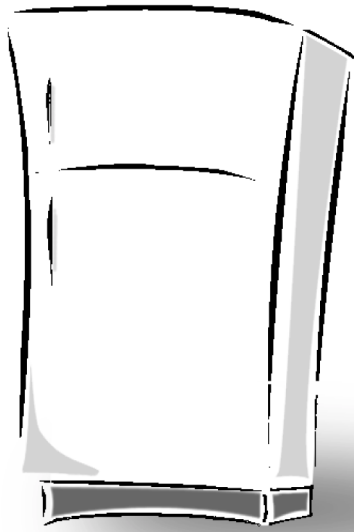


1998 Home Appliance Buying Trends Survey

Final Report



Prepared for the U.S. Department of Energy

By D&R International, Ltd.

June, 1999

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I. Executive Summary

The Department of Energy conducted a study in 1998 entitled the “Home Appliance Buying Trends Survey.” The study consisted of a survey of about 500 recent appliance purchasers, half of whom purchased ENERGY STAR-qualifying appliances, and half of whom did not. The purpose of the study was to better understand the appliance market, and the importance of ENERGY STAR and energy efficiency in general in appliance purchase decisions. The study also serves as a baseline for consumer awareness of the brand.

The key findings of the survey are as follows.¹

- **44% recognized the ENERGY STAR logo.** Of those who recognized the logo, 47% correctly interpreted its meaning.
- **Purchasers of products tended to be older and slightly more educated.** Nearly half (44%) of the purchasers of ENERGY STAR products were 50 or older, compared to one-third of the purchasers of non-qualified product. About 28% of purchasers of products held graduate degrees, compared to 22% of purchasers of non-qualified product. Incomes were fairly consistent across both groups.
- **Two thirds said they used the EnergyGuide label to compare different models when making their purchased decision.** Most people (81%) thought the model they purchased was energy efficient.
- **The manufacturer’s reputation was most often (58%) cited as important in the purchase decision.** However, salespeople (28%) and in-store materials (23%) were also commonly listed as sources of information that were used in the decision-making process.
- **Lower water use and better cleaning were the most important reasons people purchased horizontal axis washers.** These were followed by *uses less energy, saves on utility bills, large capacity*, and finally *good for the environment*.

These results, and others, are discussed in detail in the following sections. Findings such as these offer insight into consumer preferences and buying habits that will help guide future ENERGY STAR promotional activity.

¹ Results have been weighted to reflect the population in general, rather those who responded to the survey. That is, we surveyed roughly equal numbers of ENERGY STAR- purchasers compared to standard efficiency appliance purchasers. Because in reality fewer people purchase ENERGY STAR appliances, the responses of the group of standard-efficiency appliance purchasers are given more weight when computing the final results. This procedure is detailed in the *Methodology* section.

II. Overview

The mission of the ENERGY STAR Program is to create and sustain consumer demand for energy efficient appliances by developing partnerships between government, utilities, manufacturers, and retailers. A variety of strategies are used to promote the brand, including a continuing national brand awareness campaign, a comprehensive web site, local promotions, and product labeling by retailers and manufacturers.

As ENERGY STAR promotions have increased and diversified, so has the need to evaluate the impact ENERGY STAR is making on the nation's consumers. This survey was conceived as an early step towards evaluating the progress and direction the program has taken. The results will be used, along with other evaluation techniques, to judge the success of program efforts to date, and help better target them in the future to achieve the greatest success.

Objectives

The goals of this survey are to build a profile of the ENERGY STAR target audience in order to improve program efficacy and to establish a baseline of consumer research about ENERGY STAR programs. Additionally, we seek to better understand how future program efforts can be targeted to reach the widest and most receptive audience, and how to tailor our message to have the greatest impact.

Research Approach

A mail survey was developed and mailed in the spring of 1998 to five thousand recent appliance purchasers. The survey, entitled the "1998 Home Appliance Buying Trends Survey," consisted of a small questionnaire booklet, an introduction letter and postage-paid return envelope. Approximately 5,000 people, who had purchased clothes washers, refrigerators, dishwashers, or room air conditioners at a major retail chain between May and September of 1997, were chosen to participate in the survey. Half of the sample purchased ENERGY STAR-qualifying products, and half purchased non-qualifying products. Only consumers in Arizona, California, Florida, Massachusetts and Texas were sampled, with the exception of horizontal-axis clothes washer purchasers, who were sampled nationally. We received 534 responses, for a response rate of 11%, typical of mail surveys of this type.

III. Findings

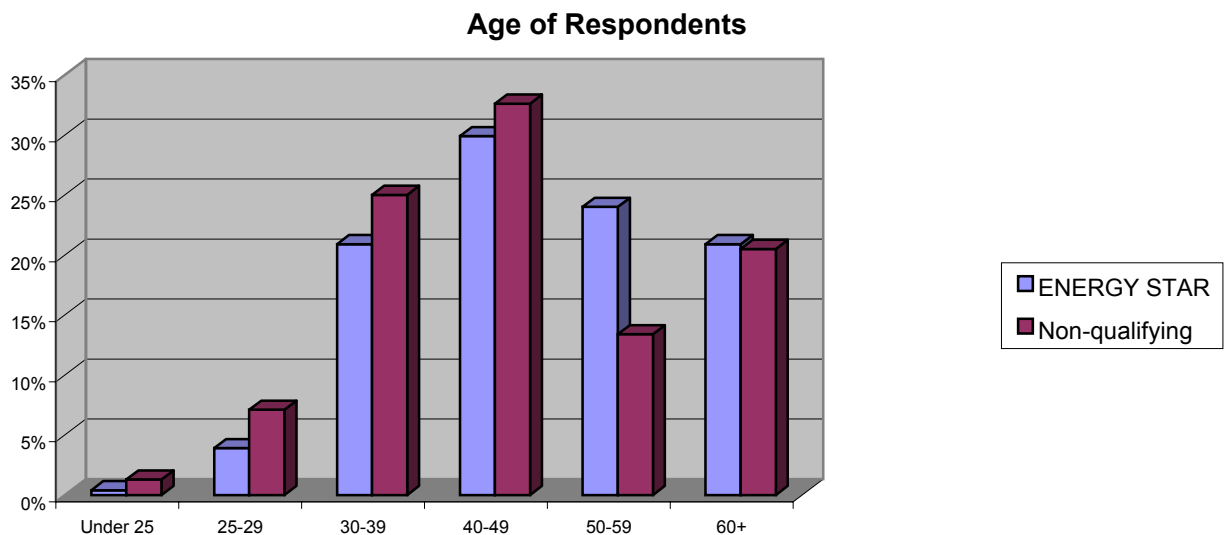
The findings presented in this section are organized according to the following survey objectives:

- 1) to develop a profile of people purchasing energy efficient products;
- 2) to evaluate the visibility of the logo; and
- 3) to better understand how people arrive at buying decisions in the appliance market.

Profile of Survey Respondents

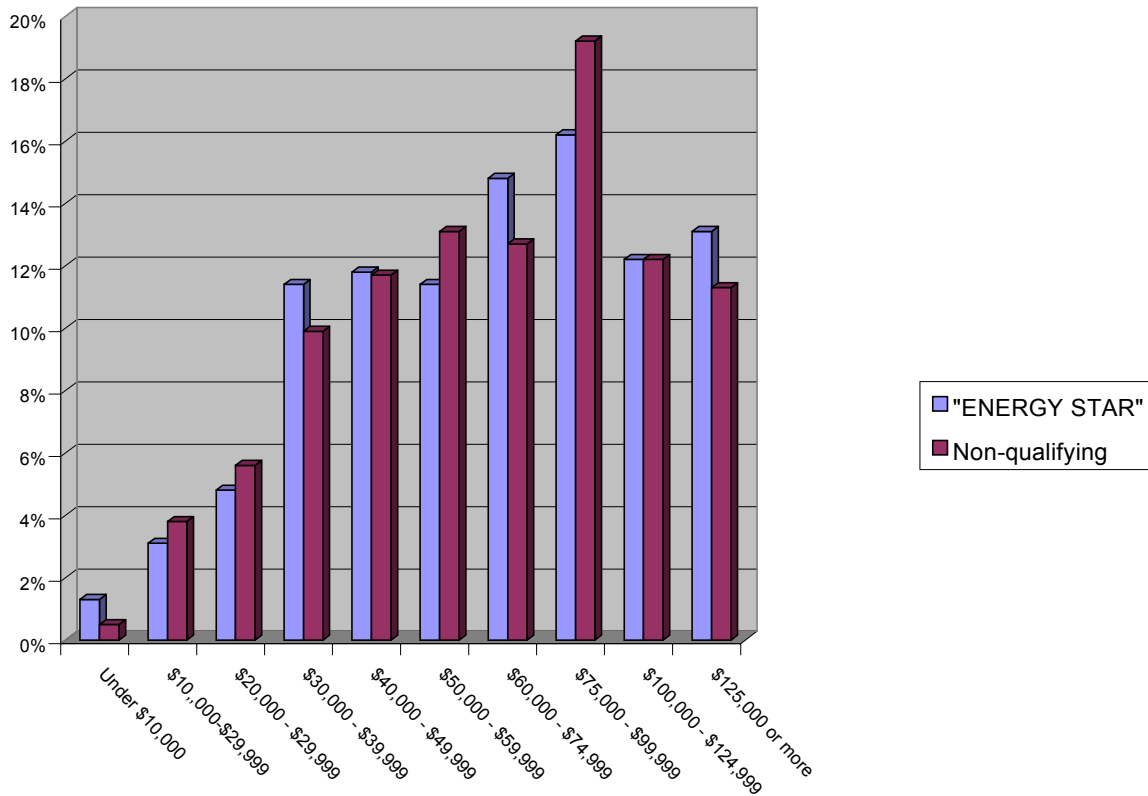
The following demographic information collected from survey respondents constitutes a baseline, a reference point, for learning about what kinds of people buy ENERGY STAR appliances, compared to appliance purchasers in general. Overall, demographic characteristics were fairly similar between the two groups, with a few differences.

The median age group of the survey respondents was 40-49 years old. Compared to purchasers of non-qualified products, appliance purchasers tended to be slightly older, and slightly more educated. However, survey respondents who purchased ENERGY STAR products tended to be older, with nearly twice as many respondents in the 50-59 age group purchasing an ENERGY STAR-qualified model.



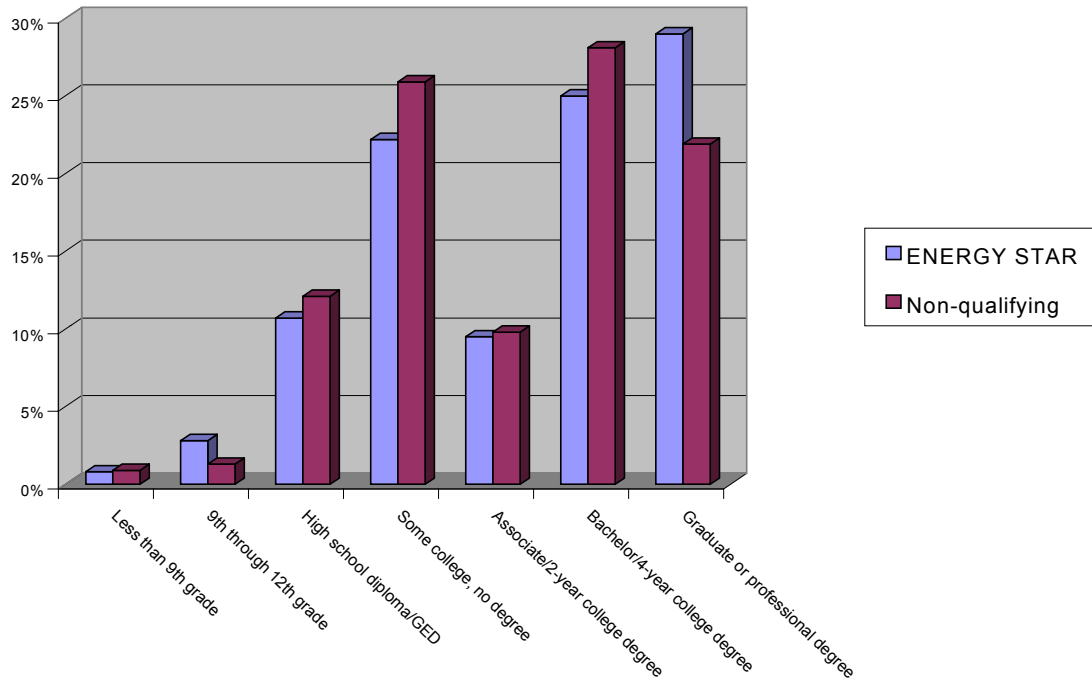
The median income of survey respondents was \$60,000 to \$74,999, with the distribution of incomes fairly consistent between purchasers of ENERGY STAR-qualified models and those who did not buy a compliant model.

Income Categories

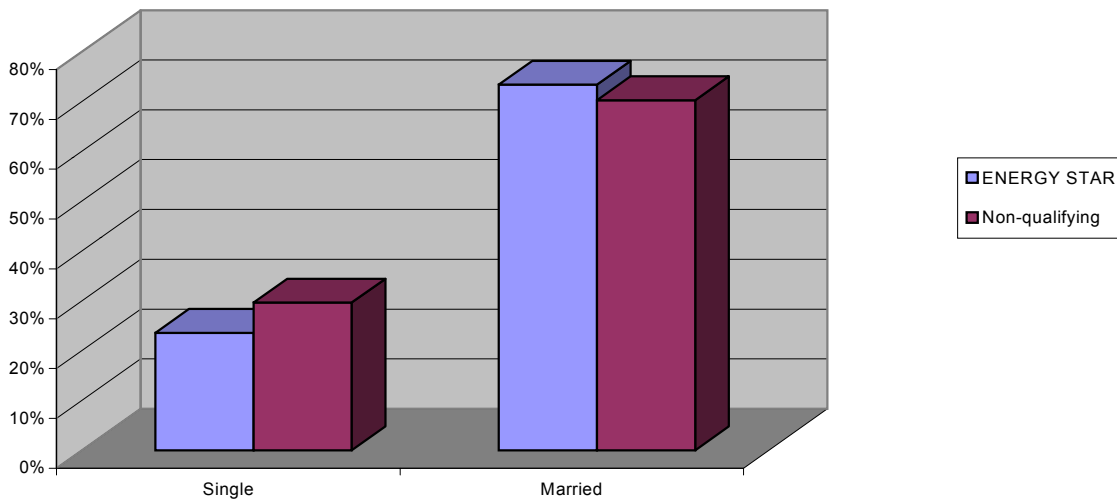


The response pool was highly educated, with 64 percent overall having a college or graduate degree. Somewhat more people from the sample had graduate or professional degrees. The majority of respondents to the survey, about 70 %, were married. There were no significant differences in marital status between the two types of appliance purchasers.

Education Level



Marital Status



Visibility of the ENERGY STAR Logo

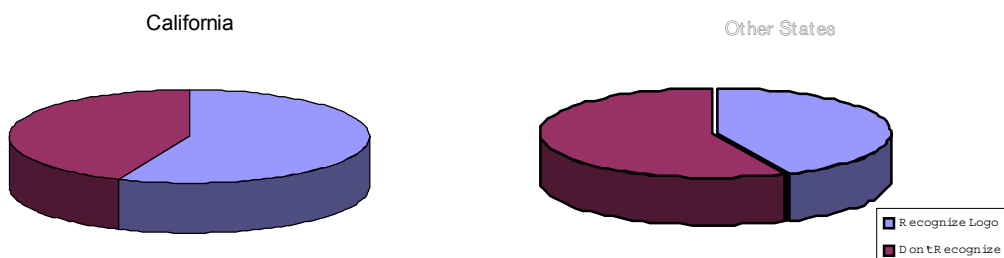
The survey indicates some early success of the ENERGY STAR labeling program in terms of logo recognition. While a solid percentage of consumers recognize the ENERGY STAR logo, the survey results also show the importance of retailers, manufacturers, and other third party groups—such as utilities—in influencing consumer awareness and understanding of energy efficiency. These results are examined in detail below.

Nearly half (44%) of consumers recognize the logo. Perhaps one of the reasons for such an impressive level of recognition is that the ENERGY STAR message is being delivered to consumers in a variety of ways and by a variety of messengers. Partner promotion is vital to repeated consumer exposure to the logo. The same logo spotted on a utility bill insert, on a retailer advertisement and on product information generated by a manufacturer gains legitimacy and recognition.

Of those who recognized the logo, nearly half (48%) correctly interpreted its meaning. This surprising result shows a very strong association of the brand with its intended meaning. Among those who did not recognize the logo, a full 19% had some idea of its meaning, indicating that it meant energy efficiency, good for the environment, or money saving.

When asked where they have seen the program logo, most respondents had seen the ENERGY STAR symbol on computer monitors (27%). This is not surprising, considering that computers and other office equipment products were among the first products labeled by the program, beginning in 1992. The labeling of computers was also very popular among participating manufacturers. In addition to seeing the logo on monitors, 20% stated they had seen the logo on products in showrooms; 16% indicated newspaper or magazine advertisements; 16% indicated utility company bill inserts; and 13% indicated television advertisements.

Local and regional ENERGY STAR promotional efforts were found to boost logo visibility. Several utilities in California, one of the target areas of our survey, were involved in the Appliances pilot program during 1997-1998. California utility partners worked with retailers to label compliant products, distribute point-of-purchase materials, and train sales staff. The partners also promoted ENERGY STAR through advertising in local media and utility bill stuffers. The logo recognition rate of survey respondents was 56% in California, compared to 41% in other states, where little or no promotional efforts were ongoing at the time.



How Consumers Make Buying Decisions

Sales people and in-store materials were identified as very common sources of information for consumer buying decisions, 32% and 25% respectively. Shoppers used a variety of methods to collect information about products before they buy. But when the consumer has little or no time to do extensive research on products, these two resources become extremely valuable. Such findings underscore the need for effective showroom displays and retailer expertise on the benefit of energy efficient products.

The most common reason for purchasing a new product was that an existing appliance failed, with nearly 45 percent of respondents indicating this reason. This reinforces the need to focus on retailer activities, including salesperson training and point-of-purchase materials. When an appliance fails, the consumer is most likely far more concerned with getting a replacement quickly than with properly researching the purchase.

Other reasons for replacement were moving to a new house (25%), and upgrades to an existing appliance that still worked (15%). Remodeling accounted for only 6.3% of new purchases.

Other Influential Factors in Decision Making

The survey indicates that 78% of consumers rate energy efficiency as “extremely important” or “important” to their purchase decision. Of consumers who purchased an energy efficient product, energy efficiency is the most important criteria, followed by size, warranty, brand, premium features, price, and color. However, among those who did not purchase an energy efficient product, energy efficiency ranked fifth, behind size, price, brand, and warranty. That is, even though it was often listed as important, it was less important than many other factors.

Sixty-five percent of consumers rely on manufacturer reputation in making appliance purchase decisions. With purchase decisions often being made quickly, manufacturer production and labeling of energy efficient products is critical. With more appliance manufacturers supporting ENERGY STAR, consumers will increasingly associate manufacturer reputation not only with product reliability and quality, but also with efficient designs and money saving operation.

The Role of Rebates in Buying Decisions

Approximately 20% of survey respondents received a rebate for the appliance they purchased. Most of these were for qualified products. Of these, 71% said the rebate was important to their decision to buy that particular model. **Price is one of the top criteria for many consumers, so for those who did not purchase an energy efficient product, rebates could help in the decision to buy.** A higher proportion of respondents who received a rebate recognized the ENERGY STAR logo (56%). The average respondent who received a rebate was slightly younger than the consumer profile (30-50 years old) and more educated (62% college degree, 35% graduate degree).

The EnergyGuide Label

This survey also asked appliance purchasers questions about their recognition and understanding of the EnergyGuide label. These labels, which are located on refrigerators, dishwashers, clothes washers, room air conditioners and other appliances, are model specific and provide information about the model's energy consumption. EnergyGuide labels enable shoppers to compare energy consumption figures for various models.

The survey found that 84% of consumers look at the label and two-thirds used it to compare different models. However, the results of the survey suggest confusion in understanding the EnergyGuide label when using it to select an energy efficient model. Eighty-one percent of survey respondents indicated they had purchased an efficient model, with 61% indicating they knew the product was energy efficient because of the EnergyGuide label. In reality, 48% bought -compliant appliances.

This discrepancy illuminates one of the challenges in promoting highly efficient products. The survey results suggest that the public perceives the mere presence of an EnergyGuide label as a certification of product efficiency. In addition, there is not necessarily a good understanding of the range in efficiency that exists among products. The public may understand that newer products are much more efficient than the older models being replaced, but they may not be aware of the range of efficiency among new products.

Purchasers of ENERGY STAR-Qualified Clothes Washers

The survey also asked purchasers of ENERGY STAR-qualified horizontal-axis clothes washers about what factors influenced their decision to buy. Tied for first place were lower water use and better cleaning ability. Next in order of priority were “using less energy,” “saving on utility bills,” the “large capacity” and “good for the environment.”

Price and questions about the new technology of horizontal-axis (H-axis) washers presented substantial barriers. Of those consumers who did not purchase an H-axis washer, 37% indicated price was the reason, with 36% stating that they simply prefer their top-loading machines. Some respondents' written comments included statements such as — “I needed to keep [the] cost down,” and “habit, never did before,” and “mine loads at the top—I am okay with that.” Eleven percent of respondents chose not to buy a horizontal-axis washer because of the lack of availability. Others (8%) said they did not purchase one because of their skepticism of the technology—such as leaks or lack of reliability data.

IV. Conclusions

The 1998 Home Appliance Buying Trends Survey underscores the need for all market players to get involved in raising consumer awareness of the benefits of energy efficient products. Third party endorsements and promotions from utilities and local governments can help consumers overcome informational and price barriers. Manufacturer production, labeling, and marketing of ENERGY STAR-qualified products can go a long way toward building consumer trust and demand for energy efficient products. Retailers, on the front line with consumers, are critical in explaining the benefits of energy efficiency and the value of purchasing an ENERGY STAR-qualified product.

This survey gives us a useful baseline of information on consumer awareness of ENERGY STAR and sheds some light on several factors that influence consumer purchase decisions. This information can help guide future consumer research efforts and help direct implementation activities to target audiences.

Appendix A: Methodology

Survey Design

A mail-based survey, consisting of an eight-page booklet, a cover letter, and a postage-paid return envelope, was chosen as the format for this study. In-person interviews, telephone surveys and mail surveys were all proposed as possible study designs. The objectives of the study, financial, and logistical concerns were all considered when evaluating the appropriateness of each method.

The expense and logistics of conducting a large volume of in-person interviews quickly disqualified this method from contention. A telephone survey was logistically feasible although the exchange of questions and answers via telephone prevented the measurement of the visual recognition of the ENERGY STAR logo. Although a telephone survey yields a much higher response rate than a mail survey, visual logo recognition was one of the central purposes of the study, and ultimately disqualified a telephone survey as well. This consideration, the study objectives and budget left the mail survey as the most appropriate technique.

Sample Design

D&R International mailed its survey, the 1998 Home Appliance Buying Trends Survey, to approximately 5,000 recent appliance purchasers in the spring of 1998. The survey sample was chosen from a universe of people who purchased an appliance (clothes washer, refrigerator, dishwasher, or room air conditioner) at a major retail chain between May and September of 1997. The sample included Arizona, California, Florida, Massachusetts, and Texas. Additionally, horizontal-axis clothes washer purchasers from all 50 states were included because there were not enough of them in the target states to draw a large enough sample for independent analysis.

The sample was stratified by state of residence, by type of appliance purchased, and by or non-ENERGY STAR. Stratifying the sample ensured that the survey contained enough responses from each subgroup to perform meaningful comparisons across the different groups. (See Appendix B for the percent breakdown of the universe and for tables identifying the major strata).

Survey Instrument Design and Distribution

The survey package consisted of an introduction letter with toll-free information phone number, a six-page questionnaire in booklet form, and a postage-paid (business reply mail) return envelope. D&R International mailed the survey in plain white Number 10 envelopes with a D&R International return address. Appendix C contains information for obtaining reproductions of the survey materials.

The cover letter was deliberately vague in that it did not mention energy efficiency at all. The purpose of the survey was only described as a way “to learn how consumers like you

make major appliance buying decisions.” If we had mentioned energy efficiency, or the true purpose of the survey, we might have influenced certain types of people to respond, or not respond. For instance, someone with a particularly strong feelings towards the importance of energy efficiency might have been more likely to respond upon realizing the survey was about energy efficiency, biasing the responses towards the more aware people.

The questionnaire contained 30 questions. Most (24) were multiple choice. Two of the questions asked respondents to rate the importance of specific factors that influence buying decisions. The remaining four questions were open-ended to encourage elaboration. Generally speaking, the first half of the survey contained questions designed to better understand how people arrive at their appliance purchasing decisions. These were followed by nearly equal amounts of questions aimed at evaluating the recognition and meaning of the logo and at developing a profile of people purchasing energy efficient products. The last question allowed respondents to submit final comments.

In February of 1998, D&R International conducted a pre-test of 20 people to test the survey questionnaire. The pre-test yielded no significant questionnaire problems. After minor revisions, the full survey was mailed to 5,000 people between April 21 and April 24, 1998. To minimize costs, the survey did not include advance or follow-up mailings.

Analysis

D&R International received exactly 534 responses, for a response rate of 11%—a rate that is typical of this type of mail survey. Eleven states were represented in the responses. In addition, approximately 11 % of the respondents indicated that they did not recently purchase an appliance. Therefore most of the analysis focused on the remaining 476 responses.

The number of responses did not yield a large enough pool in each substratum to perform statistically significant comparisons at the finest level. To ensure valid results, the study combines substrata for the purposes of weighting and analysis. While D&R International drew the sample from the intersection of ENERGY STAR qualification, appliance type, and state of residence, the analysis is limited to either qualification and appliance type, or ENERGY STAR qualification and state, or simply qualification.

D&R International entered the data from each survey twice and verified the entries against each other (double key entry) to ensure accuracy. Responses to open-ended answers were coded with the most common responses and are included in the tabular analyses. After entering and cleaning the data, the data was weighted to allow extrapolation to the universe at large from the responses. By weighting the responses within each stratum to match the same proportions as the universe, the responses can be generalized to the universe of appliance purchasers, rather than just represent the rather skewed sample that was originally chosen. Percentages cited in this report are generally weighted values, except in situations where the differences between the two populations are noted (e.g., the demographics).

Appendix B: Universe and Stratification of Sample

The chart below shows the breakdown of the universe used for this survey. Since the sample universe represents individual sales from partners that supplied the data, D&R International cannot disclose the actual numbers, the period over which the data was drawn, or the detailed breakdown of the sample. This discretion is necessary to protect the confidentiality of the information. However, the following tables show major strata ratios. The numbers outside parenthesis show the breakdown of the states within the ENERGY STAR or non-qualifying strata. The numbers in parenthesis show the breakdown within a state of vs. non-qualifying products.

Distribution of Universe by ENERGY STAR qualification and State

	Arizona	California	Florida	Massachusetts	Texas	TOTAL
	5% (14%)	58% (16%)	13% (11%)	6% (10%)	18% (12%)	100%
Non-Qualifying	5% (86%)	47% (84%)	18% (89%)	9% (90%)	21% (88%)	100%
TOTAL	(100%)	(100%)	(100%)	(100%)	(100%)	

Distribution of Universe by ENERGY STAR qualification and Product

	Air Conditioner	Clothes Washer	Dishwasher	Refrigerator	TOTAL
	6% (9%)	3% (2%)	5% (5%)	86% (26%)	100%
Non-Qualifying	10% (91%)	34% (98%)	15% (95%)	41% (74%)	100%
TOTAL	(100%)	(100%)	(100%)	(100%)	

The charts below show the breakdown of the sample.

Stratification of sample by ENERGY STAR qualification of purchase

Strata	Number	Percent
	2,188	56
Non-Qualified	2,812	44
Total	5,000	100.0

Stratification of sample by state of residence

State	Number	Percent
Arizona	700	14
California	1,797	36
Florida	651	13
Massachusetts	902	18
Texas	901	18
Other	49	1
Total	5,000	100.0

Stratification of sample by appliance type

Appliance Type	Number	Percent
Room Air Conditioner	496	10
Clothes Washer	1,604	32
Dishwasher	845	18
Refrigerator	2,055	40
TOTAL	5,000	100

Stratification of the sample by ENERGY STAR qualification and appliance type

Appliance	(Number)	ENERGY STAR (Percent)	Non-Qualifying (Number)	Non-Qualifying (Percent)
Room Air Conditioner	244	5	252	5
Clothes Washer	501	10	1,103	22
Dishwasher	415	8	430	8
Refrigerator	1,028	21	1,027	21
TOTAL	2,188	44	2,812	56

Appendix C: Weighting and Statistical Significance

Some of the results of this study are cited in terms of the percentage of survey respondents answering a certain way. This is the actual percentage of the surveys received and may not be representative of the population at large. For certain questions, we are interested in the actual breakdown of our survey respondents, particularly when comparing one group against another. But if we are interested in representing all appliance buyers, not just those from a particular cross section, we need to weight the responses in order to more accurately represent the complete population.

Our sample has been selected to disproportionately represent certain groups – that is, purchasers of appliances, purchasers of h-axis clothes washers, and each state. This is necessary to ensure enough responses from each group to enable comparison across the different cross sections. But it does mean that the sample is no longer random, and taken as a whole, does not accurately represent the complete population. To correct this, we use weighting.

Weights are calculated for the responses in each distinct stratum using the formula

$$\left(\frac{n}{N}\right) * \left(\frac{N_i}{n_i}\right)$$

where N is the size of the universe, n is the size of the response pool, N_i is the number of members in the universe for a particular stratum, and n_i is the number of responses in that stratum. This creates a ratio that gives observations greater or lesser influence depending on the number of responses in that stratum compared to the proportion of the actual size of that stratum to the entire universe.

When performing analysis, especially with smaller sample sizes, it is desirable to test the statistical significance of each result. Although there are many sources of error that can affect the results of a survey, the only measurable one is sampling error, which is an error introduced because the sample that has been chosen may not necessarily reflect the population. We can calculate sampling error for a stratified sample as follows. First, calculate the variance of the proportion using the formula

$$Var(\hat{p}) = \sum_g \left(\frac{N_g}{N}\right)^2 \frac{N_g - n_g}{N_g - 1} \frac{\sigma^2}{n_g}$$

where N_g is the size of the stratum, N is the size of the universe, n_g is the size of the stratum sample, and σ^2 is the variance of the responses to the question, which is simply the mean or the product of the proportion that answers and did not answer a certain way. This is summed across all the strata g .

The standard error is the square root of the variance. At a 90% confidence level, the true value lies within plus or minus 1.6 times the standard error. On the tabular analysis, the confidence intervals provided are calculated for each question based on a 90% confidence level.

Other sources of error, which are not directly measurable, are non-response and self-selection bias. This means that the group that responds to the survey may have different characteristics than the group that did not. This type of error is difficult to measure, since by definition we don't know what the characteristics of the non-responding group might be. In the case of this survey, one of our long-term goals is to compare the present results against results from a future survey to measure changes due to the continued implementation of the ENERGY STAR program. For these purposes, non-response bias is less significant because we would assume that respondents to successive surveys would have similar characteristics, thus making the comparison valid.

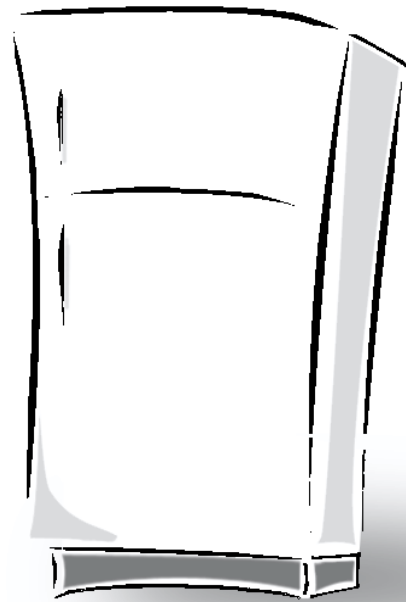
Appendix D: Survey Materials

Below are reproductions of the survey materials. A copy of the actual materials in their original format is included with this report. To obtain a reproduction of the survey materials, please contact Jennifer Fitzgerald at D&R International Ltd., 301-588-9387.

The survey instrument itself was booklet made of two sheets of ivory 11 x 17 paper, staple bound to create a small, eight-page (including front and back cover) booklet.

Survey Booklet Cover

1998 Home Appliance Buying Trends Survey

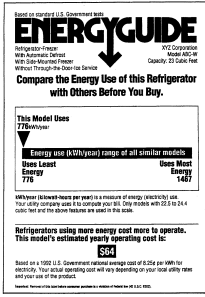


Conducted by D&R International, Ltd.
On Behalf Of Pacific Northwest National Laboratory

Survey Booklet Page 1

1998 Home Appliance Buying Trends Survey	Page 1												
<p>Instructions: Please read each question below. Check the box next to the response that best matches your answer. Whenever a question says <i>check all that apply</i>, please check off each answer that applies to you. <i>We have no way to identify individual responses to this survey - your response is completely anonymous.</i></p>													
<p>1. Have you purchased a new clothes washer, refrigerator, window-unit air conditioner or dishwasher within the last year?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No → If NO, please skip to Question 19, on page 4.</p>													
<p>2. What type of appliance did you purchase? <i>If you have purchased more than one of the appliances listed below in the last year, please answer for the one that you purchased most recently.</i></p> <p><input type="checkbox"/> Clothes Washer</p> <p><input type="checkbox"/> Refrigerator</p> <p><input type="checkbox"/> Air Conditioner</p> <p><input type="checkbox"/> Dishwasher</p>													
<p><i>Please answer the following questions for this particular appliance.</i></p>													
<p>3. Why did you purchase this new appliance? <i>Please check only one.</i></p> <p><input type="checkbox"/> Old one broke down</p> <p><input type="checkbox"/> Moved into new house</p> <p><input type="checkbox"/> Remodeled</p> <p><input type="checkbox"/> Needed bigger/better model</p> <p><input type="checkbox"/> Didn't previously own one</p> <p><input type="checkbox"/> Other: <i>why?</i> _____</p>													
<p>4. When did you buy this appliance? <i>If you don't remember exactly when, please make your best guess.</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;"><input type="checkbox"/> May 1997</td> <td style="width: 33%;"><input type="checkbox"/> September 1997</td> <td style="width: 33%;"><input type="checkbox"/> January 1998</td> </tr> <tr> <td><input type="checkbox"/> June 1997</td> <td><input type="checkbox"/> October 1997</td> <td><input type="checkbox"/> February 1998</td> </tr> <tr> <td><input type="checkbox"/> July 1997</td> <td><input type="checkbox"/> November 1997</td> <td><input type="checkbox"/> March 1998</td> </tr> <tr> <td><input type="checkbox"/> August 1997</td> <td><input type="checkbox"/> December 1997</td> <td><input type="checkbox"/> April 1998</td> </tr> </table>		<input type="checkbox"/> May 1997	<input type="checkbox"/> September 1997	<input type="checkbox"/> January 1998	<input type="checkbox"/> June 1997	<input type="checkbox"/> October 1997	<input type="checkbox"/> February 1998	<input type="checkbox"/> July 1997	<input type="checkbox"/> November 1997	<input type="checkbox"/> March 1998	<input type="checkbox"/> August 1997	<input type="checkbox"/> December 1997	<input type="checkbox"/> April 1998
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Survey Booklet Page 2

Page 2	1998 Home Appliance Buying Trends Survey																																																															
<p>5. What sources did you use to help decide which make and model to buy? <i>Please check all that apply.</i></p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input type="checkbox"/> Friends/word of mouth</p> <p><input type="checkbox"/> Salesperson</p> <p><input type="checkbox"/> Internet/World Wide Web</p> <p><input type="checkbox"/> Other sources: <i>what?</i> _____</p> </div> <div style="width: 45%;"> <p><input type="checkbox"/> In-store materials (brochures, etc.)</p> <p><input type="checkbox"/> Consumer Reports</p> <p><input type="checkbox"/> Reputation of brand/manufacturer</p> </div> </div>																																																																
<p>6. What was important to you when deciding upon a make and model? <i>Below is a list of factors which might have influenced your decision to buy the particular model you chose. Please rate the importance of each factor by circling a number from 1 to 4, where 1 is extremely important and 4 is not at all important.</i></p> <table style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 10%;">Extremely Important</th> <th style="width: 10%;"></th> <th style="width: 10%; text-align: center;">←————→</th> <th style="width: 10%;"></th> <th style="width: 10%;">Not At All Important</th> </tr> </thead> <tbody> <tr> <td>Price</td> <td>1</td> <td>2</td> <td></td> <td>3</td> <td>4</td> </tr> <tr> <td>Brand</td> <td>1</td> <td>2</td> <td></td> <td>3</td> <td>4</td> </tr> <tr> <td>Color</td> <td>1</td> <td>2</td> <td></td> <td>3</td> <td>4</td> </tr> <tr> <td>Size</td> <td>1</td> <td>2</td> <td></td> <td>3</td> <td>4</td> </tr> <tr> <td>Energy efficiency</td> <td>1</td> <td>2</td> <td></td> <td>3</td> <td>4</td> </tr> <tr> <td>Premium features</td> <td>1</td> <td>2</td> <td></td> <td>3</td> <td>4</td> </tr> <tr> <td>Cash-back rebate</td> <td>1</td> <td>2</td> <td></td> <td>3</td> <td>4</td> </tr> <tr> <td>Warranty</td> <td>1</td> <td>2</td> <td></td> <td>3</td> <td>4</td> </tr> <tr> <td>Other: <i>what?</i> _____</td> <td>1</td> <td>2</td> <td></td> <td>3</td> <td>4</td> </tr> </tbody> </table>						Extremely Important		←————→		Not At All Important	Price	1	2		3	4	Brand	1	2		3	4	Color	1	2		3	4	Size	1	2		3	4	Energy efficiency	1	2		3	4	Premium features	1	2		3	4	Cash-back rebate	1	2		3	4	Warranty	1	2		3	4	Other: <i>what?</i> _____	1	2		3	4
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Warranty	1	2		3	4																																																											
Other: <i>what?</i> _____	1	2		3	4																																																											
<p>7. Did you look at the yellow EnergyGuide label, like the one pictured here? →</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p><input type="checkbox"/> Yes, briefly</p> <p><input type="checkbox"/> Yes, carefully</p> <p><input type="checkbox"/> No</p> </div> <div style="width: 30%;"> <p>→ If YES:</p> </div> <div style="width: 35%; border: 1px solid black; padding: 5px;"> <p>8. Did you use the information on this label to compare different models?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Don't know</p> </div> </div>																																																																
																																																																
<p>9. Did a salesperson explain the long-term costs of owning an appliance due to its energy use?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>																																																																
<p>Please continue to the next page →</p>																																																																

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<p>10. Did you buy an energy-efficient model?</p> <p> <input type="checkbox"/> Yes → If YES <input type="checkbox"/> No or NO: <input type="checkbox"/> Don't know </p>		
		<p>11. How did you know whether or not you were buying an energy-efficient model?</p> <p> <input type="checkbox"/> EnergyGuide label <input type="checkbox"/> Consumer reports <input type="checkbox"/> Salesperson <input type="checkbox"/> Recommendation <input type="checkbox"/> Other: <i>what?</i> _____ </p>
<p>12. Did you receive a rebate from a local utility on the purchase of this appliance?</p> <p> <input type="checkbox"/> Yes → If YES: <input type="checkbox"/> No </p>		
		<p>13. Was the rebate important in your decision to buy this particular make and model?</p> <p> <input type="checkbox"/> Yes <input type="checkbox"/> No </p> <p>14. What was the amount of the rebate? If you don't remember, please make your best guess.</p> <p>\$ _____</p>
<p><i>The next questions are specifically about clothes washers. If the appliance you purchased was not a clothes washer, please skip to Question 19 on the next page.</i></p>		
<p>15. Was the clothes washer you purchased a front-loading, or tumble-action model, such as the Maytag Neptune or Frigidaire Gallery?</p> <p> <input type="checkbox"/> Yes <input type="checkbox"/> No → </p>		
		<p>If NO:</p> <p>16. Did you consider buying a front-loading washer?</p> <p> <input type="checkbox"/> Yes <input type="checkbox"/> No </p> <p>17. Why didn't you end up buying a front-loading washer?</p> <p>_____</p>
<p>Please continue to the next page →</p>		

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	Extremely Important	←————→		Not At All Important
Cleans clothes better	1	2	3	4
Large capacity	1	2	3	4
Uses less water	1	2	3	4
Uses less energy	1	2	3	4
Saves on utility bills	1	2	3	4
Good for the environment	1	2	3	4
Other: <i>what?</i> _____	1	2	3	4

Please answer the next questions whether you purchased an appliance or not.

19. Below is an image of the “ENERGY STAR” logo. Have you ever seen this logo before?

Yes → **If YES:**
 No

20. Where have you seen it? *Please check all that apply.*

- Computer monitors
- TV advertisement
- Newspaper or magazine advertisement
- Newspaper or magazine article
- Power company bill stuffers
- Other publications: *what?* _____
- On products in showrooms
- Internet/World Wide Web
- Some other place: *where?* _____

21. What does this logo mean to you?


Please continue to the next page →

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22. Below is a picture of a label sometimes found on appliances in store showrooms. Have you ever seen this label before?

Yes → **If YES:**
 No



23. Did a salesperson explain this label to you?

Yes
 No

24. Did the appliance **you purchased** bear this label?

Yes
 No

Please answer the following questions about yourself. Your answers to these questions, as well as all the other questions on this survey, are completely anonymous.

25. In what state do you live? ___ ___

26. What is your age?

<input type="checkbox"/> Under 25	<input type="checkbox"/> 40-49
<input type="checkbox"/> 25-29	<input type="checkbox"/> 50-59
<input type="checkbox"/> 30-39	<input type="checkbox"/> 60 +

27. What is your annual household income?

<input type="checkbox"/> Under \$10,000	<input type="checkbox"/> \$50,000 - \$59,999
<input type="checkbox"/> \$10,000 - \$19,999	<input type="checkbox"/> \$60,000 - \$74,999
<input type="checkbox"/> \$20,000 - \$29,999	<input type="checkbox"/> \$75,000 - \$99,999
<input type="checkbox"/> \$30,000 - \$39,999	<input type="checkbox"/> \$100,000 - \$124,999
<input type="checkbox"/> \$40,000 - \$49,999	<input type="checkbox"/> \$125,000 or more

Please continue to the next page →

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28. What is the highest level of education you have completed? *Please check only one.*

<input type="checkbox"/> Less than 9 th grade	<input type="checkbox"/> Associate/2-year college degree
<input type="checkbox"/> 9 th through 12 th grade, no diploma	<input type="checkbox"/> Bachelor/4-year college degree
<input type="checkbox"/> High school diploma or GED	<input type="checkbox"/> Graduate or professional degree
<input type="checkbox"/> Some college, no degree	

29. What is your marital status?

Single

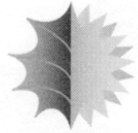
Married

30. If you have any other comments, please write them below.

Thank you for your time. Your participation is greatly appreciated. Please fold the survey and return it to us in the enclosed postage-paid envelope.

All responses are completely anonymous. We have no way of identifying the responses with your name. If you have any concerns about this survey, please call toll-free on (888) 860-6536, or send electronic mail to survey@drintl.com.

Survey Cover Letter



D&R
INTERNATIONAL

1300 Spring Street
Suite 500
Silver Spring, MD 20910

April 15, 1998

Dear Sir or Madam:

I am writing to request your help with an important research project. I represent D&R International, Ltd., an independent consulting firm. We have been contracted to conduct a survey on behalf of Pacific Northwest National Laboratory, a Federally sponsored research institution. The purpose of this survey is to learn how consumers like yourself make major appliance buying decisions.

Your name was selected randomly from households in certain areas around the country to participate in this study. Enclosed you will find a short questionnaire. Please take a few minutes to complete it and return it to us in the postage-paid envelope. The results of this survey will be used to better understand what difficulties exist to introducing new technologies to the mainstream appliance market, and eventually help speed the development of new and better products. Even if you have never bought a major appliance, please read and respond to the survey anyway - your input will be invaluable to us.

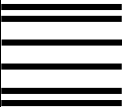
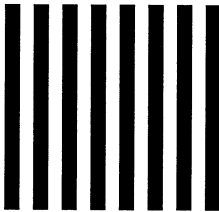
We do not sell products. We will not attempt to contact you by telephone, and your responses will be completely anonymous. We have no way to identify individual responses with the participants of this survey. If you have any concerns about this survey, please call me directly on (888) 860-6536. This is a toll-free call. You may also contact me through electronic mail at survey@drintl.com.

Sincerely,

James Treworgy
D&R International, Ltd.


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SILVER SPRING MD 20997-1042



Appendix E: Raw Tabulations

The following section contains the raw results from the survey. There are four sections:

- All Tabulations (Unweighted)
- All Tabulations (Weighted)
- ENERGY STAR purchasers only
- Non-ENERGY STAR purchasers only

The second section contains confidence intervals at 90% confidence for the responses to each question. Certain questions, such as demographics, were not weighted, since they are most interesting in how they distinguish the respondents from the qualified versus non-qualified strata.