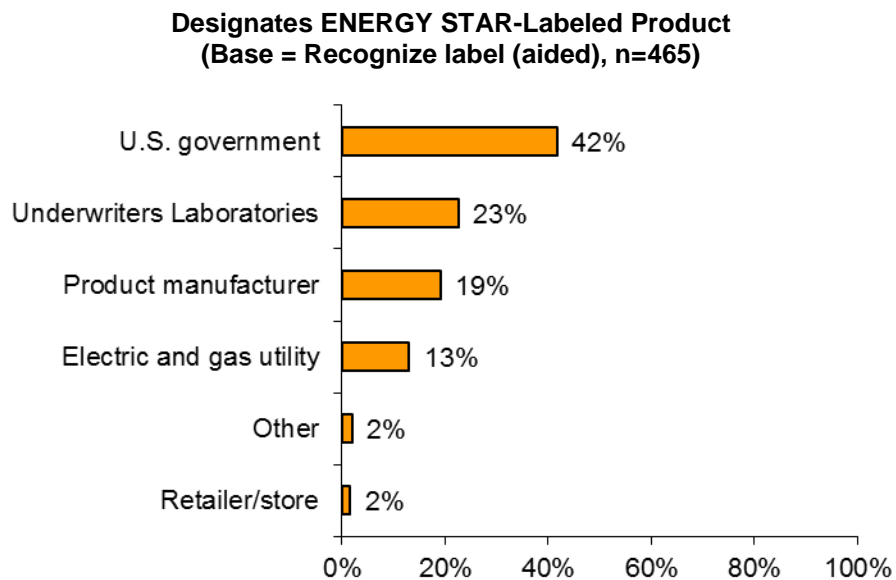
APPENDIX C: ADDITIONAL QUESTIONS FROM 2013 SURVEY

This appendix presents the results of additional ENERGY STAR related questions in the 2013 survey that were added by CEE since 2005; and are not discussed in the main body of the report. Topics included in this appendix include:

- ENERGY STAR Designation
- ENERGY STAR Product Satisfaction
- Consumer Perceptions
- Purchasing Decisions
- CFL Purchaser Questions
- Most Efficient Designation
- ENERGYSTAR.gov Question

1 ENERGY STAR DESIGNATION

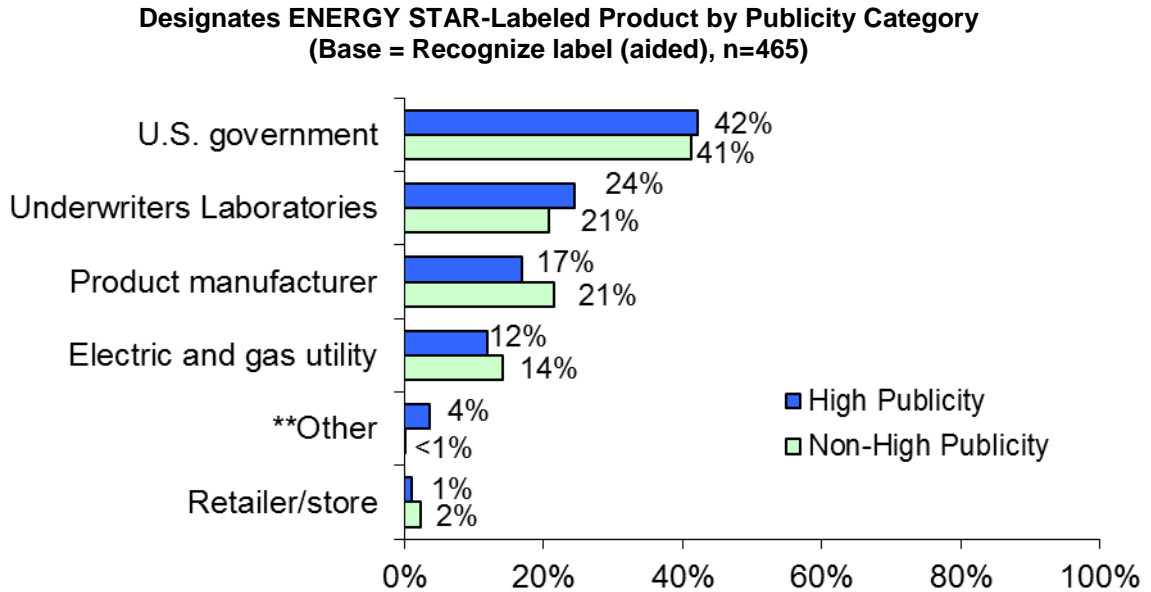
Forty-two percent of households that recognized the ENERGY STAR label (aided) thought that the U.S. government decides if a product deserves the label. Twenty-three percent thought Underwriters Laboratories makes this decision, up from 21 percent in 2012. Nineteen percent thought the product manufacturers make the decision, down from twenty percent in 2012. All 2013 and 2012 proportions are statistically similar to each other.



Note: QB: "As far as you know, who decides if a product deserves the ENERGY STAR label?"

2 ENERGY STAR DESIGNATION BY PUBLICITY CATEGORY

In 2013, high-publicity areas and non-high-publicity areas identified the entity that designates the ENERGY STAR label in similar proportions in all categories with the exception of “other.” A larger proportion of high-publicity areas (4 percent) than non-high-publicity areas (less than one percent) identified “other” for the entity that designates the ENERGY STAR label. This difference is statistically significant at the 5-percent level (p-value=0.0378).



** 2013 and 2012 proportions are statistically different from each other at the 5-percent level of significance (p-value≤0.05).

3 ENERGY STAR PRODUCT SATISFACTION

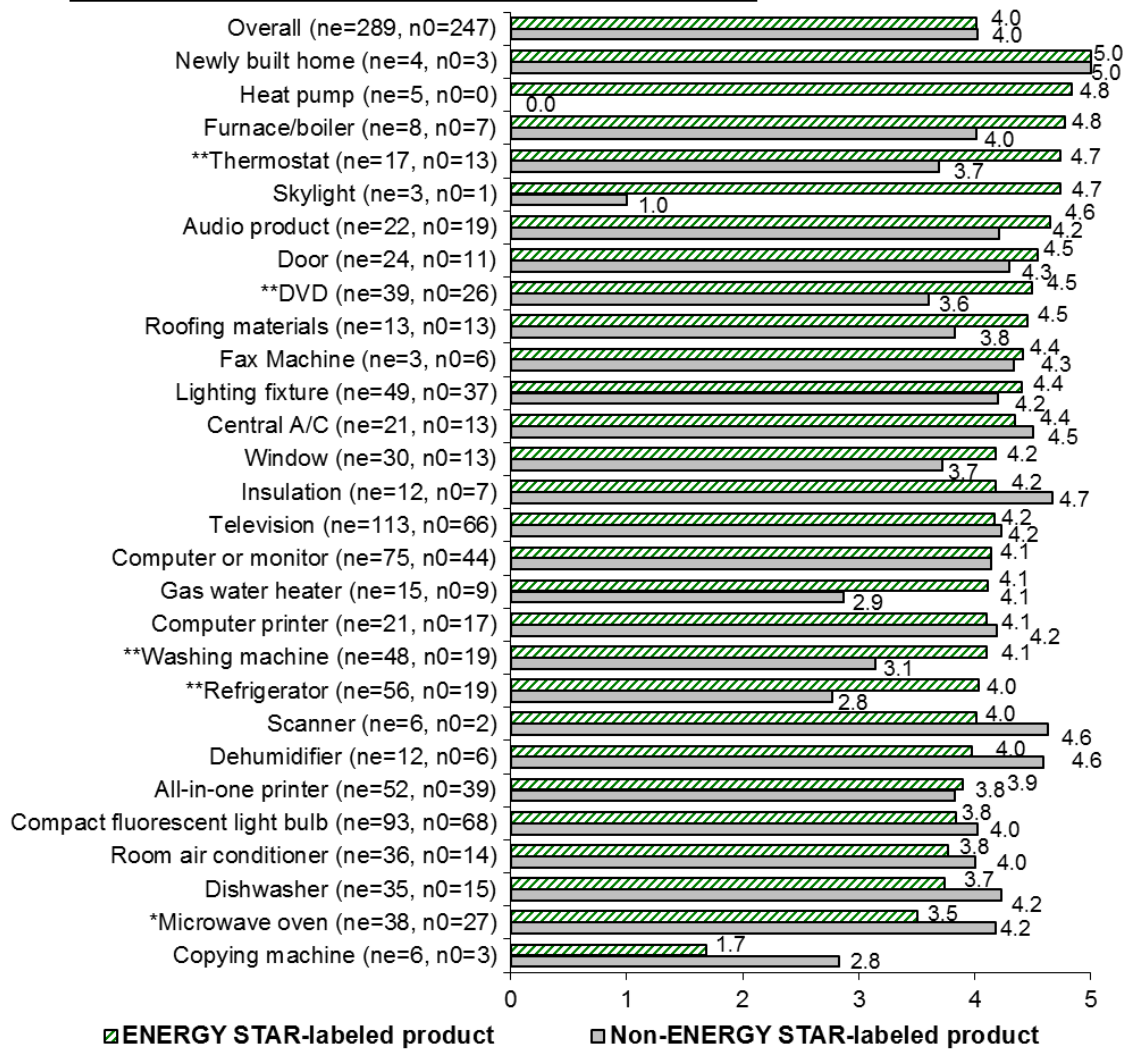
For most products, household satisfaction with a given product in a product category that has an ENERGY STAR specification does not appear to vary based on whether or not the product had an ENERGY STAR label. On a scale of 1 to 5, where 1 means “very dissatisfied” and 5 means “very satisfied,” products with and without the ENERGY STAR label had similar average satisfaction ratings, at 4.10 and 4.07 respectively.

Overall, customer satisfaction with ENERGY STAR products was similar in 2012 and 2013 at 4.0. Three ENERGY STAR-labeled products showed a statistically significant increase in customer satisfaction between 2012 and 2013. These products were furnace/boilers, thermostats,¹⁷ and fax machines. Two ENERGY STAR-labeled products showed a decrease in customer satisfaction over the same period: room air conditioners and copying machines. ENERGY STAR-labeled thermostats, DVD players, washing machines, and refrigerators received higher satisfaction ratings compared with unlabeled versions of these products.

¹⁷ EPA suspended the use of the ENERGY STAR label for programmable thermostats December 31, 2009. While EPA recognizes the potential for programmable thermostats to save significant amounts of energy, there continue to be questions regarding the net savings and environmental benefits achieved due to variations in consumer understanding and usage of programmable thermostats. EPA is working to develop a related Residential Climate Control specification. For more information visit: www.energystar.gov/productdevelopment.

**ENERGY STAR vs. Non-ENERGY STAR-Labeled Product Satisfaction
(Bases = Recognize label (aided) and purchased specified product¹⁸¹⁹)**

Average Satisfaction (1=very dissatisfied, 5=very satisfied)



- ** ENERGY STAR and Non-ENERGY STAR product proportions are statistically different from each other at the 5-percent level of significance (p-value ≤ 0.05).
- * ENERGY STAR and Non-ENERGY STAR product proportions are statistically different from each other at the 10-percent level of significance (p-value ≤ 0.10).

¹⁸ ne = number of respondents that recognized the label (aided) and purchased this product with an ENERGY STAR label
n0 = number of respondents that recognized the label (aided) and purchased this product without an ENERGY STAR label

¹⁹ There is no ENERGY STAR designation for microwave ovens.

4 CONSUMER PERCEPTIONS

Survey respondents that recognized the ENERGY STAR label (aided) were asked to indicate how strongly they agree or disagree with a number of attitudinal statements about ENERGY STAR-labeled products.²⁰ The statements were shown to respondents in random order.

For purposes of discussion, the statements are grouped into four categories:

- Environmental and social responsibility messaging
- Purchasing preference
- Product attributes and performance
- Technology affinity

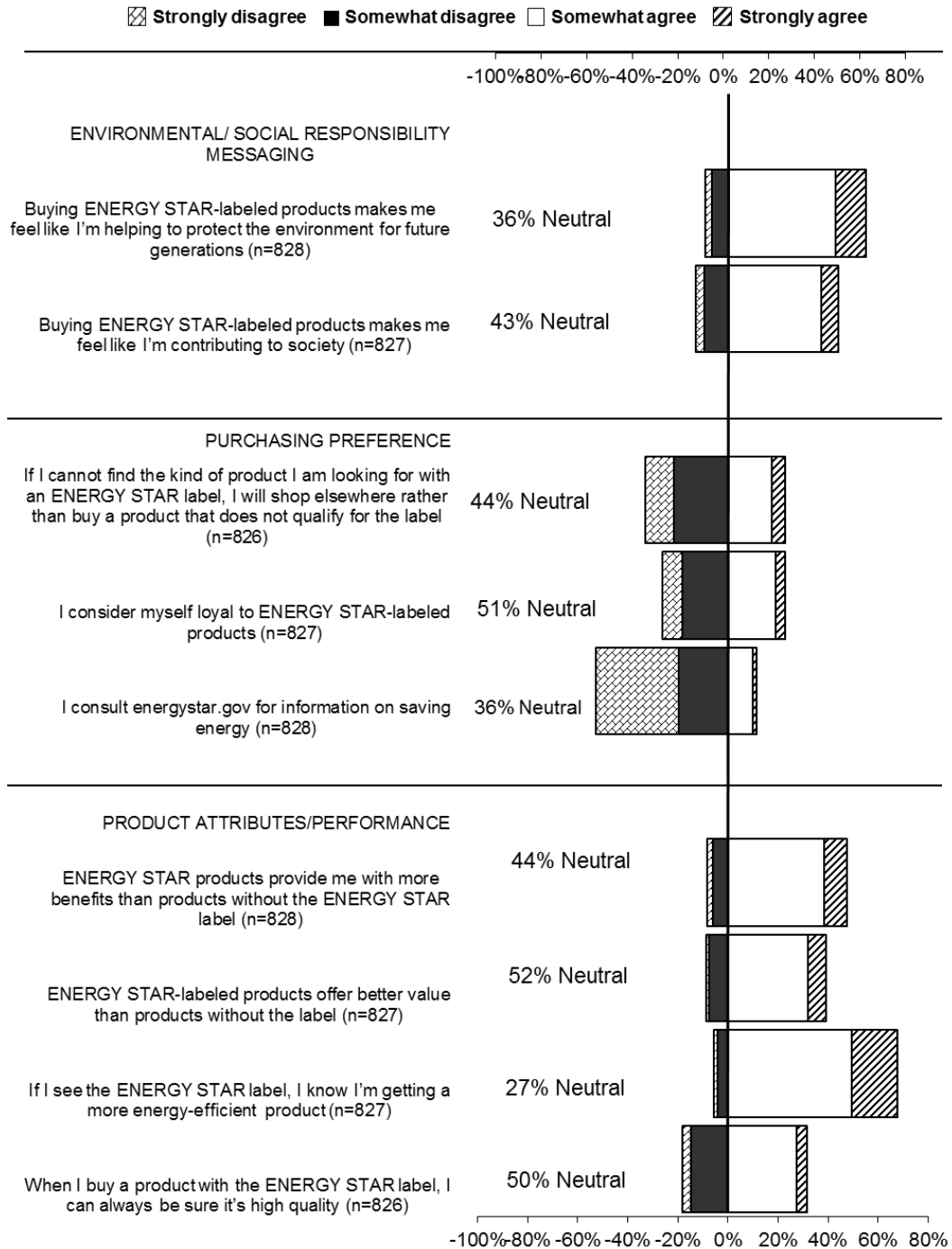
The 2013 survey results indicate that households generally agree with positive statements about the ENERGY STAR label and disagree with negative statements about the label.²¹ Similar to 2012 results, few statements elicit strong agreement or strong disagreement among substantial proportions of households; in contrast, a number of statements generated neutral responses from a sizeable proportion of households. A more detailed discussion of the findings regarding the attitudinal statements is provided on the following pages.

²⁰ These statements are numbered Q16a through Q16w in the survey.

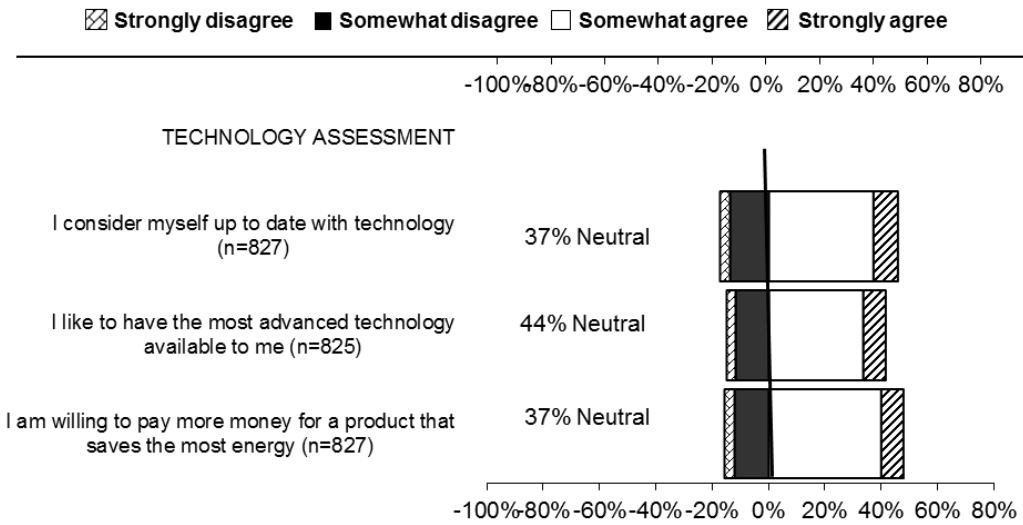
²¹ In this discussion, the term “agree” is used to correspond to survey responses of “strongly agree” or “somewhat agree.” Similarly, the term “disagree” corresponds to survey responses of “strongly disagree” or “somewhat disagree.”

**Response to Categorical Statements Regarding Messaging,
Purchasing, and Product Attributes – Agreement with Positive Statements
(Base = Recognize label (aided))**

For each attitudinal statement, respondents were asked whether they strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, or strongly disagree. The response of “neither agree nor disagree” is described as “Neutral” in the chart below and the discussion that follows. In the chart, the results for the “Neutral” response category are shown in text and not depicted in the bar graph. The results for the other four response categories are depicted in the bar graph.

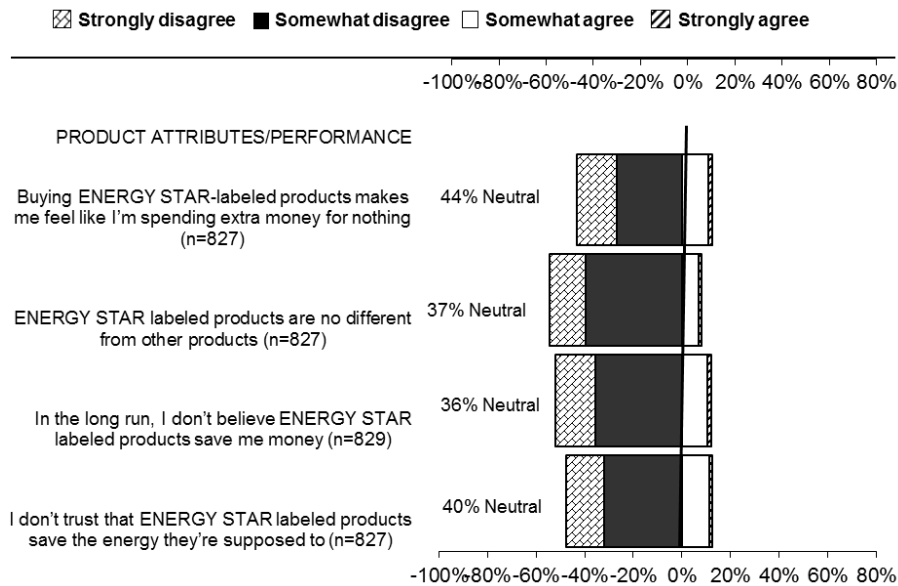


**Response to Categorical Statements Regarding Messaging,
Purchasing, and Product Attributes – Agreement with Positive Statements (Cont.)
(Base = Recognize label (aided))**



**Response to Categorical Statements Regarding Messaging,
Purchasing, and Product Attributes – Disagreement with Negative Statements
(Base = Recognize label (aided))**

For each attitudinal statement, respondents were asked whether they strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, or strongly disagree. The response of “neither agree nor disagree” is described as “Neutral” in the chart below and the discussion that follows. In the chart, the results for the “Neutral” response category are shown in text and not depicted in the bar graph. The results for the other four response categories are depicted in the bar graph.



4.1 Environmental and Social Responsibility Messaging

The development of the environmental and social responsibility messaging of the ENERGY STAR label has been a strong focus of the national ENERGY STAR education campaign. In the 2013 survey, two statements addressed the label's messaging in these areas: "Buying ENERGY STAR-labeled products makes me feel like I'm helping to protect the environment for future generations" and "Buying ENERGY STAR-labeled products makes me feel like I'm contributing to society."

Of households that recognize the ENERGY STAR label, the proportion that either strongly or somewhat agree with the statement that by buying ENERGY STAR-labeled products they feel they are helping protect the environment was lower in 2013 (55 percent) than in 2012 (59 percent); this difference is not statistically significant. Forty-four percent of ENERGY STAR aware households strongly or somewhat agree that by purchasing ENERGY STAR-labeled products they feel they are contributing to society; this percentage is statistically similar to the 2012 result (47 percent).

4.2 Purchasing Preferences

Increasing consumers' preferences for purchasing ENERGY STAR-labeled products is also an intended outcome of the national education campaign. In the 2012 and 2013 surveys, two separate statements were included to investigate households' views of their purchasing preferences with respect to ENERGY STAR-labeled products. In 2013, a new question was added to learn consumers' tendency to consult the energystar.gov website for information on energy savings. Eleven percent of households somewhat or strongly agree with the statement "I consult energystar.gov for information on saving energy" while 36 percent are neutral and 53 percent somewhat or strongly disagree.

In 2013, twenty-three percent of households either strongly or somewhat agree with the statement, "If I cannot find the kind of product I am looking for with an ENERGY STAR label, I will shop elsewhere rather than buy a product that does not qualify for the label." This is the same as 2012. Fewer households (33 percent) either strongly or somewhat disagree, this is down from 2012 (37 percent) and is statistically similar. Forty-four percent of households are neutral in their level of agreement or disagreement with this statement of their purchasing behavior.

Twenty-three percent of households agree with the second statement addressing households' views of their purchasing preferences: "I consider myself loyal to ENERGY STAR products." This is similar to 2012 (27 percent). Disagreement with this statement was 26 percent, which is the same as in 2012.

4.3 Technology Affinity

To support research interest related to advanced technologies the following questions were added in 2012 and were included in the 2013 survey.

- On a scale by the following statement (1 = Strongly Disagree to 5 = Strongly Agree), please indicate how strongly you agree or disagree with the statement “I am willing to pay more money for a product that saves the most energy.”
- On a scale by the following statement (1 = Strongly Disagree to 5 = Strongly Agree), please indicate how strongly you agree or disagree with the statement “I like to have the most advanced technology available to me.”
- On a scale by the following statement (1 = Strongly Disagree to 5 = Strongly Agree), please indicate how strongly you agree or disagree with the statement “I consider myself up to date with technology.”

In 2013, 48 percent of households agree either somewhat or strongly with the statement “I am willing to pay more money for a product that saves the most energy.” Thirty-seven percent of households are neutral in their level of agreement or disagreement with this statement. Fifteen percent of households either somewhat or strongly disagree with this statement addressing households’ willingness to pay more for a product that saves the most energy. These proportions are statistically similar to the 2012 results where 50 percent of households agreed, 33 percent were neutral, and 17 percent disagreed with the above statement.

Fewer (41 percent) households agreed (either somewhat or strongly) with the statement “I like to have the most advanced technology available to me” when compared to 2012 (46 percent). This difference is statistically significant at the 10-percent level of significance (p -value = 0.09071). Forty-four percent are neutral, up from 2012 (36 percent). This difference is statistically significant at the 5-percent level of significance (p -value = 0.0118). About the same percentage of households disagree with this statement in 2013 (15 percent) when compared to 2012 (17 percent); this result is statistically similar.

When compared to 2012 (49 percent), a similar proportion of households in 2013 (45 percent) agree (either somewhat or strongly) with the statement “I consider myself up to date with technology.” In 2013, 37 percent are neutral and 18 percent somewhat or strongly disagree with this statement. This is statistically similar to the 2012 result, 33 percent and 18 percent, respectively.

4.4 Product Attributes and Performance

Another goal of the national ENERGY STAR education campaign has been to inform consumers that ENERGY STAR-labeled products are more energy efficient than non-labeled products. The degree to which this goal is being accomplished is addressed in the 2013 survey by asking respondents their level of agreement or disagreement with the statement “If I see the ENERGY STAR label, I know I’m getting a much more energy-efficient product.” Sixty-seven percent of respondents either strongly or somewhat agree with this statement, down from 2012 (70 percent), which is statistically similar. This continues to indicate a perception among consumers that the ENERGY STAR label indicates superior performance with respect to energy efficiency relative to products without the label.

The survey addressed perceptions of product quality. Survey respondents were asked the level at which they agreed or disagreed with the statement “When I buy a product with the ENERGY STAR label, I can always be sure it’s high quality.” A lower percentage (32 percent) of households either strongly or somewhat agree with this statement than in 2012 (37 percent); this difference is statistically significant at the 10-percent level (p -value = 0.0519) of significance. Fifty percent are neutral and 18 percent disagree with this statement. Households that are neutral in their agreement and disagreement and in that disagree with this statement are similar to last year’s results.

A number of attitudinal statements were included in the survey to measure consumers’ perceptions of ENERGY STAR-labeled product value. One of these statements is “ENERGY STAR products provide me with more benefits than products without the ENERGY STAR label.” The results show that 47 percent either strongly or somewhat agree with the statement and only 9 percent of households disagree. On another statement regarding product value, “ENERGY STAR-labeled products offer better value than products without the label,” 39 percent of households either strongly or somewhat agree. Only 9 percent disagree, down from 2012 results (10 percent). The proportions of households that agree and disagree with these statements in 2013 are similar to the 2012 results.

The results related to the statement “Buying ENERGY STAR-labeled products make me feel like I’m spending extra money for nothing” provide additional information on perceptions of product value. Forty-four percent of all households who recognize the ENERGY STAR label strongly or somewhat disagree with the statement; this is down from the 2012 result (50 percent). This difference is statistically significant at the 5-percent level of significance (p -value = 0.0196). Forty-four percent of households in 2013 are neutral and only 12 percent agree with this statement. The proportions of households that are neutral and agree with this statement are similar to the 2012 results (35 percent and 14 percent, respectively).

In 2013, the following negative statements about product performance, added in 2010, were included.

- The statement, “I don’t trust that ENERGY STAR-labeled products save the energy they’re supposed to” had only 12 percent agreement, with four times as much disagreement (48 percent). The proportions of households that agree and disagree with these statements in 2013 are similar to the 2012 results.
- The statement, “In the long run, I don’t believe ENERGY STAR-labeled products save me money” had only 12 percent agreement, and over four times as much disagreement (52 percent). These proportions are similar to the 2012 results.
- Finally, the statement, “ENERGY STAR products are no different from other products” received only 8 percent agreement, and over six times as much disagreement (55 percent). In 2013, fewer households agreed (8 percent) with this statement when compared to the 2012 result (11 percent); this difference is statistically significant at the 10-percent level of significance (p-value = 0.0902). The proportion of households that disagreed with this statement is similar to the 2012 result.

Forty-nine percent of respondents either somewhat or strongly agree with the statement “It seems like most products have the ENERGY STAR label these days.”²² Only 12 percent disagreed with the statement. This suggests people are recognizing the label on many products. The proportions of households that agree and disagree with these statements in 2013 are similar to the 2012 results.

4.5 Consumer Perceptions by Publicity Category

In 2013, there were not many statistically significant changes in consumer perceptions between high- and non-high publicity areas. There was however, a larger proportion of people in high-publicity areas than non-high-publicity areas that agreed with the following statement, “Buying ENERGY STAR-labeled products makes me feel like I’m helping to protect the environment for future generations” (59 percent compared to 51 percent).

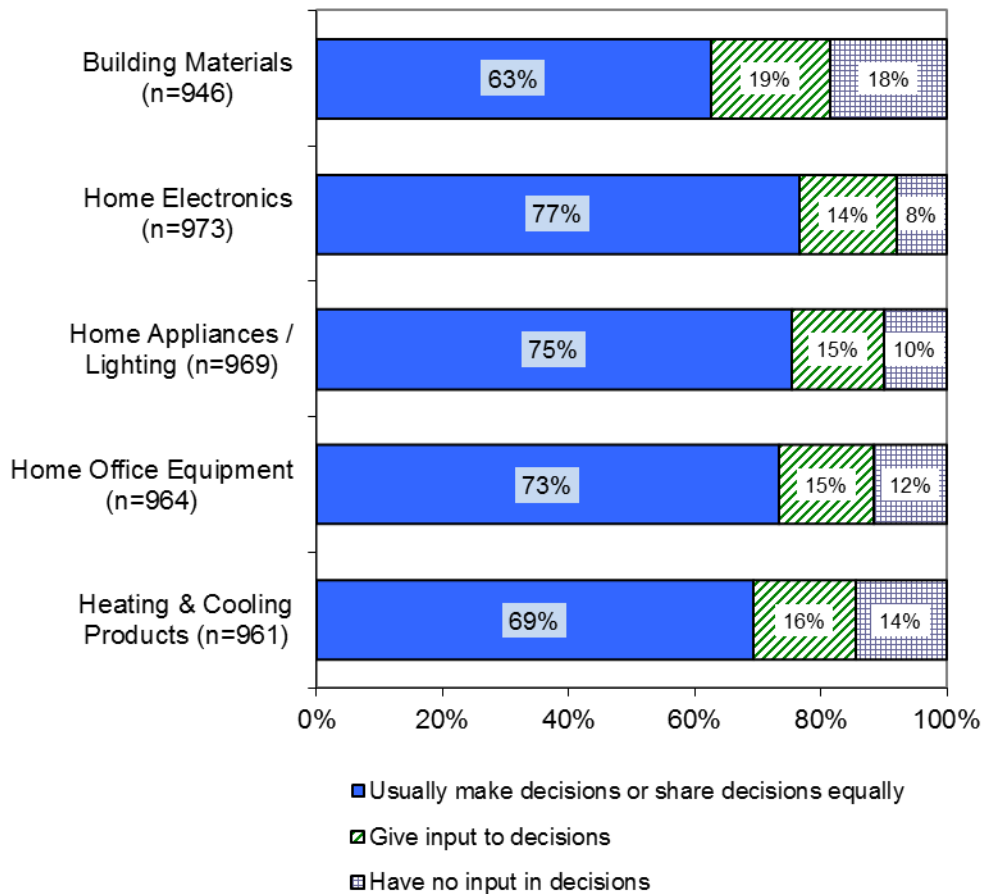
Also, a larger proportion of households in high-publicity areas (14 percent) than non-high-publicity areas (9 percent) agree (either somewhat or strongly) with the statement “I consult energystar.gov for information on saving energy.” This difference is statistically significant at the 10-percent level (p-value = 0.0737). The proportions of households who are neutral or disagree with this statement are statistically similar for high- and non-high publicity areas.

²² This statement was deemed neither positive nor negative so it does not appear in the previous chart.

5 PURCHASING DECISIONS

At the end of the survey, respondents were asked to characterize their role in the household purchasing decisions. The results indicate that the vast majority of those represented are primary decision makers, meaning they usually make household purchasing decisions alone or share equally in these decisions. As can be seen below, this varies little across product categories. Seventy-seven percent of individuals were primary decision makers for their household's home electronics purchases; 63 percent were primary decision makers for purchase of building materials.

Role in Household Purchasing Decisions
(Base = All respondents)



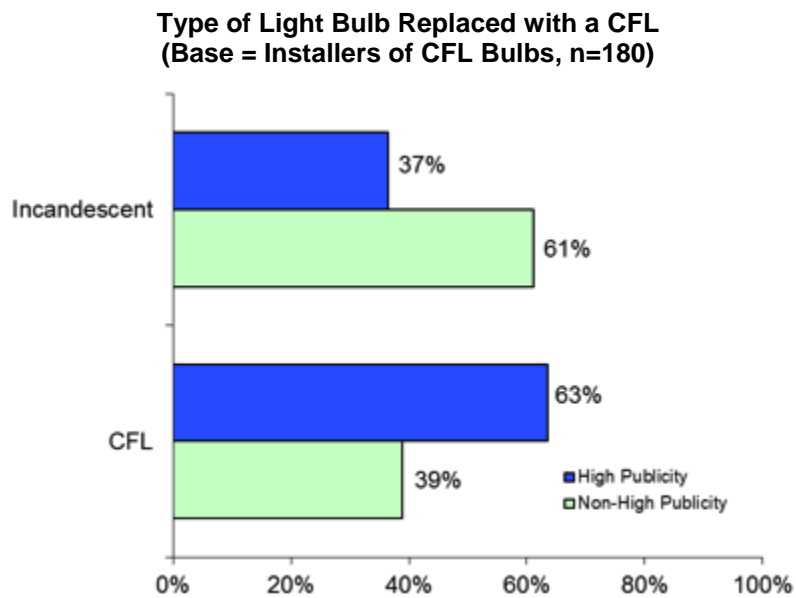
6 CFL PURCHASER QUESTIONS

Similar to previous years, all respondents are asked what products they have purchased in the last 12 months, with additional questions being asked of those who purchased compact fluorescent light bulbs (CFLs) and fixtures. In 2013, 17 percent and 9 percent of all households purchased CFLs and fixtures, respectively.

Respondents that purchased CFLs were asked the following questions:

- “Did you install the compact fluorescent light bulb(s) you purchased in a light fixture?”
 - If yes, then ask “Which type of bulb(s) did you replace?”

An overwhelming majority (92 percent) of CFL purchasers indicated they installed the purchased CFL. This result did not vary significantly by publicity category. Respondents that installed CFLs were then asked if the purchased CFL was used to replace a CFL or an incandescent light bulb. In 2013, 49 percent of households replaced an incandescent light bulb with the purchase of a CFL, down from 60 percent in 2012, and 51 percent of households replaced a CFL with a purchased CFL, up from 40 percent in 2012; this change is statistically significant at the 10-percent level (p -value = 0.0847). The percent of households that replaced a CFL with a purchased CFL was larger in high-publicity areas (63 percent) when compared to non-high-publicity areas (39 percent). The percent of households that replaced an incandescent with a purchased CFL was smaller in high-publicity areas (37 percent) than in non-high-publicity areas (61 percent). This change is statistically significant at the 5-percent level (p -value = 0.0119).



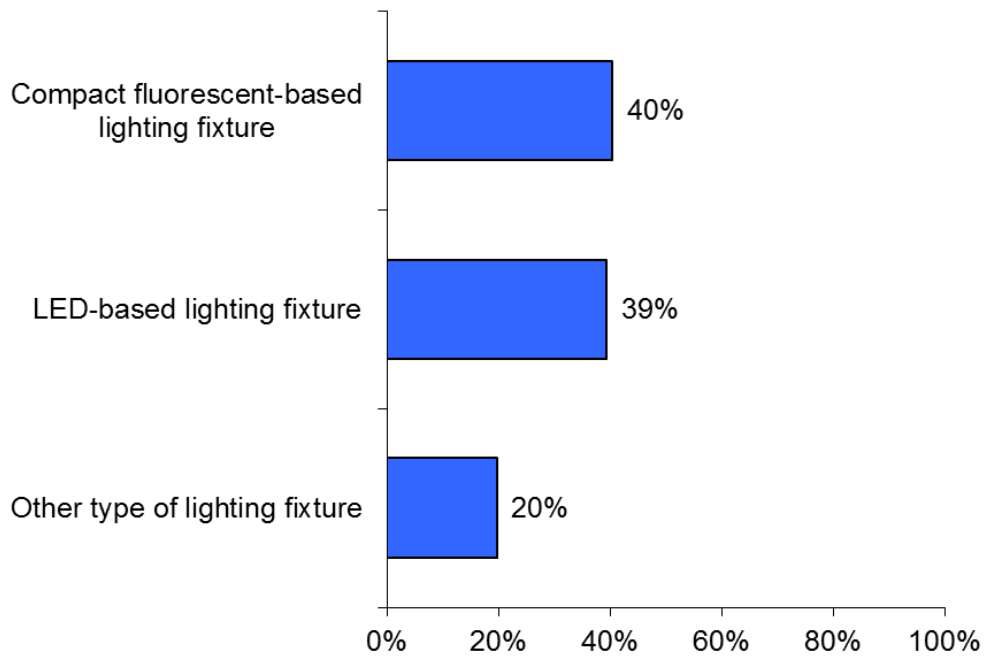
Note: Q12 (e) “Which type of bulb(s) did you replace?”

Consistent with previous years, purchasers that recognize the ENERGY STAR label were asked if they saw the label on the product(s) they purchased. Respondents that reported purchasing an ENERGY STAR-labeled lighting fixture were asked:

- “Which kind of ENERGY STAR-labeled lighting fixture did you purchase?”

In 2013, forty percent of ENERGY STAR-labeled lighting fixture purchasers report purchasing a compact fluorescent-based lighting fixture, this is similar to 2012 (58 percent) (p-value=0.2517). While the proportion of CFL fixtures purchased appears to decrease the proportion LED fixtures purchased appears to increase (19 percent in 2012 to 39 percent in 2013) (p-value=0.2203). This result varies by publicity category: in 2013, in high-publicity areas, 22 percent report purchasing a compact fluorescent-based lighting fixture compared to 58 percent in non-high publicity areas. This difference is statistically significant at the 10-percent level.

Type of ENERGY STAR-Labeled Lighting Fixture Purchased
(Base = Purchasers of ENERGY STAR Lighting Fixture, n=24)



Note: Q8A 1-4. Which kind of ENERGY STAR-labeled lighting fixture did you purchase?
Q8A 1-4 is a multiple response question and therefore does not always sum to 100 percent. In 2012, 5 percent of respondents “Don’t know” the type of ENERGY STAR lighting fixture purchased.

7 RECOGNITION AND INFLUENCE OF ENERGY STAR MOST EFFICIENT

The 2011 questionnaire added a brief series of questions²³ to collect information on recognition and influence of the ENERGY STAR Most Efficient marketing designation. Only respondents that recognize the ENERGY STAR label (aided) were asked the ENERGY STAR Most Efficient questions. These questions were continued with minor modification in the 2013 survey.

In 2013, 22 percent of households that recognized the ENERGY STAR label (aided) indicated they had seen or heard of ENERGY STAR Most Efficient; this is consistent with 2012 (19 percent). Among households that had seen or heard of ENERGY STAR Most Efficient:

- Forty percent were aware that products designated ENERGY STAR Most Efficient 2013 represent a subset of ENERGY STAR qualified products within a given product category.²⁴
- Just over half (55 percent) recognized the ENERGY STAR Most Efficient marketing graphic when it was shown to them; again this is consistent with 2012 (53 percent).
- Fifty-seven percent of households agreed (either somewhat or strongly) with the statement that “All other things equal, I would buy a product because it is designated as ENERGY STAR Most Efficient.”

Response to Statement Regarding Purchase of ENERGY STAR Most Efficient Product
[Base = Recognized ENERGY STAR (aided) and
Recognized ENERGY STAR Most Efficient (unaided)]

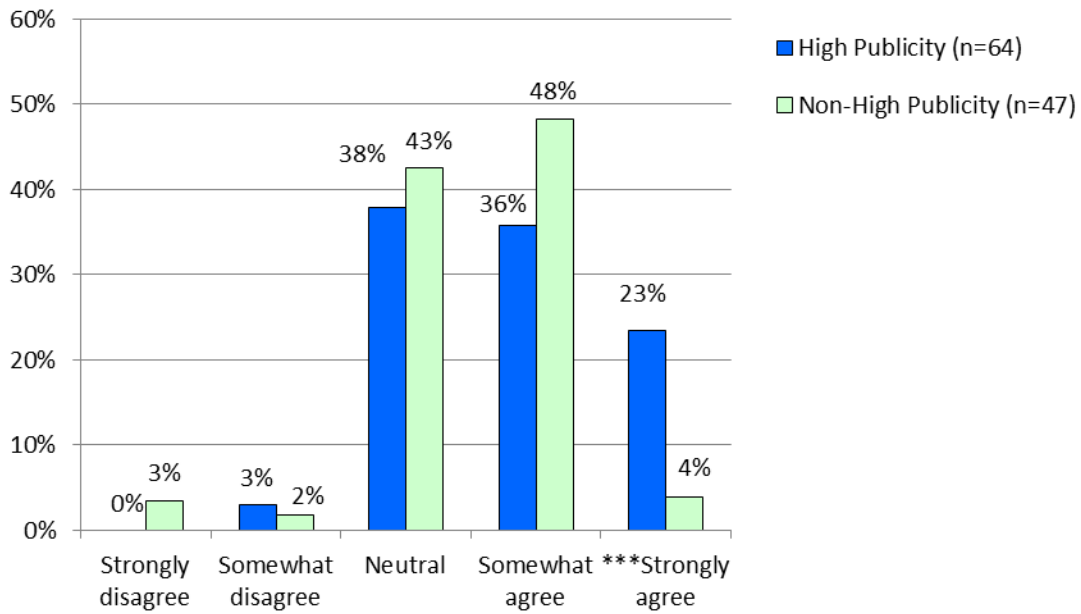
Would buy a product because it is ENERGY STAR Most Efficient	2013 (n=111)
Strongly disagree	1%
Somewhat disagree	2%
Neither agree nor disagree	40%
Somewhat agree	41%
Strongly agree	16%
Total	100%

A larger proportion of households in high-publicity areas (23 percent) than non-high-publicity areas (4 percent) strongly agree with the statement that “All other things equal, I would buy a product because it is designated as ENERGY STAR Most Efficient” (p-value= 0.0054). No respondents in high publicity areas strongly disagree with that statement.

²³ The ENERGY STAR Most Efficient questions, Q18 – Q22, are shown in Appendix D: 2013 Survey Questions and Flow Chart on page D-9.

²⁴ This question was added to the survey in 2013 (Q20: “Were you aware that products designated ENERGY STAR Most Efficient 2013 represent a subset of ENERGY STAR qualified products within a given product category?”).

**Response to Statement Regarding Purchase of ENERGY STAR Most Efficient Product
By Publicity Category
[Base = Recognized ENERGY STAR (aided) and
Recognized ENERGY STAR Most Efficient (unaided)]**



*** High- and non-high-publicity area proportions are statistically different from each other at the 1-percent level of significance (p-value≤0.01).

7.1 Households influenced by ENERGY STAR Most Efficient

The survey results were analyzed by Most Efficient Influenced (MEI) households and non-Most Efficient Influenced (non-MEI) households in order to learn about potential demographic or attitudinal differences. This was done in order to understand the customer segment that would likely be influenced by the marketing designation regardless of whether they had been exposed to it or not. MEI households report having seen or heard of the ENERGY STAR label and the ENERGY STAR Most Efficient label and report that they would be influenced by the Most Efficient label.²⁵ MEI households somewhat or strongly agree with the statement “All other things equal, I would buy a product because it is designated ENERGY STAR Most Efficient.”

Demographics

Demographic characteristics of MEI and non-MEI households were similar in 2013; however, the following two differences were identified:

- A smaller proportion of MEI households (35 percent) than non-MEI households (51 percent) are married (p-value = 0.025).
- A smaller proportion of MEI households (51 percent) than non-MEI households (65 percent) live in a one-family house detached from any other house (p-value = 0.076).

²⁵ Most Efficient Influenced (MEI) households are those who are aware of the ENERGY STAR label, have indicated awareness of ENERGY STAR Most Efficient (unaided recognition, Q18. Have you ever seen or heard of ENERGY STAR Most Efficient?), and report they would buy a product because it is ENERGY STAR Most Efficient (somewhat or strongly agree with Q22. All other things equal, I would buy a product because it is designated as ENERGY STAR Most Efficient).

CONSUMER PERCEPTIONS

MEI households are very likely to associate ENERGY STAR with environmental and social benefits, are very likely to shop where they can find the ENERGY STAR label, perceive ENERGY STAR products to have superior performance, and are willing to pay more money for a product that saves the most energy. MEI households had higher agreement than non-MEI households for eleven of the twelve attitudinal statements shown below. Furthermore, nine of the statements in the table below are statistically significant at the 1 percent level ($p\text{-value}\leq 0.01$).

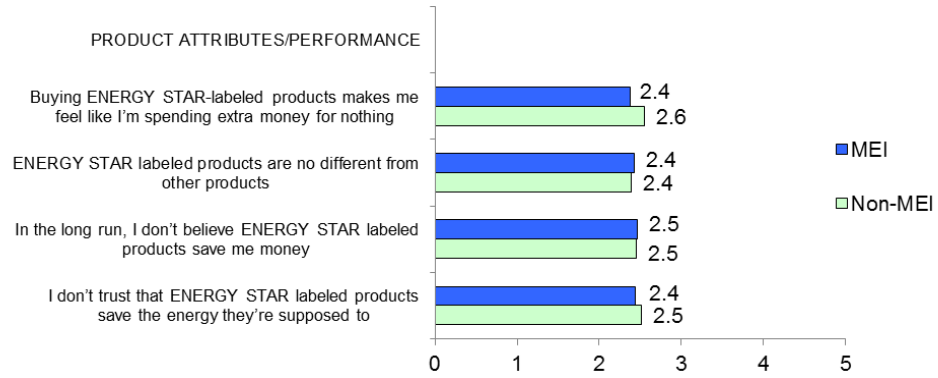
Response to Categorical Statements Regarding Messaging, Purchasing, and Product Attributes – Average Response Positive Statements (MEI Base = Recognize Most Efficient label, Non-MEI Base = Recognize label)



*** MEI and non-MEI averages are statistically different from each other at the 1-percent level of significance ($p\text{-value}\leq 0.01$).

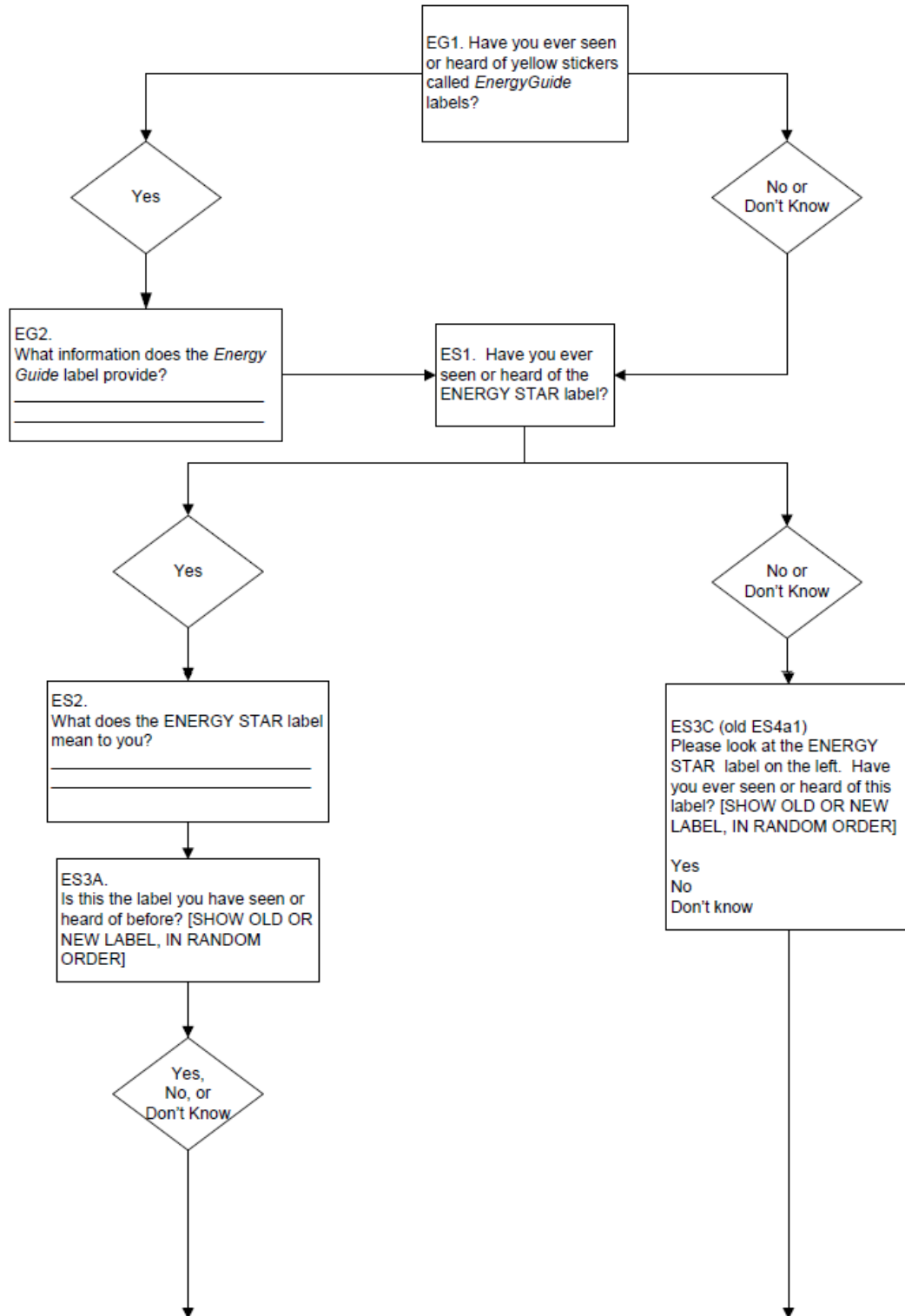
** MEI and non-MEI averages are statistically different from each other at the 5-percent level of significance ($p\text{-value}\leq 0.05$).

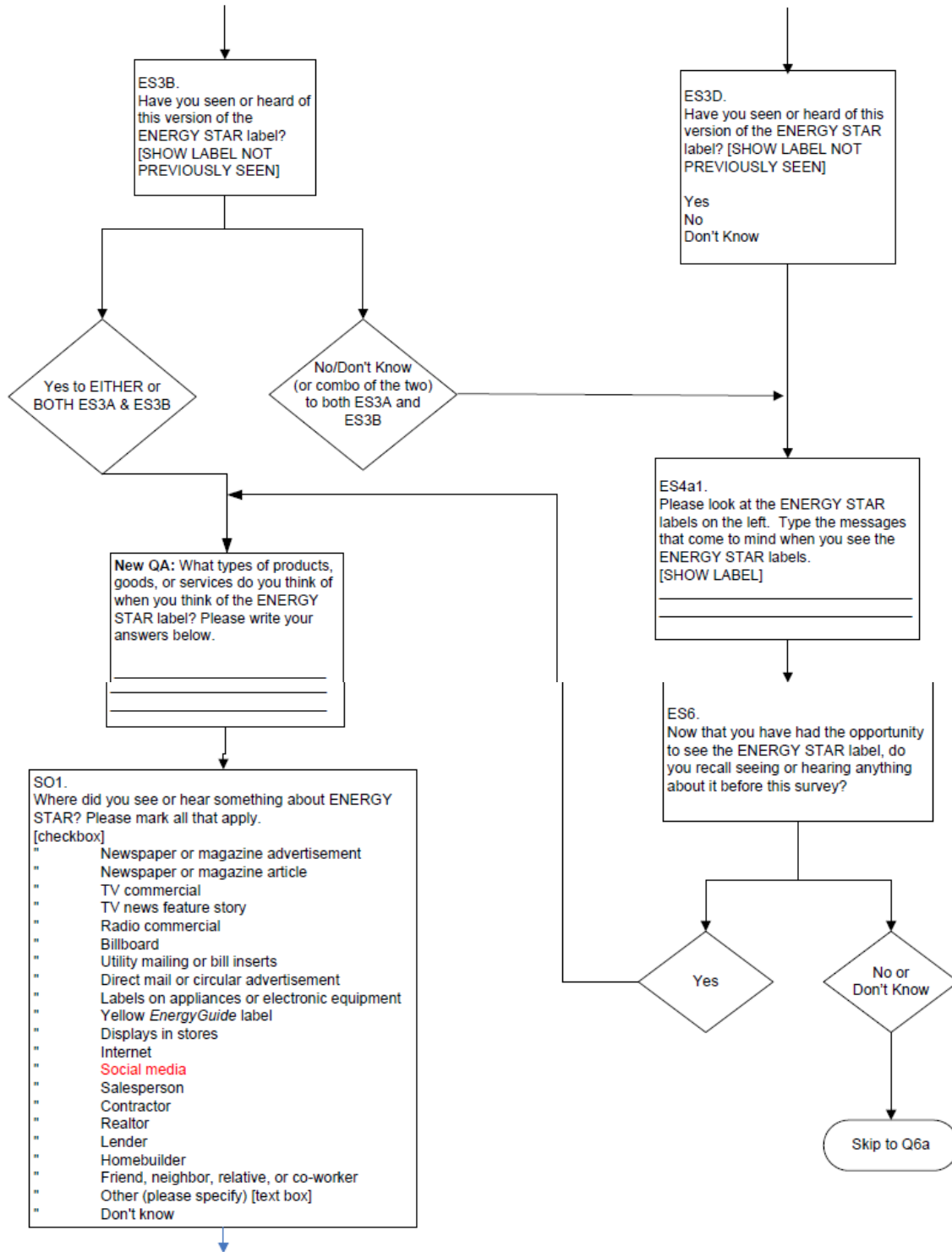
**Response to Categorical Statements Regarding Messaging,
Purchasing, and Product Attributes – Average Response to Negative Statements
(MEI Base = Recognize Most Efficient label, Non-MEI Base = Recognize label)**



MEI and non-MEI averages are similar for all negative statements.

APPENDIX D: 2013 SURVEY QUESTIONS AND FLOW CHART





SO2.
What did you see or hear about ENERGY STAR? Please be specific.

New QB: As far as you know, who decides if a product deserves the ENERGY STAR label? Select one answer only.

Product manufacturers
Retailers/stores
US Government
Underwriters Laboratories
Electric & gas utilities
Other: _____
Don't know

Q5(a). Now we're going to ask you about several groups of products. As you review the list, please select each of the products, product literature, or packaging on which you have seen the ENERGY STAR label.

<u>Heating and Cooling Products</u>	<u>Home Office Equipment</u>
Central air conditioner	Computer or monitor
Furnace or boiler	Computer printer
Heat pump	Copying machine
Thermostat	Fax machine
Room air conditioner	Scanner
Gas water heater	All-in-one printer (includes copier/scanner/fax)
None of these products	

Q5(b). Please continue reviewing the lists of products below, and select each of the products, product literature, or packaging on which you have seen the ENERGY STAR label.

<u>Home Appliances/Lighting</u>	<u>Home Electronics</u>
Dishwasher	Television
Refrigerator	DVD product (including TV/DVD)
Lighting fixture	Audio product
Washing machine	
Compact fluorescent light bulb	
Microwave oven	
Dehumidifier	
None of these products	

Q5(c). Finally, please review the last of the product lists below and select each of the products, product literature, or packaging on which you have seen the ENERGY STAR label.

<u>Building Materials</u>	<u>Buildings</u>
Window	Newly built home
Door	
Skylight	
Insulation	
Roofing material	

Q6a1
 Have you or someone else in your household been shopping in a store in the last 12 months for any of the products listed below?

Heating and Cooling Products			
Room air conditioner	Yes	No	Don't know
Home Appliances/Lighting			
Dishwasher	Yes	No	Don't know
Refrigerator	Yes	No	Don't know
Lighting fixture	Yes	No	Don't know
Washing machine	Yes	No	Don't know
Compact fluorescent light bulb	Yes	No	Don't know
Home Electronics			
Television	Yes	No	Don't know
DVD product (including TV/DVD)	Yes	No	Don't know
Audio product	Yes	No	Don't know

Q6a2
 Have you or someone else in your household been shopping in a store in the last 12 months for any of these other products listed below?

Yes
 No
 Don't know

- Heating and Cooling Products
 - Thermostat
 - Gas water heater
- Home Office Equipment
 - Computer or monitor
 - Computer printer
 - Copying machine
 - Fax machine
 - Scanner
 - All-in-one printer
(includes copier/scanner/fax)
- Home Appliances/Lighting
 - Microwave oven
 - Dehumidifier
- Building Materials
 - Window
 - Door
 - Skylight
 - Insulation
 - Roofing material

Q6b
 Have you or someone else in your household been shopping for a central air conditioner, furnace or boiler, heat pump or newly built home in the last 12 months?

Yes
 No
 Don't know

For each product for which Yes was checked in the Q6a1 series, ask:

When you shopped for _____, did you look for the ENERGY STAR label?
 Yes No Don't remember I did not shop for this product myself

When you shopped for _____, did you ask a salesperson for a product with the ENERGY STAR label?
 Yes No Don't remember I did not shop for this product myself

- a room air conditioner
- a dishwasher
- a refrigerator
- a lighting fixture
- a washing machine
- compact fluorescent light bulbs
- a television
- a DVD product
- an audio product

Q12(a). Please look at each of the groups of products again. Which of these products have you purchased in the last 12 months? Please check all that apply.

<u>Heating and Cooling Products</u>	<u>Home Office Equipment</u>
Central air conditioner	Computer or monitor
Furnace or boiler	Computer printer
Heat pump	Copying machine
Thermostat	Fax machine
Room air conditioner	Scanner
Gas water heater	All-in-one printer (includes copier/scanner/fax)
None of these products	

Q12(b). Please continue reviewing the lists of products below. Which of these products have you purchased in the last 12 months? Please check all that apply.

<u>Home Appliances/Lighting</u>	<u>Home Electronics</u>
Dishwasher	Television
Refrigerator	DVD product (including TV/DVD)
Lighting fixture	Audio Product
Washing machine	
Compact fluorescent light bulb	
Microwave oven	
Dehumidifier	
None of these products	

Q12(c). Finally, please review the last of the product lists below. Which of these products have you purchased in the last 12 months? Please check all that apply.

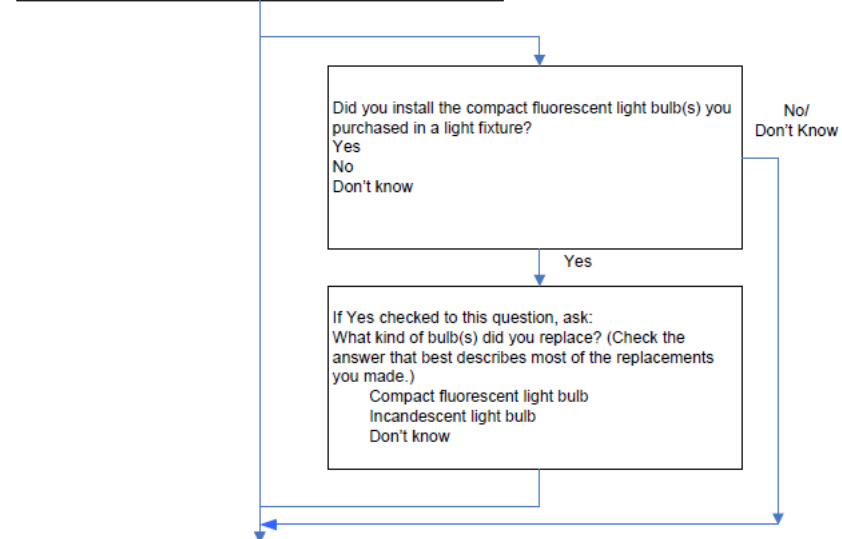
<u>Building Materials</u>	<u>Buildings</u>
Window	Newly built home
Door	
Skylight	
Insulation	
Roofing material	
None of these products	

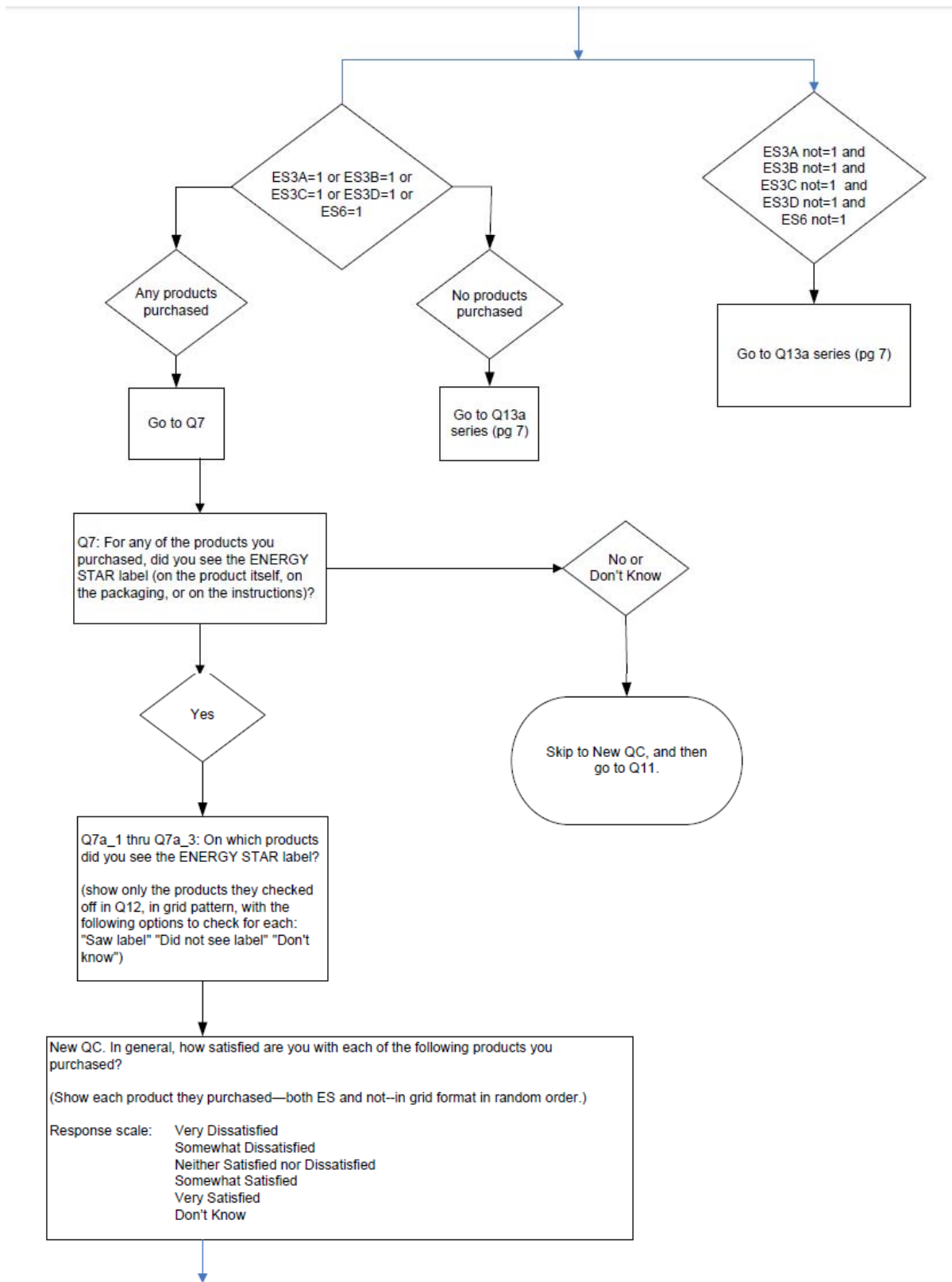
Did you install the compact fluorescent light bulb(s) you purchased in a light fixture?

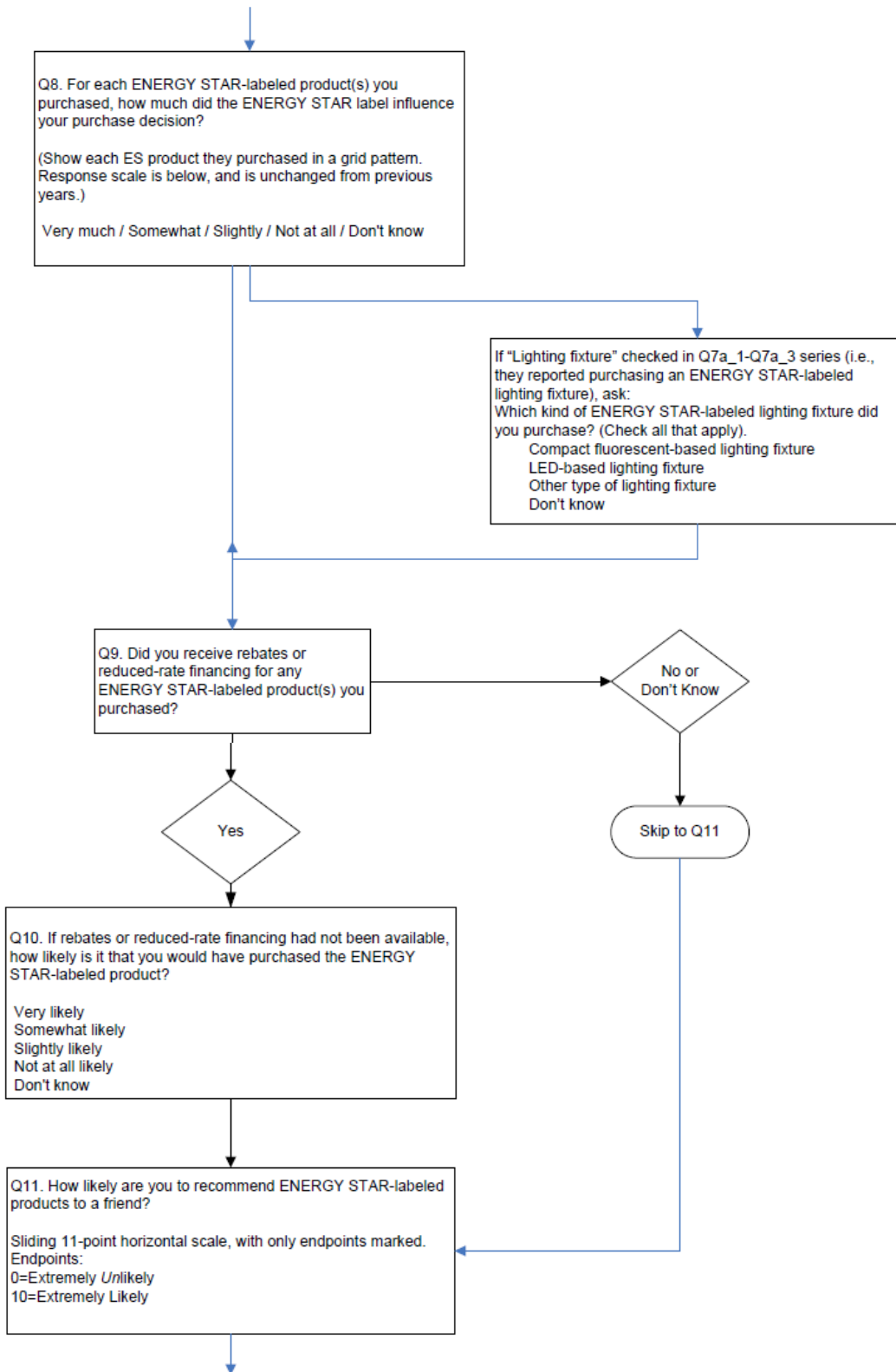
Yes
No
Don't know

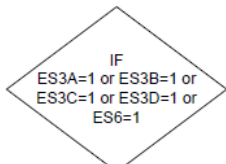
If Yes checked to this question, ask:
What kind of bulb(s) did you replace? (Check the answer that best describes most of the replacements you made.)

Compact fluorescent light bulb
Incandescent light bulb
Don't know

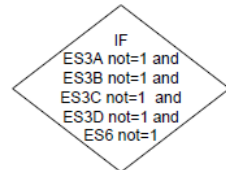








Note: These two diamonds are the same as those before Q7.



On the scale by each statement, please indicate how strongly you agree or disagree with the statement.

(Note to programmer: present Q16a through Q16s in random order for each respondent.)

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
Q16a. ENERGY STAR-labeled products provide me with more benefits than products without the ENERGY STAR label.	1	2	3	4	5
Q16c. ENERGY STAR-labeled products offer better value than products without the label.	1	2	3	4	5
Q16d. If I cannot find the kind of product I am looking for with an ENERGY STAR label, I will shop elsewhere rather than buy a product that does not qualify for the label.	1	2	3	4	5
Q16f. Buying ENERGY STAR-labeled products makes me feel like I'm helping to protect the environment for future generations.	1	2	3	4	5
Q16h. Buying ENERGY STAR-labeled products makes me feel like I'm contributing to society.	1	2	3	4	5
Q16i. Buying ENERGY STAR-labeled products makes me feel like I'm spending extra money for nothing.	1	2	3	4	5
Q16l. I consider myself loyal to ENERGY STAR-labeled products.	1	2	3	4	5
Q16n. It seems like most products have the ENERGY STAR label these days.	1	2	3	4	5
Q16o. If I see the ENERGY STAR label, I know I'm getting a more energy-efficient product.	1	2	3	4	5
Q16p. When I buy a product with the ENERGY STAR label, I can always be sure it's high quality.	1	2	3	4	5
Q16q. ENERGY STAR-labeled products are no different from other products.	1	2	3	4	5
Q16r. In the long run, I don't believe ENERGY STAR-labeled products save me money.	1	2	3	4	5
Q16s. I don't trust that ENERGY STAR-labeled products save the energy they're supposed to.	1	2	3	4	5
Q16t. I am willing to pay more money for a product that saves the most energy.	1	2	3	4	5
Q16u. I like to have the most advanced technology available to me.	1	2	3	4	5
Q16v. I consider myself up to date with technology.	1	2	3	4	5
Q16w. I consult energystar.gov for information on saving energy.	1	2	3	4	5

Q17. Please tell us about your role in your household's purchasing decisions. For each of the product groups listed below, do you usually make the purchasing decisions, do you share the decision-making equally with another household member, does someone else usually make the decisions but you have some input, or do you have no input in the decision-making?

	I usually make the decisions	I share the decision-making equally	Someone else usually makes the decisions, but I have some input	I have no input in decision-making	I'm not sure
Heating and Cooling Products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Home Office Equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Home Appliances/Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Home Electronics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Building Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

