

Trends in ENERGY STAR[®] Awareness: Results from Four National Surveys, 2002 - 2008

Carla Jackson, Abt SRBI, Inc., Fort Myers, FL

Jane Peters, Mersiha Spahic, and Susan Lutzenhiser, Research into Action, Portland, OR

ABSTRACT

This paper explores consumer awareness and knowledge of ENERGY STAR[®] and the impact of ENERGY STAR on the purchase of energy-using equipment based on results from a longitudinal series of four national telephone surveys conducted in 2002, 2004, 2006, and 2008. In total, a minimum of 800 interviews were conducted in each of the four survey waves using randomly-selected nationwide samples of consumers. Overall awareness of the ENERGY STAR label increased significantly from 44 percent in 2002 to 68 percent in 2004. Unaided awareness of ENERGY STAR was 20 percent in 2008, compared with six percent in 2002. Seventy percent of 2008 respondents who purchased a product with the ENERGY STAR label within the past year said they are “very likely” to purchase another ENERGY STAR labeled product in the future, while 26 percent indicated that they are “somewhat likely” to do so, compared with 59 and 36 percent, respectively, in 2002. ENERGY STAR awareness is also positively associated with some attitudes and behaviors related to home energy efficiency, but negatively related to overall satisfaction with the respondent’s electric utility company.

Introduction

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE) to help consumers save money and protect the environment through energy-efficient products and practices. The EPA introduced ENERGY STAR in 1992 as a voluntary labeling program designed to identify and promote energy-efficient products to reduce greenhouse gas emissions. Computers and monitors were the first labeled products, and the label was then expanded to additional office equipment products and residential heating and cooling equipment. Currently, the ENERGY STAR label is found on major appliances, office equipment, lighting, home electronics, new homes and commercial/industrial buildings.

In 2002, Abt SRBI and Research into Action initiated the first of four biennial proprietary surveys to assess residential consumer attitudes about energy conservation, efficiency, and demand response. While these have been multi-client surveys with utility and government sponsors for each wave (2002, 2004, 2006, and 2008), a core series of questions has been unchanged throughout the four survey waves, including a series of items related to ENERGY STAR. The items related to ENERGY STAR have included:

- Unaided and aided awareness of ENERGY STAR;
- The meaning of the ENERGY STAR label;
- The influence of ENERGY STAR on purchases of energy-using equipment; and
- The likelihood to purchase another item with the ENERGY STAR label.

Some additional questions were added in 2006 with respect to the meaning and sponsorship of ENERGY STAR.

Survey Methodology

Table 1 summarizes the four surveys that have been conducted in terms of the number of interviews conducted, average length, cooperation rate¹, and margin of error.

Table 1. Survey Summary

Survey Year	Number of Interviews	Average Length	Cooperation Rate¹	Margin of Error
2002	900	21 min.	38.5%	3.3%
2004	801	23 min.	54.0	3.5
2006	800	23 min.	54.0	3.5
2008	801	22 min.	62.0	3.5

The surveys were conducted by telephone using a national random digit dial (RDD) sample. Five attempts were made to reach each sampled telephone number. The sample was not stratified by the level of ENERGY STAR marketing in specific geographies, but was instead designed to provide national estimates of ENERGY STAR consumer awareness.

In addition to the questions about ENERGY STAR, the surveys also included questions about attitudes and behaviors related to energy conservation, efficiency, and demand response. Since the survey was conducted by telephone, respondents were asked about unaided awareness of ENERGY STAR, and then the label was described to those who were unaware. This differs from surveys conducted on the internet or web TV or by mail in that a description of the label was read to respondents, but they did not have an opportunity to see the label. However, the survey was able to gauge both unaided and aided awareness.

Awareness of the ENERGY STAR Label

Consumers who said they were aware of any programs, brands, or labels to certify energy-efficient products were asked, in an open-ended format, for program names. This line of questioning elicits “unaided” awareness, as respondents have to recall the program, brand, or label without any prompting. As shown in Figure 1, 20 percent of 2008 respondents evidenced unaided awareness of ENERGY STAR, compared with only six percent in 2002.

In 2008, more likely to have unaided recall of the ENERGY STAR label were consumers living in households with more than two occupants and those having children under 13. Also in 2008, consumers under the age of 55 were significantly more likely to recognize the label than those 55 and over.

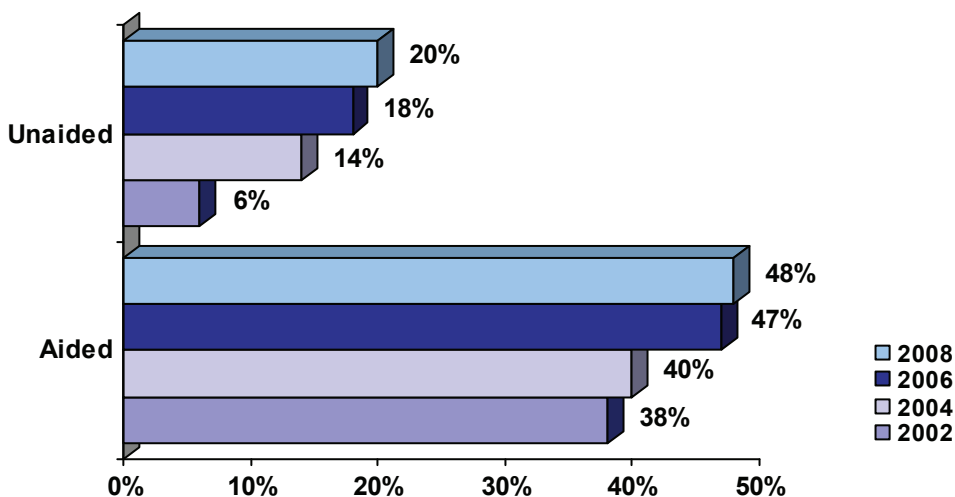
To gauge “aided” awareness, consumers without “unaided” awareness of ENERGY STAR were read a brief description of the label’s appearance: “Now I’d like to describe a symbol that you may find on products like televisions, home appliances, air conditioners or computers. It’s the word ‘energy’ in script, followed by a star - it’s called the ENERGY STAR symbol.” These consumers were then asked if they had ever seen the label. Almost one-half of all respondents (48 percent, compared to 38 percent in 2002) reported familiarity with the label after it was described to them. More likely to evidence aided awareness of the label were consumers under the age of 65, compared with those age 65 and over.

¹ The cooperation rate is determined by dividing the number of working numbers in the random-digit dial sample by the number of completes, refusals, and screen-outs.

Other consumer segments more likely to have aided awareness included respondents with at least some college, those with annual incomes of \$70,000 or more, those living in households with two or more occupants, and respondents having children under 13. After being read a description of the label, three-quarters (74 percent) of Northeastern consumers said they were aware of it, compared with 54 percent in the Midwest and 56 percent in the South.

Total awareness of ENERGY STAR is determined by combining the percentage of consumers who volunteered ENERGY STAR by name without prompting with the number of consumers who, when prompted, recognized the ENERGY STAR label. In 2008, total awareness of ENERGY STAR was 68 percent, compared with 65 percent in 2006, 54 percent in 2004, and 44 percent in 2002.

Figure 1. Awareness of ENERGY STAR

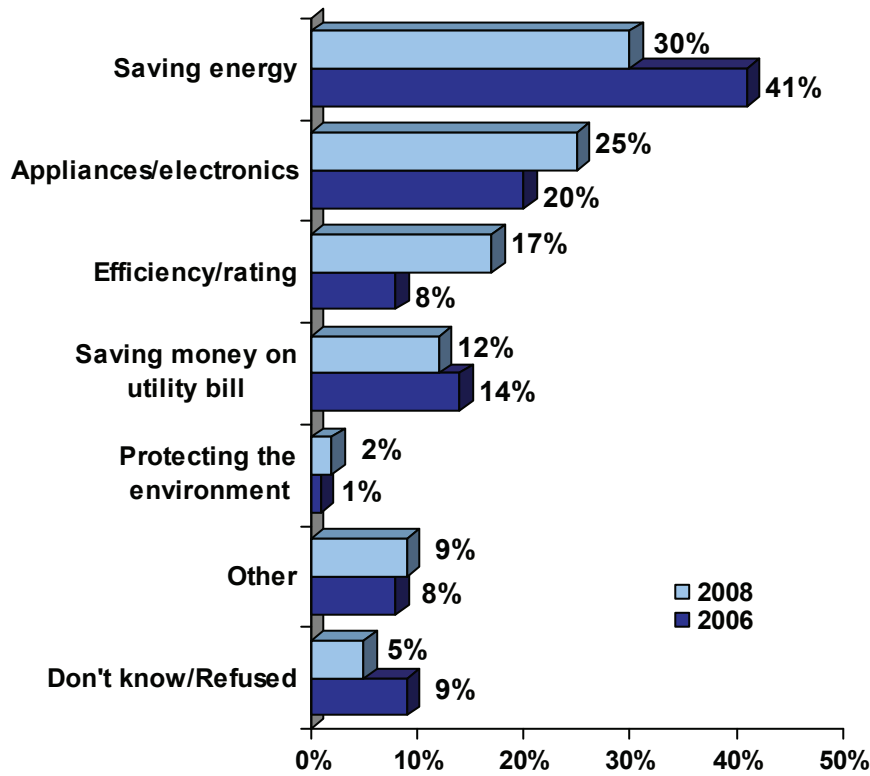


The Meaning of ENERGY STAR

Respondents aware of ENERGY STAR were asked what comes to mind first when they think of the brand (Figure 2). This question was introduced in the 2006 survey. In 2008, as in 2006, most consumers said “saving energy” was the first thing that comes to mind. However, the percentage choosing this option declined by 11 percent from 41 percent in 2006. “Appliances or electronics” continued to be the second most common top-of-mind response, mentioned by 25 percent of respondents in 2008.

Renters were significantly more likely to say “saving energy” came to mind first, while homeowners were significantly more likely to mention “efficiency or ratings”. Women were significantly more likely to say that the label means “saving money on energy bills”, while those doing more this year than last year to save energy were significantly more likely than others to say “appliances or electronics” come to mind.

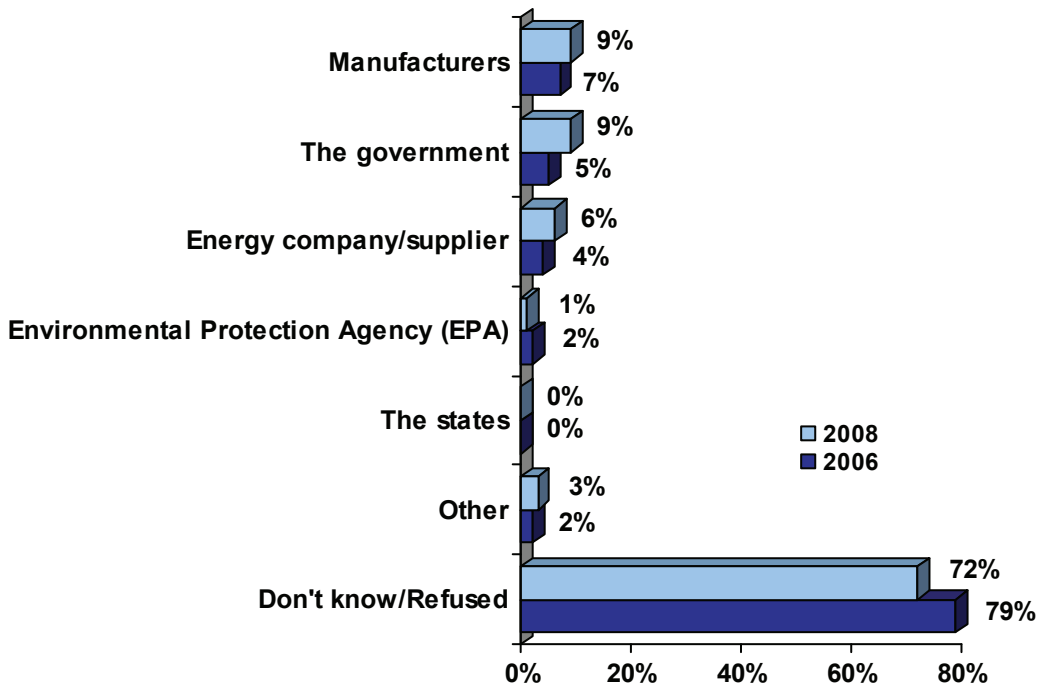
Figure 2. What First Comes to Mind in Thinking about ENERGY STAR?



Sponsorship of ENERGY STAR

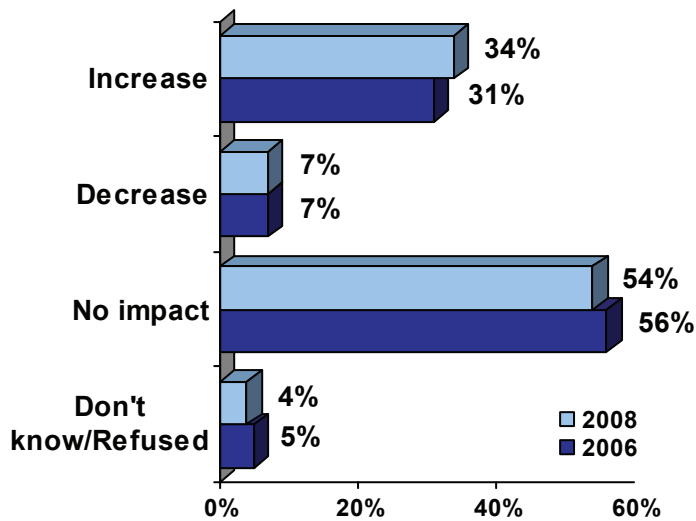
Beginning in 2006, respondents were also asked about the sponsor of the ENERGY STAR label. As shown in Figure 3, 72 percent of consumers did not know who sponsors the ENERGY STAR label, compared with 79 percent who were unable to name the sponsor in 2006. Among those aware of the label, government and manufacturers were equally credited (nine percent each) as the label's sponsor. Men, as well as consumers with post-graduate degrees, were more likely to credit government sponsorship than other respondents, while customers dissatisfied with their electric utility were significantly more likely to indicate sponsorship by manufacturers. Those who do little to save energy were significantly more likely to be unaware of who sponsors the label than were those who always try to save energy.

Figure 3. Who Sponsors the ENERGY STAR Label?



As shown in Figure 4, a majority (54 percent) of consumers said federal government sponsorship of ENERGY STAR would have no impact on the symbol's credibility with them. Respondents who were significantly more likely than others to say government sponsorship increases the label's credibility were those completely convinced of global warming, who choose savings over comfort, have completed post-graduate study, have Internet access, and have had a home energy audit at some point.

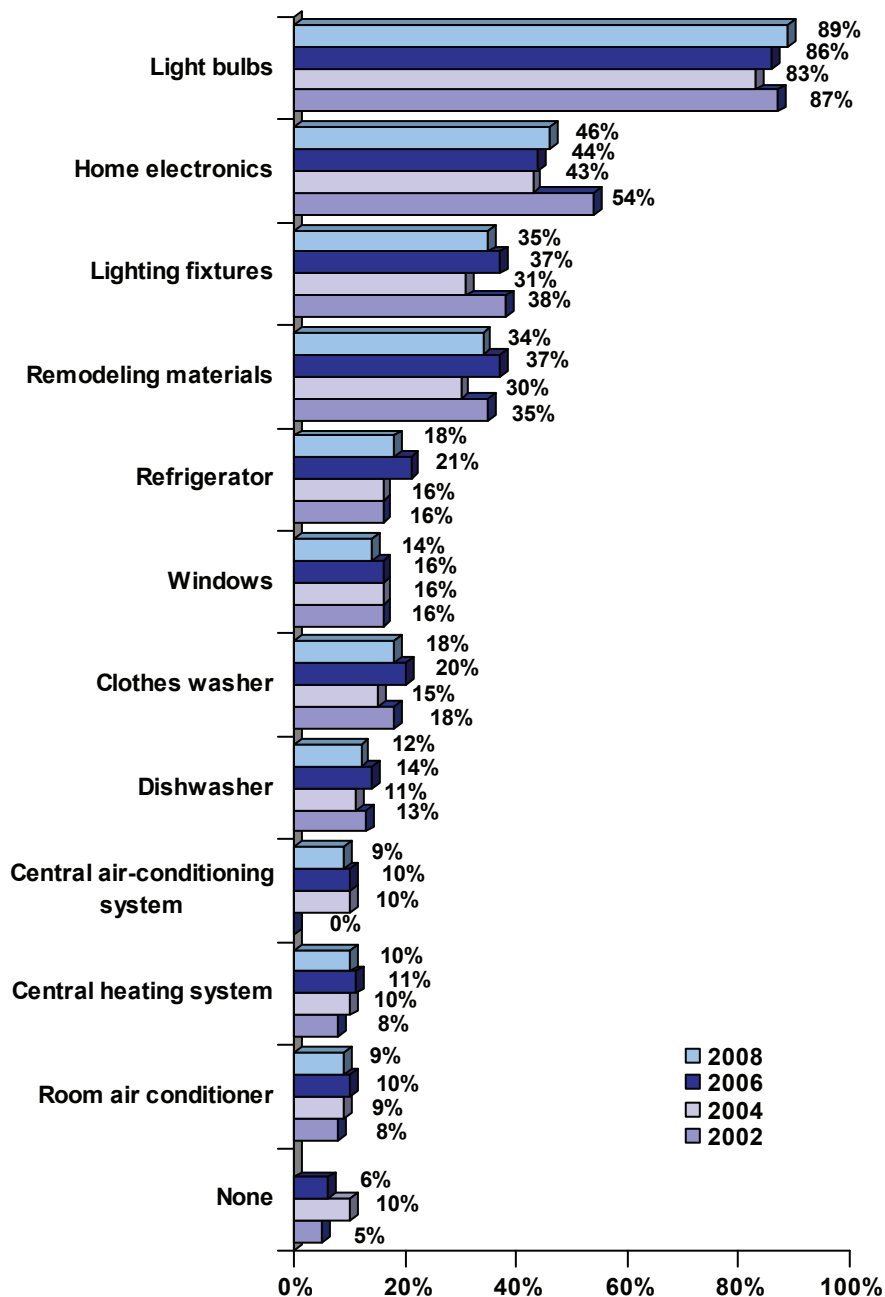
Figure 4. Impact of Government Sponsorship of the ENERGY STAR Label



Energy-using Products Purchased in the Past Year

Consumers were asked whether they had purchased any specific appliances or energy-using products within the past year. As shown in Figure 5, respondents most frequently purchased light bulbs (89 percent), followed by home electronics (46 percent). Since 2002, reports of purchases across these items have remained quite stable, with the notable exception of home electronics, where purchases declined by eight percent between 2002 and 2004, but have since remained stable.

Figure 5. Appliances and Energy-using Equipment Purchased in the Past Year

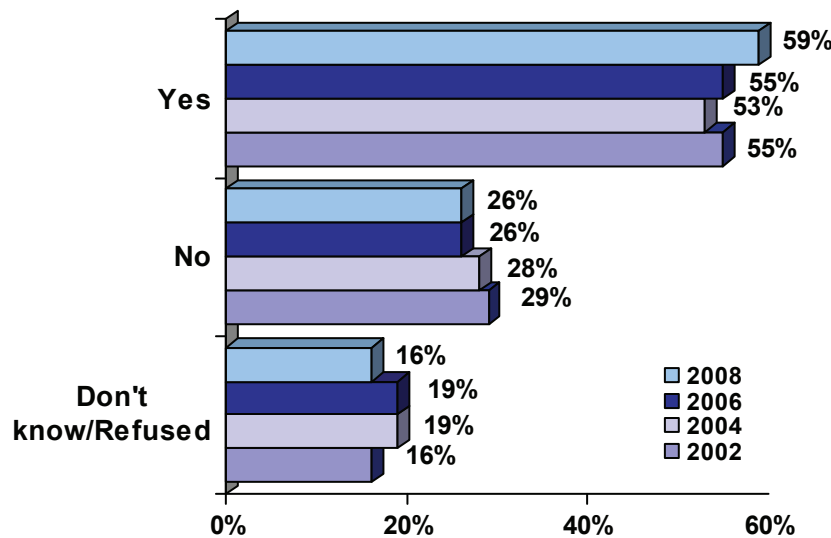


ENERGY STAR Products Purchased in the Past Year

Almost 60% of respondents who purchased new products within the past year and who were aware of ENERGY STAR reported that one or more of the products they purchased had the ENERGY STAR label (Figure 6). This compares with 55 percent in 2002 and 2006 and 53 percent in 2004.

The percentages of those who purchased ENERGY STAR products remained virtually the same between 2006 and 2008 for those in the Northeast and Midwest (respectively moving up or down by one percentage point). During the same period, statistically insignificant increases were seen both in the South (up seven percent since 2006) and West (up five percent). And while respondents in the South were least likely to purchase ENERGY STAR products between 2002 and 2006, they were more similar to the other regions in 2008.

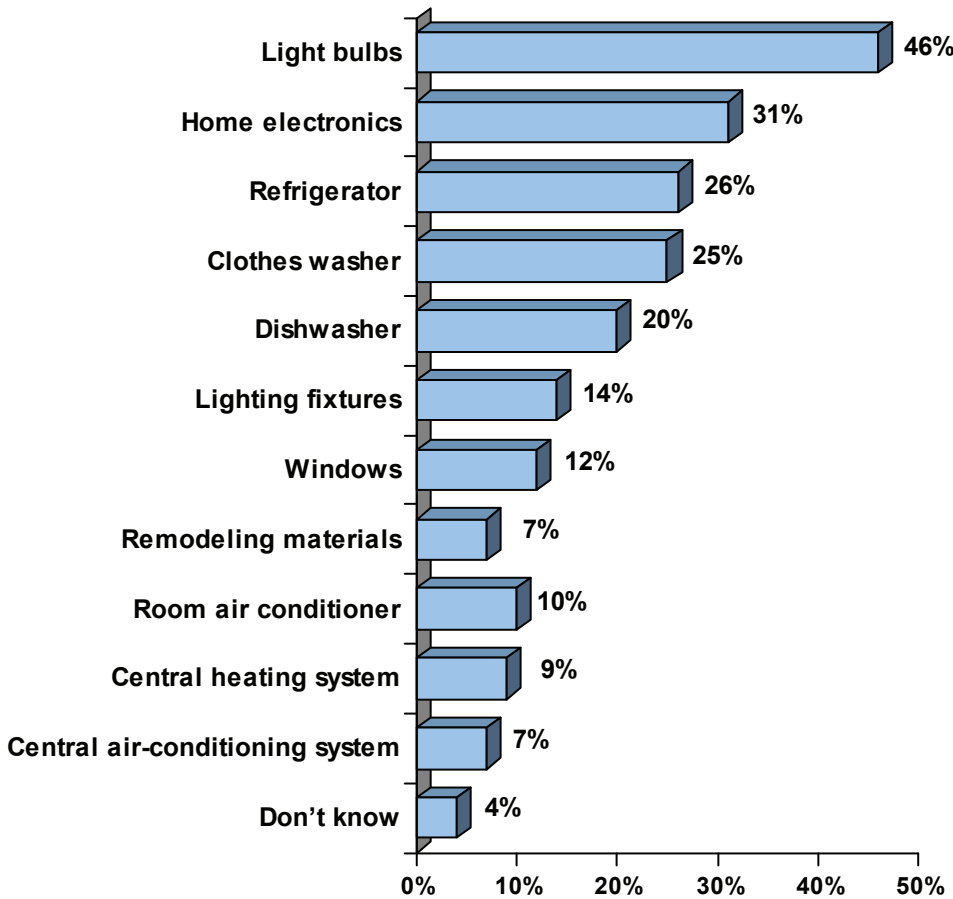
Figure 6. Purchased Products with the ENERGY STAR Label within the Past Year?



Consumers were asked whether they had purchased any specific ENERGY STAR appliances or energy-using products within the past year. Figure 7 shows that respondents most frequently purchased light bulbs (46 percent), followed by home electronics (31 percent). These are also the same top two items purchased overall (Figure 5).

Further analyses show that purchases of ENERGY STAR home electronics and room air-conditioners were more likely made by those in multi-family dwellings. Room air-conditioners also were more likely to be purchased by renters, while windows and remodeling materials were more likely purchased by consumers who have had energy audits.

Figure 7. Products Purchased with ENERGY STAR Label in 2008

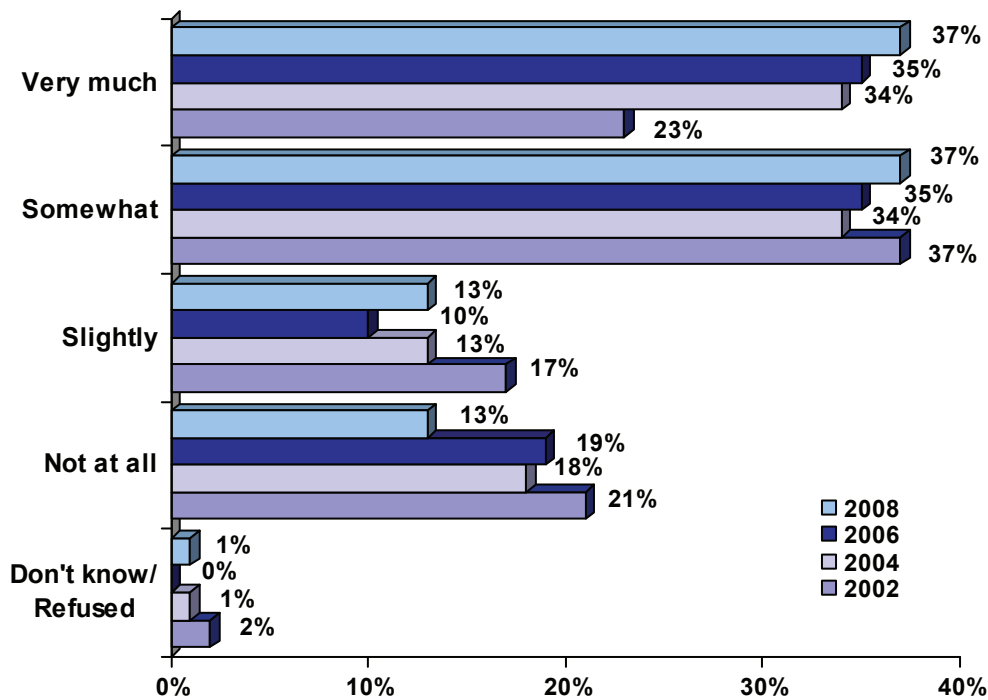


Influences on Product Purchases

Respondents who reported having purchased a product with the ENERGY STAR label within the past year used a four-point scale to rate how much influence the ENERGY STAR label had on their choice to purchase the product (Figure 8). The particular product they mentioned purchasing was read-in as part of this question.

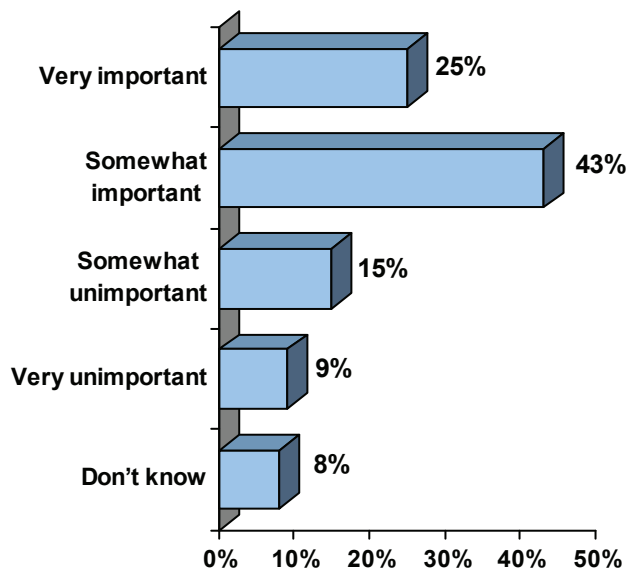
In 2008, 37 percent of respondents said the label very much influenced them, an insignificant difference from 35 percent in 2006. Another 37 percent said the ENERGY STAR label somewhat influenced their purchase of the product, also compared with 35 percent in 2006. Women and consumers choosing savings over comfort were more likely to be influenced (very much or somewhat) by the presence of the ENERGY STAR label than other respondents.

Figure 8. Influence of ENERGY STAR Label on Purchase



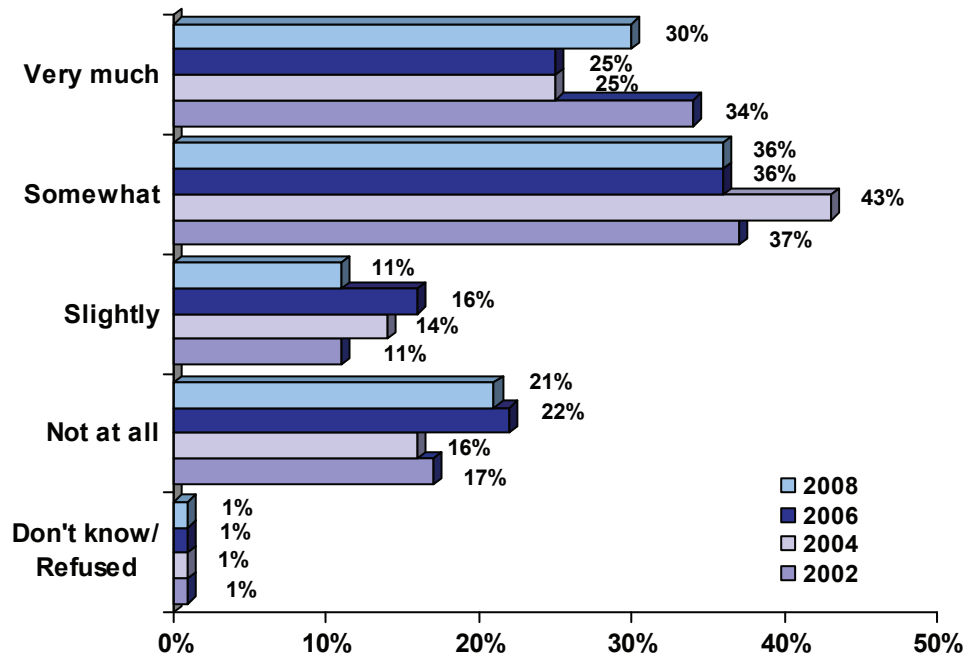
Respondents who *did not* purchase products with the ENERGY STAR label were asked to use a four-point scale to rate the importance of energy efficiency on their decision to purchase a product (Figure 9). One-quarter of these respondents said that energy efficiency was a very important influence in their purchase decision, while 43 percent said it was somewhat important. By market segment, the product’s energy-efficiency appears to have had the most significant influence on respondents in households with children under the age of 13.

Figure 9. Importance of Energy Efficiency in Influencing Purchase - 2008



As shown in Figure 10, almost one-third (30 percent) of respondents indicated the product’s price very much influenced their purchase, while 36 percent said price was somewhat influential. Those with a high school education or less, as well as consumers aged 35 to 44, were more likely to say price was very influential in the purchase than other respondents. In contrast, respondents aged 45 to 54 were significantly more likely than younger respondents (aged 35 to 44) to say the product’s purchase price was only slightly influential in their purchasing decision.

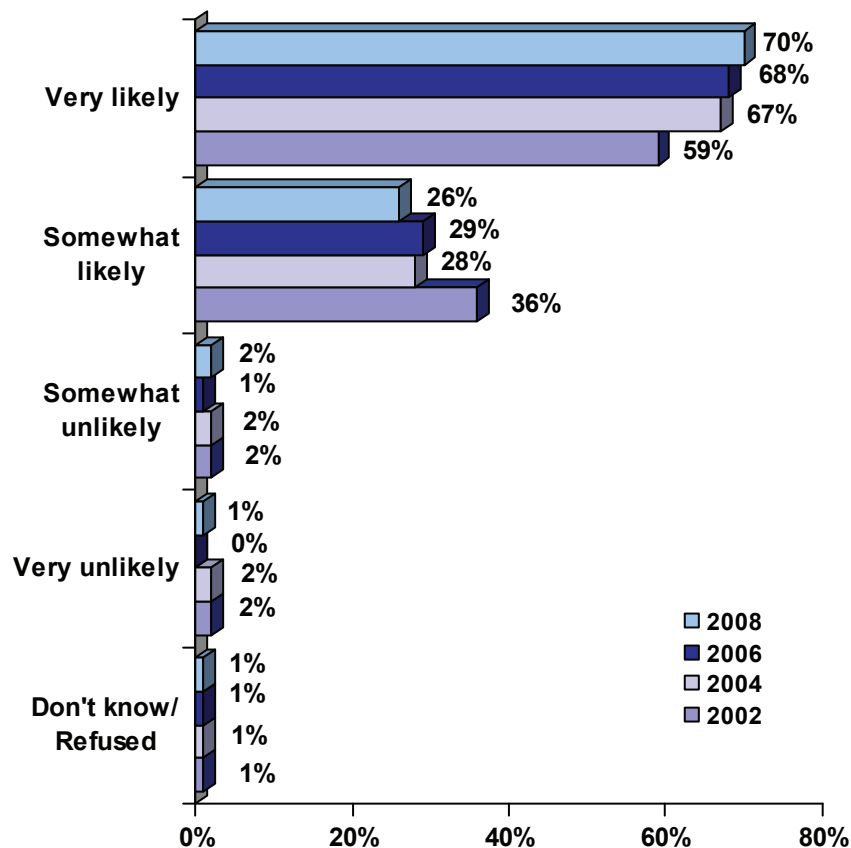
Figure 10. Influence of Price on Purchase



Likelihood to Purchase Additional ENERGY STAR Products

Respondents who reported having purchased a product with the ENERGY STAR label within the past year were asked how likely they would be to purchase another product with the label in the future. Seventy percent reported they would be very likely to do so, with another 26 percent saying they would be somewhat likely to do so (Figure 11). This compares with 68 and 29 percent in 2006, respectively. Women were more likely than men to say they would be very likely to buy another ENERGY STAR product.

Figure 11. Likelihood to Purchase another Item with the ENERGY STAR Label in the Future



ENERGY STAR Awareness and Energy-related Attitudes and Behaviors

Does awareness of ENERGY STAR matter? In addition to the questions about ENERGY STAR, the four surveys also included a variety of other questions about attitudes and behaviors related to energy conservation, efficiency, and demand response. These results indicated that there are the following attitudinal and behavioral differences with respect to consumers aware of ENERGY STAR:

Attitudes: Consumers aware of ENERGY STAR were more likely than those unaware to:

- agree that saving energy in their home helps save money and that saving energy helps the environment;
- be less satisfied with their electric utility; and
- be less satisfied with their electric utility's promotion of energy-efficiency programs.

Behaviors: Compared with those unaware, respondents aware of ENERGY STAR were more likely to say that they:

- have done more to save energy in past year;
- have undertaken low-cost/no cost measures to save energy in their home;

- have added insulation around their water heater and turned down the temperature of the water heater;
- have used CFLs;
- purchased energy-efficient appliances and electronics;
- participated in utility energy efficiency programs;
- could change the time-of-use of their appliances; and
- have an interest in the installation of a smart meter.

It should be noted that this is not to argue that awareness of ENERGY STAR was the cause of these attitudes and behaviors, but rather, to indicate that there is an association between awareness and certain attitudes and behaviors related to energy conservation and efficiency.

Conclusions

The results from these surveys indicate an increase in aided and unaided awareness of ENERGY STAR from 2002 to 2008, with total awareness increasing from 44 percent to 68 percent during the period. In the 2008 survey, the first thing that comes to mind about ENERGY STAR among those aware of the label is saving energy (30 percent), followed by appliances and electronics (25 percent) and an efficiency/rating system (17 percent). However, the vast majority of respondents are unaware of government sponsorship of the label.

Among respondents aware of the label who have purchased energy-using equipment in the past year, 59 percent said that the products they bought had the label. Most commonly purchased were light bulbs, home electronics, refrigerators, and clothes washers. Seventy percent of respondents who have purchased a product with the ENERGY STAR label said that they are “very likely” to purchase another product with the label, while 26 percent are “somewhat likely” to do so. Importantly, awareness of ENERGY STAR is associated with some attitudes and behaviors related to saving energy in the home.

Acknowledgements: The authors wish to express their appreciation to the sponsors of the 2002, 2004, 2006, and 2008 surveys who made this research possible. We also wish to thank Sharon Little of Abt SRBI who assisted with the preparation and formatting of this paper.