Trends in ENERGY STAR® Awareness, 2002 to 2010: Did the Great Recession Have an Impact?

Carla Jackson, Abt SRBI, Inc., Fort Myers, FL
Jane Peters and Mersiha Spahic, Research into Action, Portland, OR

ABSTRACT

Results from the fifth in a series of biennial national consumer surveys indicate that overall awareness of the ENERGY STAR® label increased significantly from 44 percent in 2002 to 79 percent in 2010, including a significant 11 percent increase in awareness from 2008 to 2010. A majority (63 percent) of respondents who purchased new energy-using 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 logo. Twenty-nine percent of the respondents who purchased ENERGY STAR-labeled products said that the label affected their purchase "very much" and 43 percent said "somewhat". Nearly all of the respondents who purchased a product with the ENERGY STAR label within the past year said they are "very likely" to purchase another product with the ENERGY STAR label. Respondents continued to associate the ENERGY STAR label with positive attributes. However, a majority of respondents aware of ENERGY STAR remain uncertain of the logo's sponsor.

Introduction

In 2010, a national consumer survey of 800 respondents was conducted to assess attitudes and behaviors related to a variety of issues regarding energy conservation, efficiency, and demand response. This was the fifth in a series of biennial surveys initiated in 2002 by Abt SRBI and Research into Action. As in past waves of the survey, questions included: attitudes about energy conservation and efficiency; energy-saving behavior; motivations for saving energy; interest in energy-efficient products and services; ENERGY STAR; opinions about current energy suppliers; and residence and demographic characteristics.

In 2010, we were particularly interested in understanding the impact of the Great Recession on consumer attitudes and behaviors related to energy conservation and efficiency, including ENERGY STAR. Were consumers more motivated to save money on energy usage? Did awareness of ENERGY STAR increase as consumers attempted to identify appliances and other equipment that would save them money to operate? Was awareness of ENERGY STAR associated with purchases of equipment with the label and if so, what types of equipment? What types of attributes do consumers associate with ENERGY STAR, and do they understand who sponsors the ENERGY STAR label? These and many other questions guided the development of the questionnaire and the subsequent analysis of the survey data, as we sought to understand the impact of the Great Recession with respect to ENERGY STAR and consumer attitudes and behavior.

Methodology

2010 Energy Conservation, Efficiency, and Demand Response was the fifth in a series of biennial surveys conducted by Abt SRBI and Research into Action and begun in 2002 to identify trends in attitudes and behaviors related to energy conservation and efficiency in the residential sector. A nationally-representative random-digit dial sample was selected for the 2010 survey. A total of 800 interviews were completed May 6 through 24, 2010, with an average interview length of 18 minutes. Up to five attempts were made to reach each sampled telephone number. The margin of error for the survey is plus or minus 3.5 percent at the 95 percent confidence level. The cooperation rate for the survey was 67 percent.

Awareness of the ENERGY STAR Logo

Respondents were asked if they were aware of any programs, brands or labels to certify energy-efficient products. Those who answered "yes" were asked, in an open-ended format, for program names. This line of questioning elicited "unaided" awareness, as respondents had to recall the program, brand, or logo without any prompting.

To gauge "aided" awareness, consumers not evidencing "unaided" awareness of ENERGY STAR were given a brief description of the ENERGY STAR logo's appearance and told it is sometimes found on various appliances. These consumers were then asked if they had ever seen the logo.

Total awareness of ENERGY STAR (Figure 1) 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 logo. Total awareness of the logo has continued to increase significantly since 2002, with the exception of 2008 compared with 2006. In 2010, total awareness of ENERGY STAR was 79 percent, compared to 68 percent in 2008, 65 percent in 2006, 54 percent in 2004, and 44 percent in 2002.

Compared to others, consumers with Internet access, men, and those who had an energy audit were more likely to say they were aware of such programs, brands, or labels. Other segments more likely to be aware included investor-owned utility customers compared to municipal utility customers, those with some college or more, and households with annual incomes of $50,000 and above. In contrast, respondents completely unconvinced of global warming, manufactured home residents, and those living in the South tended to be less aware of energy-efficient product certifications than other respondents. Also, respondents age 65 years or older, compared to respondents 35 to 44 years of age, tended to be less aware.

More likely to evidence aided awareness of the logo were consumers under the age of 65, compared with those 65 and over. Other segments more likely to have aided awareness included those with Internet access, at least some college, having annual incomes of $80,000 or more, those living in households with two or more occupants, and having children under 19.

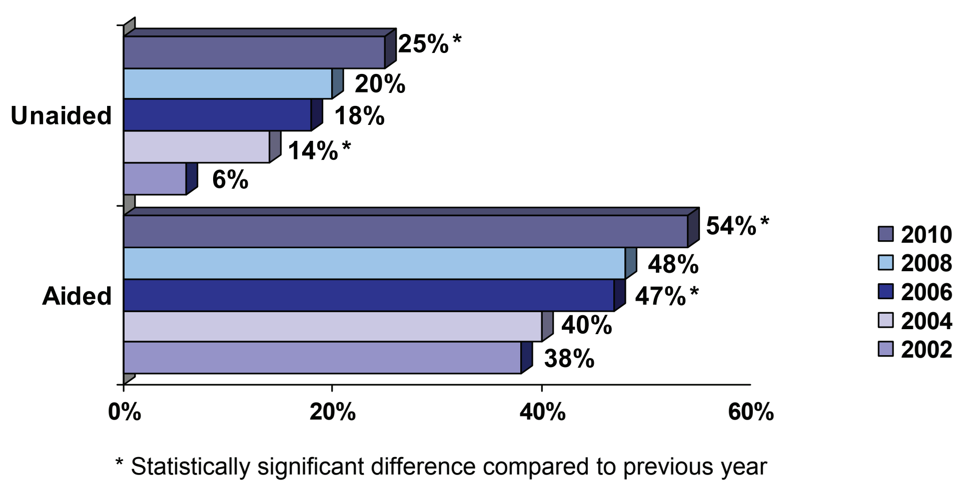


Figure 1. Awareness of ENERGY STAR, 2010 n = 800

Meaning of ENERGY STAR

Respondents aware of ENERGY STAR were asked what comes to mind first when they think of the brand (Figure 2). In 2010, as in 2006 and 2008, most consumers said “saving energy” was the first thing that comes to mind. However, the percentage of these mentions continued to decline in 2010, from a high of 41 percent of responses in 2006 to 28 percent in 2010. “Appliances or electronics” continued to be the second most common top-of-mind response (21 percent in 2010).

Responses in 2010 revealed no significant differences across consumer segments among respondents reporting that “saving energy” came to mind first when thinking about ENERGY STAR. Men were more likely to say that “efficiency rating” came to mind, while women were more likely to say “appliances or electronics”. Those living in regions other than the West and those doing more this year than last year to save energy were significantly more likely to say “saving money on utility bills” comes to mind, compared with other respondents.

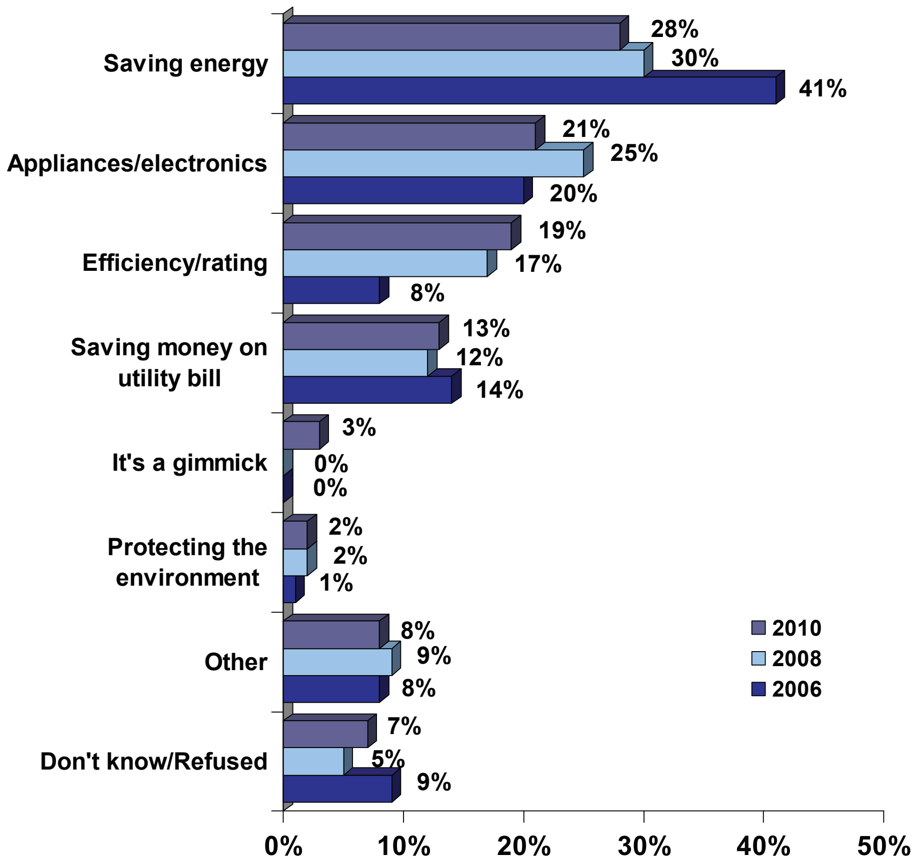


Figure 2. What First Comes to Mind in Thinking about ENERGY STAR?, 2010 n = 631

A notable characteristic of responses regarding the meaning of ENERGY STAR is the stability of these perceptions since 2004 (Figure 3). Most consumers (92 percent in 2010) who were aware of ENERGY STAR reported that the label means the product uses energy more efficiently than comparable products. Also commonly reported (84 percent) is that the label means the product will save the purchaser money over its lifetime, even if it costs more up front. The largest change over time has been an increase in the percentage of consumers holding the view that ENERGY STAR represents trusted government backing (47 percent, a 28-percent increase since 2002).

There were few significant differences across respondent segments in the perception that ENERGY STAR is synonymous with product energy efficiency or saving money over the life of the product. Compared to women, men were more likely to view ENERGY STAR products as environmentally friendly, as were respondents who are very or somewhat satisfied with their electric utility. Consumers who viewed these products as helping to reduce global warming were more likely to be African-Americans. Very or somewhat satisfied electric utility customers, as well as those living in multi-family residences, were most likely to view these products as high quality. In 2010, consumers in the West were significantly more likely to say that the ENERGY STAR symbol means "the product uses energy more efficiently than a comparable model" than were consumers in the Midwest and the South.

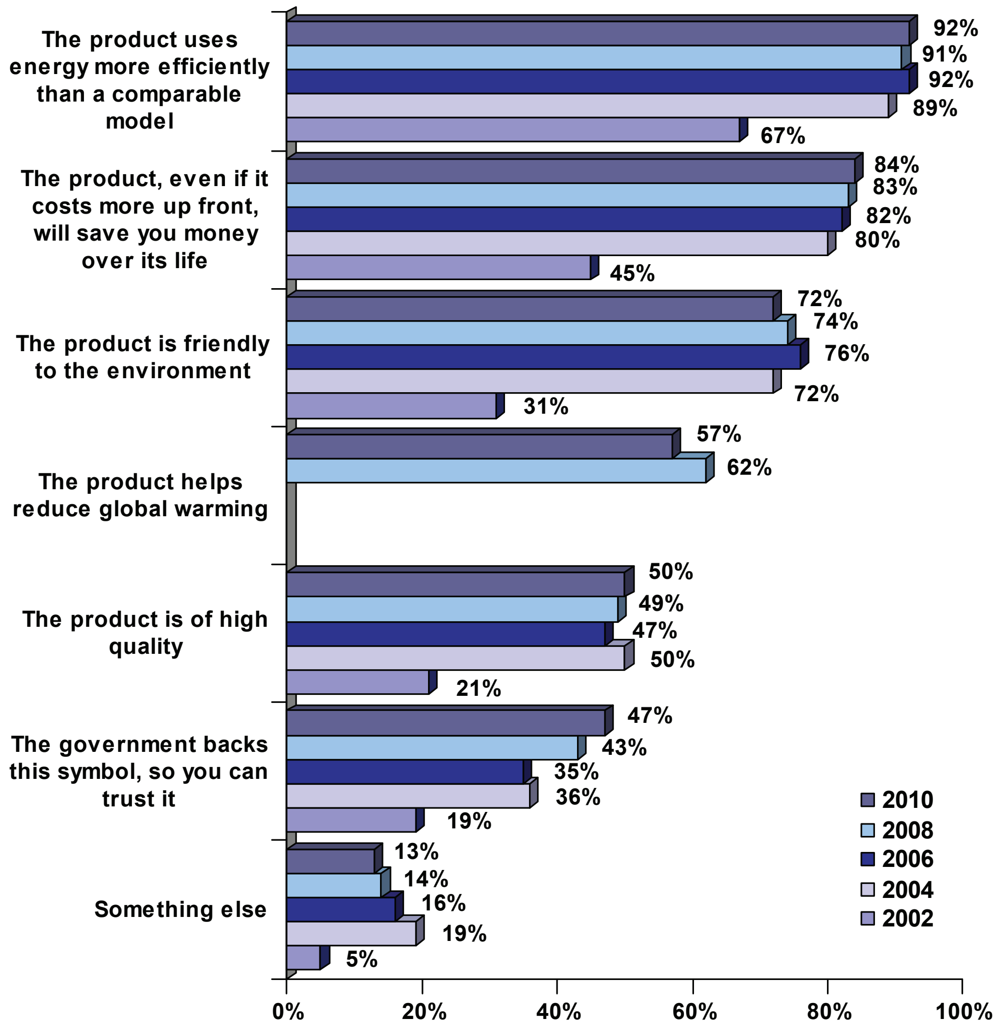


Figure 3. Meaning of ENERGY STAR Symbol (Aware), 2010 n = 631

Sponsorship of ENERGY STAR

As shown in Figure 4, there was a significant increase from nine percent in 2008 to 15 percent in 2010 in the percentage of respondents aware of ENERGY STAR who said that the logo is sponsored by the government. However, 69 percent of consumers aware of ENERGY STAR did not know who sponsors the logo, although this represents a ten-percent decrease from 2006, when 79 percent of respondents were unable to name the sponsor. Those without Internet access, women, and respondents with household incomes below $40,000 were significantly more likely to say they did not know who sponsors the logo, compared with other respondents.

Men, those with some college education or more, those with higher incomes ($50,000 and higher), and investor-owned utility customers (compared to customers of electric cooperatives) were more likely to credit government sponsorship of the logo than were other respondents. African-Americans and respondents in single-occupant households were significantly more likely to indicate sponsorship by manufacturers, compared with other respondents.

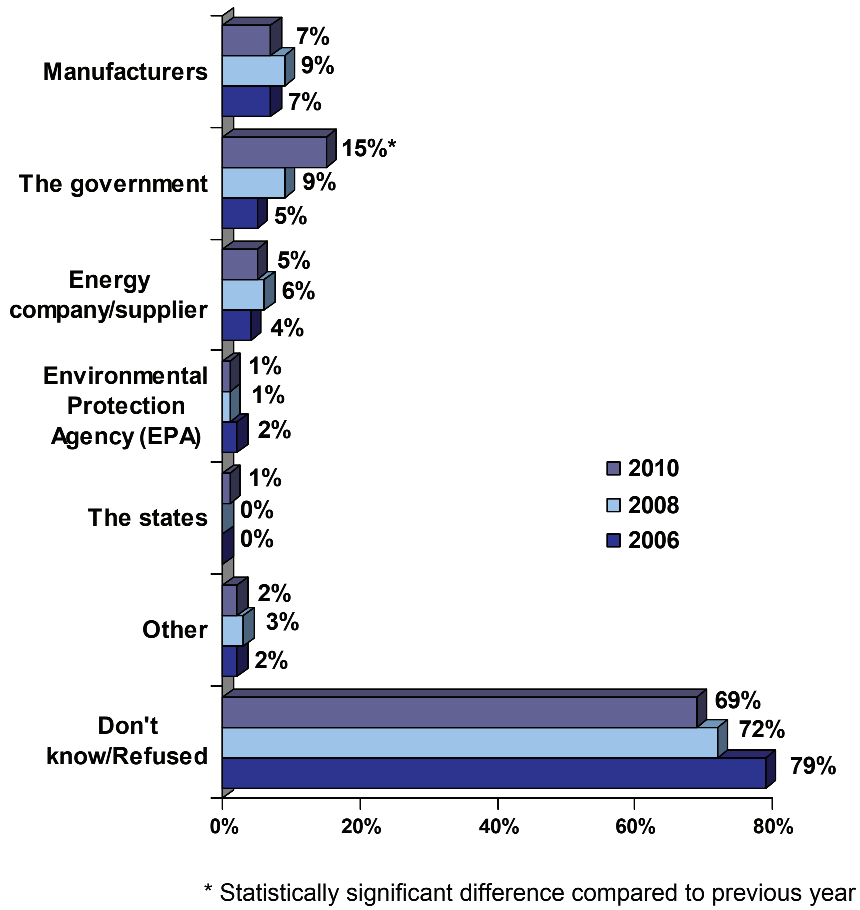


Figure 4. Who Sponsors the ENERGY STAR Logo?, 2010 n = 631

As shown in Figure 5, 50 percent of respondents said federal government sponsorship of ENERGY STAR would have no impact on the symbol's credibility with them.

Segments that were significantly more likely to say government sponsorship increases the logo's credibility included: renters, African-Americans, those viewing the energy situation as very serious, and those doing more in the past year to change energy use. In contrast, men and respondents somewhat or completely unconvinced of global warming were more likely to say that government sponsorship decreases the credibility of the ENERGY STAR logo.

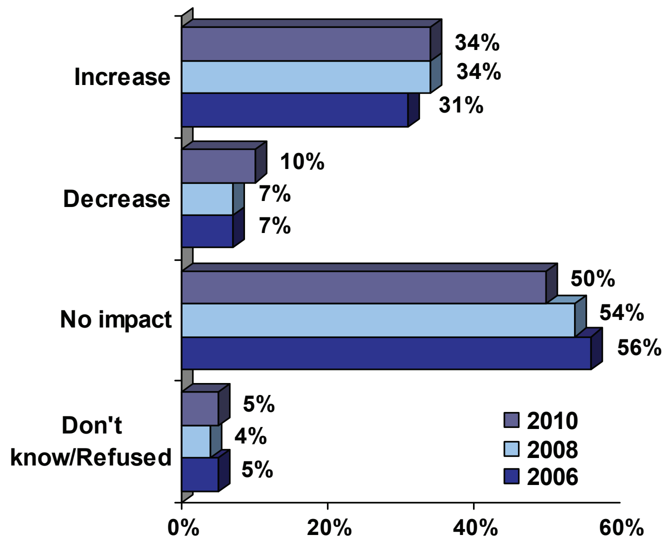


Figure 5. Impact of Government Sponsorship of the ENERGY STAR Logo?, 2010 n = 800

Purchases of Energy-using Equipment and the Impact of the ENERGY STAR Logo

As in previous survey waves, the 2010 survey continued to collect information on consumers' purchases of specific appliances and energy-using products purchased within the previous year. As shown in Table 1, respondents most frequently purchased light bulbs (88 percent) followed by home electronics (47 percent). Since 2002, reports of purchases across most of these items have remained quite stable. One notable exception is home electronics, purchases of which declined by 11 percent between 2002 and 2004, but have since increased insignificantly. In addition, refrigerator purchases declined significantly from 2008 to 2010 after a significant increase in 2006 compared with 2004.

Table 1. Appliances and Energy-using Equipment Purchased in the Past Year

	2002 *n = 900*	**2004** *n = 801*	**2006** *n = 800*	**2008** *n = 391*	**2010** *n = 384*
Light bulbs	87%	83%	86%	89%	88%
Home electronics	54	43*	44	46	47
Lighting fixtures	38	31*	37*	35	32
Remodeling materials	35	30*	37*	34	32
Big-screen TV	-	-	-	-	26
Clothes washer	18	15	20*	18	17
Windows	16	16	16	14	14
Refrigerator	16	16	21*	18	13*
Central air-conditioning system	0	10*	10	9	10
Dishwasher	13	11	14	12	8
Central heating system	8	10	11	10	8
Room air conditioner	8	9	10	9	7
None	5	10*	6	0	0

* Statistically significant difference from previous year
Note: Multiple mentions permitted.

Responses from subgroups of consumers within major consumer segments reveal that some segments were more or less useful for providing a more nuanced understanding of the 12 energy-using products purchased in the previous year, as follows:

Region: In 2010, consumers residing in the South were more likely to purchase dishwashers and room air-conditioners than were consumers living in the Midwest. However, Midwest residents were more likely to purchase central heating systems or central air-conditioning systems than were consumers living in the Northeast. Consumers in the West were much less likely to purchase light bulbs than consumers in the South.

Age: With one exception (home electronics), age was not a significant factor for explaining purchases in the past year. In the case of home electronics, consumers 65 years and over were much less likely to make electronic purchases than those in younger age groups. In 2008, consumers 54 and under were significantly more likely to make a home electronics purchase than those aged 55 and over. These data suggest that more consumers in the 55 to 64 age group purchased home electronics in 2009 than in 2007.

Education level/income level/awareness of ENERGY STAR: Higher levels of education and higher income levels were associated with a greater likelihood of purchasing central heating or air-conditioning systems, home electronics, lighting fixtures, and remodeling materials in 2010. Those with some college or with a college degree were more likely to purchase a big-screen television than those with a high school education or less. In general, those with annual incomes below $50,000 were more likely to purchase a room air-conditioner than those earning higher annual incomes. Respondents with annual household incomes of $80,000 and above were more likely to purchase windows than those in the lowest income category (less than $20,000 per year). Income had little effect on purchases of other appliances. Purchasing patterns were similar for consumers aware of ENERGY STAR and those in higher income groups. Awareness of ENERGY STAR appeared to be positively associated with the purchase of light bulbs, light fixtures, home electronics, and remodeling materials. These purchases are replacements that typically provide potential energy-efficiency improvements.

Internet access/change in energy use in past year: Consumers with Internet access were more likely than those without Internet access to purchase major appliances such as clothes washers, dishwashers, refrigerators, central air-conditioners, home electronics, and big-screen televisions. Like those with Internet access, respondents who changed their energy use in the past year were also more likely to purchase clothes washers or central heating systems than other consumers. Respondents doing more to change their energy use were more likely than other respondents to have purchased windows and remodeling materials.

Number of occupants/presence of children or teenagers in home: Respondents living in households with greater numbers of occupants, as well as those with children or teenagers under 19 years of age were more likely than other consumers to report the purchase of home electronics or room air-conditioners. Households with four or more occupants were more likely to purchase a clothes washer, light bulbs, or home remodeling materials than other respondents.

Type of utility: Consumers served by an investor-owned utility were more likely to have purchased a dishwasher and less likely to have purchased a room air-conditioner (compared to municipal utility customers) in the 2010 survey. Electric cooperative customers were more likely to have purchased home remodeling materials than were other utility customers and were less likely to have purchased windows compared to municipal utility customers.

ENERGY STAR Products Purchased in the Past Year

A majority (63 percent) of respondents who purchased new energy-using 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 logo (Figure 6). This represents a small increase from 59 percent in 2008.

The percentages of those who purchased ENERGY STAR products remained virtually the same between 2006 and 2008 for those in the Northeast and Midwest. However, the percentage of ENERGY STAR purchases by Northeast consumers increased by six percentage points from 2008 to 2010, while in the Midwest, ENERGY STAR purchases remained virtually the same. Annual but statistically insignificant increases in ENERGY STAR purchases have been seen both in the South and West, both up by 14 percentage points since 2002.

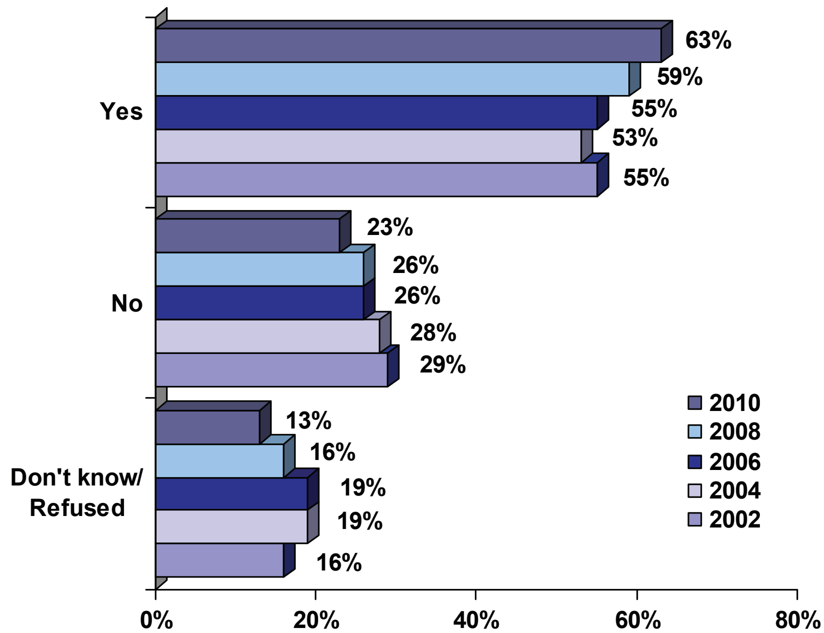
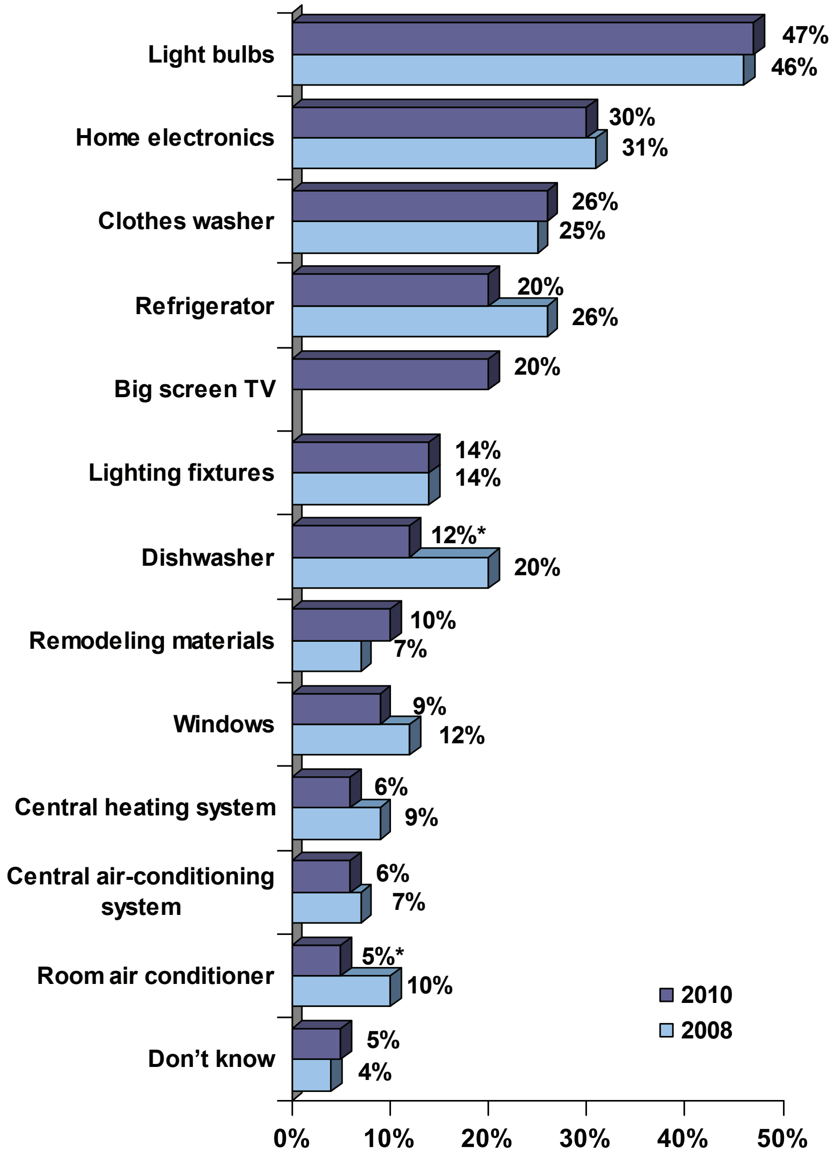


Figure 6. Purchased Products with the ENERGY STAR Logo Within the Past Year?, 2010 n = 297

Consumers reported on the purchase of specific ENERGY STAR appliances or energy-using products within the past year. Figure 7 shows that respondents most frequently purchased ENERGY STAR labeled light bulbs (47 percent) followed by home electronics (30 percent). These were the same top two items purchased overall (see Table 1). However, only 26 percent of all light bulb purchases and 31 percent of all home electronics purchases were ENERGY STAR rated. Further analysis revealed that respondents in households that have had an energy audit were more likely than others to purchase ENERGY STAR windows or central air-conditioning systems than those in households without an energy audit. Also, men were more likely to purchase home electronics and big-screen televisions than were women.



* Statistically significant difference from previous year

Note: Multiple mentions permitted.

Figure 7. Products Purchased with ENERGY STAR Logo, 2010 n = 188

ENERGY STAR Influence on Product Purchases

Respondents who reported purchasing a product with the ENERGY STAR logo within the past year used a four-point scale to rate how much influence the ENERGY STAR logo had on their choice to buy the product (Figure 8). Less than one-third (29 percent) of respondents said the label very much influenced them, a statistically-insignificant decrease from 37 percent in 2008. However, another 43 percent said the ENERGY STAR logo somewhat influenced their purchase of the product, an increase from 37 percent in 2008.

Consumers doing more to change their energy usage in the past year and those completely or somewhat convinced of global warming, were more likely to be influenced (very much or somewhat) by the presence of the ENERGY STAR logo than other respondents.

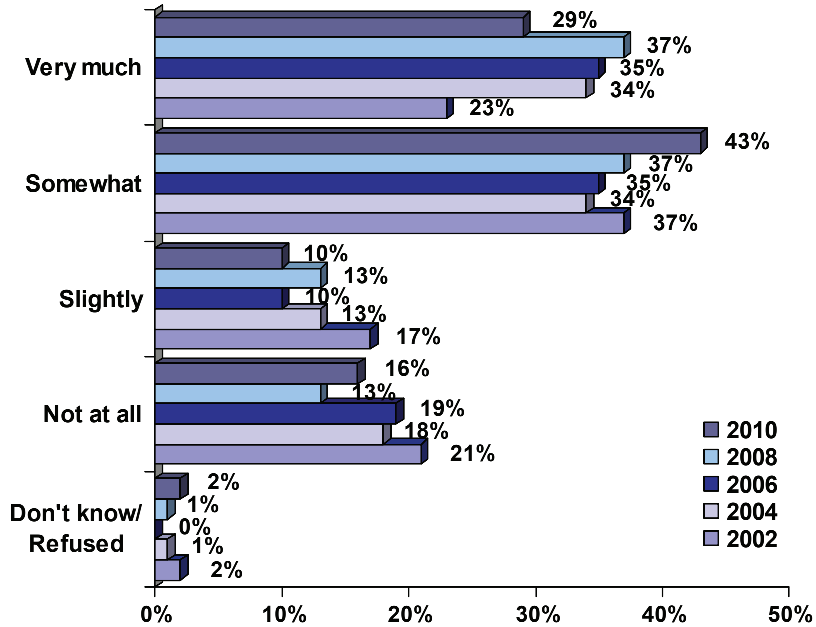


Figure 8. Influence of ENERGY STAR Logo on Purchase, 2010 n = 188

Respondents who reported having purchased a product with the ENERGY STAR logo within the past year were asked how likely they would be to purchase another product with the logo in the future. Sixty-four percent reported they would be very likely to do so, with another 32 percent saying they would be somewhat likely to do so (Figure 9). This compares with 70 and 26 percent in 2008, respectively.

Consumers completely convinced of global warming, municipal utility customers, and those living in the South or West (compared to the Northeast) were more likely than other respondents to say they would be very likely to buy another ENERGY STAR labeled product.

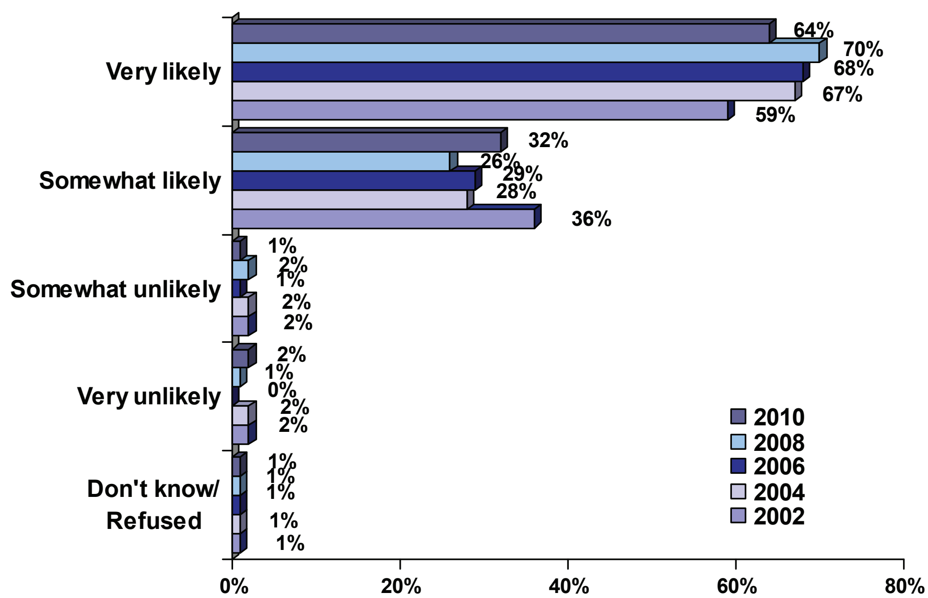


Figure 9. Likelihood to Purchase another Item with the ENERGY STAR Logo in the Future, 2010 n = 188

Conclusion

Results from the 2010 wave of the biennial Energy Conservation, Efficiency, and Demand Response Survey indicated that there was a significant increase in awareness of ENERGY STAR to 79 percent from 68 percent in 2008. However, this increased awareness was not associated with any of the other measures in the survey designed to assess concern about energy costs, and may be more a reflection of ENERGY STAR advertising and promotion than a reflection of the energy cost concerns related to the recession. While respondents continued to associate the logo with positive attributes, there was only a one-percent increase in the percentage of respondents who said that saving money on their utility bill is the first thing that comes to mind when thinking about ENERGY STAR. Saving energy, appliances and electronics, and energy efficiency continue to be top-of-mind with respect to ENERGY STAR.

Among respondents aware of the logo, there were small decreases from 2008 to 2010 in the percentage of respondents who had purchased most types of appliances, lighting, and electronics with the ENERGY STAR logo. The decreases from 2008 to 2010 were statistically significant for purchases of dishwashers and room air-conditioners with the logo. These decreases seem to reflect the impact of the recession on appliance and equipment purchases by respondents aware of the ENERGY STAR logo. Other data from the survey indicated that there were some decreases in overall purchases in specific categories, but some respondents aware of the logo instead appear to have purchased less expensive appliances and equipment which were not ENERGY STAR-labeled.

There was a decrease from 37 percent in 2008 to 29 percent in 2010 in the percentage of respondents who said that the logo "very much" influenced their purchase. This indicates that other concerns may have impacted the purchase decision about energy-using equipment, including economic pressures from the recession.

Finally, there was a decrease from 70 percent in 2008 to 64 percent in 2010 for the respondents who said that they are "very likely" to purchase another item with the ENERGY STAR logo in the future. This decrease may be another reflection of the impact of the recession, in that other concerns such as product price are important in the purchase decisions.