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The Market for Energy Efficient Electronics: Pre- Program findings on consumer perceptions and retail shelf stocking practices

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FINAL REPORT

Prepared for:

NORTHWEST ENERGY EFFICIENCY ALLIANCE

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E.1 Executive Summary

E.1.1 Program History

Over the past decade, the Northwest Energy Efficiency Alliance (NEEA) has developed a successful retail and upstream infrastructure for energy-efficient lighting and clothes washers. Based on its success in driving market share and customer demand for those products, NEEA proposed expanding its consumer products platform to all electric products that affect load as part of its residential 2010-2014 business plan. NEEA selected televisions as the first market under this initiative.

In early 2009 NEEA was asked to participate in an initiative led by a consortium of California utilities administering an upstream program for electronics. Involvement and collaboration with this consumer electronics program gave NEEA more voice in efficient television product selection, and a jump-start on developing its own program for the Northwest.

E.1.2 Market Assessment Findings

The purpose of this study was to provide NEEA with a preliminary market assessment of high-efficiency consumer electronics (specifically TVs and desktop computers) in the Northwest. NEEA is currently assessing the baseline for televisions and computers and monitors prior to the launch of the program through an independent contractor and will release this information separately upon completion. All data collection activities outlined in this report were conducted by Opinion Dynamics prior to NEEA's program launch, as follows:

- In-store research – April-May 2009, prior to any changes occurring in the stores
- Consumer survey data – early June 2009, just prior to program launch

E.1.3 Televisions

The TV market in the Northwest is likely to experience a transformation as residents increasingly replace old cathode ray tube (CRT) TVs with new digital technologies that draw more energy. About one-quarter (28%) of consumer respondents surveyed for this study are in the market for a new TV by the end of 2010, the majority of whom plan to purchase at big box retail stores.

At the time of this study (April/May 2009), baseline shelf data indicated that consumers have ample opportunity to purchase an ENERGY STAR TV in-store, given that such units take up more than half the shelf space (59%). However, only about 20% of TVs on the shelf were ENERGY STAR+30%, the level promoted by NEEA.

Consumer demand for high-efficiency TVs (i.e. TVs that exceed ENERGY STAR standards) is unlikely to occur without program interventions. This research demonstrated that energy efficiency takes a back seat to the top purchase considerations of size, price, and resolution. Moreover, while 61% of TV models shown to researcher mystery shoppers by sales associates

in-store were ENERGY STAR, only 17% of sales associates mentioned energy efficiency as a characteristic of a good TV, and only 13% mentioned ENERGY STAR without prompting.

E.1.4 Computers

Eight in ten respondents in the consumer electronics survey owned at least one computer; some owned both laptops and desktops. Current desktop owners' intended purchase locations for new desktop computers were distributed across a wide range of both brick-and-mortar stores and online retailers.

One-third of respondents indicated they have purchased an ENERGY STAR desktop or monitor in the past. Energy efficiency was a distant fourth-place desktop purchase consideration, behind the top considerations of memory, processor speed, and price.

Fewer than half the desktop computer products shown by sales associates to researchers in the in-store mystery shop were ENERGY STAR. Less than 10% of sales associates mentioned energy efficiency as an important feature of a good computer, and only 4% mentioned ENERGY STAR unprompted.

Baseline sales data for computers was not available at the time of this report.

E.1.4 Conclusions

Northwest residents will use more energy as they convert to new digital TV technologies.

Respondents indicated owning fewer TVs than the national average, and nearly half of their primary TVs are cathode ray tubes (CRTs). However, as Northwest residents replace their old TVs with digital technologies with higher energy draws, the Northwest's power draw for TVs will likely increase.

Northwest residents will look to retailers for information on new TVs. Respondents planned to research their TV purchases using information from retailers (in-store browsing, retailer web site browsing, and advice from sales associates) rather than from manufacturers. The majority of respondents would be most likely to purchase new TVs at brick-and-mortar retailers, primarily at big box stores.

Northwest residents can choose from an array of ENERGY STAR TV models in-store with NEEA-qualified models representing a smaller share. Over half the TV models on the shelf met ENERGY STAR standards (59%). Currently, NEEA-qualified models represent a smaller share (20%). However, as ENERGY STAR specifications change in 2010 and standards become more stringent, the percentage of ENERGY STAR models on the shelf might decrease, thus affecting residents' likelihood of purchasing ENERGY STAR TVs.

Northwest residents are receptive to considering energy efficiency, but need to be reminded of its benefits. Energy efficiency takes a back seat to top TV purchase considerations such as price,

size, and resolution. However, residents understand the benefits of energy efficiency and are even willing to pay slightly more for an energy-efficient model.

Current desktop owners plan to purchase desktop computers from a variety of locations. Respondents' purchase location intent was more diversified for computers than for TVs. Respondents indicated they intended to purchase at both in-store and online retail venues.

Northwest residents are unlikely to be reminded in-store of energy-efficient purchase options for TVs or computers. Sales associates showed ENERGY STAR models to mystery-shopping researchers, but they less-frequently mentioned energy efficiency or ENERGY STAR in the course of their sales process. Many sales associates were also unable to adequately define ENERGY STAR or to locate an ENERGY STAR model on the shelf. The situation is more pronounced for desktop computer products than for TVs.

Receptivity to energy-efficient considerations differs by region. Respondents from areas west of the Cascades (Metro West) were the most receptive to energy efficiency considerations and appeared most likely to pay attention to their energy use. Non-Metro residents were also more attentive to energy efficiency considerations than were Metro East residents.

E.1.5 Recommendations

Increase awareness of energy efficiency with more signage at the point of purchase. Energy efficiency can become an important factor in customers' purchase decisions for TV and desktop computer when their primary purchase considerations (such as price, screen size, and memory) are already met. However, they need to be reminded about energy efficiency at point of purchase.

Institute program messaging where consumers buy products. For TVs, marketing energy efficiency should take place primarily at big box retail stores. For computers, messaging will require the use of multiple channels, including online retailers and manufacturers.

Market energy efficiency in terms of long-term monetary savings. Because price was one of the top features discussed by sales associates and considered by consumers, in-store promotions on the monetary benefits of energy-efficient purchases may aid in alleviating price premium discomfort for energy-efficient products.

Consider training sales associates on ENERGY STAR. Ideally, sales associates should be able to easily identify ENERGY STAR products, since they are clearly marked with labels and, in the case of TVs, take up more than half of the product shelf space. In addition, trained sales associates could promote ENERGY STAR, energy efficiency and their benefits to all customers, not just those who ask about them.

Reassess the market frequently (every year) to address fast-changing markets and yearly product cycles. This report does not include a sales baseline for 2009. However, a third-party contractor will provide an independent baseline which will be made available at a later date.

1. Introduction

This report serves as a pre-program assessment for the Consumer Electronics Initiative being implemented by the Northwest Energy Efficiency Alliance (NEEA), for the baseline period January 1 through March 31, 2009. This period reflects the market prior to the launch of the program in the second quarter of 2009.

The objectives of this report are to establish baselines for NEEA's Consumer Electronics Initiative in the Northwest (defined in this report as the four states of Washington, Oregon, Idaho and Montana) for:

- Consumer awareness, attitudes, and demands for energy-efficient consumer electronics.
- Retail stores' stocking and promotion practices for ENERGY STAR consumer electronics.
- Sales associates' awareness, knowledge, and promotion of ENERGY STAR consumer electronics.

These findings will provide those implementing the program with insights to further develop the Consumer Electronics Initiative.

The Consumer Electronics Initiative's objectives for 2009, as listed in NEEA's Consumer Electronics Opportunity Prospectus, are:

- To achieve 1 aMW savings with TVs.
- To establish a baseline in the Northwest for market share and cost effectiveness for TVs and computer monitors. Note: a third-party contractor will provide an independent baseline which will be made available at a later date.
- To pilot a platform that influences product selection and stocking, and eventually the manufacture of energy-efficient products.
- To bring the Northwest together as a significant and influential "buying block."
- To gain learnings to inform the creation of a larger platform for key plug load products, including white goods and lighting, in the 2010-2014 funding cycle.
- To launch by second quarter 2009.

The complete prospectus is available at the end of this report as Appendix H. It includes full descriptions of the program background, description and rationale summarized below.

1.1. Consumer Electronics Initiative Description

Background: Roughly a decade ago, NEEA developed a network of retailers and manufacturers which enabled it to obtain compact fluorescent light bulbs (CFLs) and above-ENERGY STAR energy-efficient clothes washers at retail. NEEA collaborated with Northwest utilities and public

benefit administrators to drive consumer demand and market share for those products at a pace exceeding that of the rest of the country.

In its residential 2010-2014 business plan, NEEA proposed to extend this consumer product platform to all electric-powered products that affect load, starting with the electronics sector. NEEA identified influence in the retail channel as key to driving energy-efficient products' availability and promotion, and NEEA intends to address this channel as well as work with manufacturers on energy efficiency initiatives.

At the same time, NEEA was asked to review a program being developed by California utilities similar to the one that it proposes for the Northwest.

Program description: NEEA's program is based on the California utility program. Pacific Gas and Electric Company (PG&E) piloted the California Consumer Electronics Program in 2008 and is expanding on its success with other California utilities joining the consortium. It is contracting directly with major manufacturers and retailers to deliver upstream/midstream incentives for energy-efficient consumer electronics.

Program rationale: Electronics/plug load constitute the fastest-growing end-use in the nation, but potential energy savings are hindered by several factors. Experience has shown, however, that an upstream model is a powerful tool in changing markets, more so than small consumer rebates for electronics.

Launch of a small-scale electronics program in 2009 established a base for expanding the platform in subsequent years. NEEA's collaboration with California utilities and Northeast Energy Efficiency Partnerships (NEEP) to expand the program to other product categories allowed more efficient, effective transformation of the market. By getting involved in 2009, NEEA could have greater influence on products commencing in 2010, exercise more influence on the program and eventually get ahead in terms of starting its own Northwest program.

Implementation: NEEA's role would be to administer the four main functions of this project:

- Governance/coordination function - with partners, NW utilities, as well as CEE and ENERGY STAR.
- Local implementation function – POP, training, and detailing stores.
- Data collection/reporting.
- Strategy development/new product roadmap to layout a path for future years.

In addition, NEEA would meet regularly with all partners, coordinate efforts with participating utilities in the Northwest, and represent the Northwest utilities on the Northwest Power and Conservation Council to ensure that Northwest interests are incorporated into the initiative.

2. Evaluation Activities

The objective of this market assessment report is to provide pre-program findings for the Northwest (defined in this report as the four states of Washington, Oregon, Idaho and Montana) with regards to:

- Consumer awareness, attitudes, and demands for energy-efficient consumer electronics
- Retail stores' stocking and promotion practices for ENERGY STAR consumer electronics
- Sales associates' awareness, knowledge, and promotion of ENERGY STAR consumer electronics

In order to meet these objectives, NEEA contracted with Opinion Dynamics Corporation to conduct a high-efficiency consumer electronics pre-program study. This study includes findings from a consumer electronics survey, an in-store mystery shopping exercise, and an in-store shelf assessment. This report provides findings on the Northwest consumer electronics market, including the market actors, retail, and customers' awareness of and attitudes toward energy-efficient consumer products.

Table 2-1 below outlines the studies conducted for the Consumer Electronics Program.

Table 2-1 Consumer Electronics Market Research Studies and Evaluations

Project Year	Project Name	Study	Author	Publish Date
2009	High Efficiency Consumer Electronics	Pre-Program Findings on consumer perceptions & retail shelf stocking practices	Opinion Dynamics Corporation	October 2010
2009	California Statewide Business and Consumer Electronics	Business and Consumer Electronics Program Baseline Study	Opinion Dynamics Corporation	December 2009
2009	SCE Plug Load	SCE Plug Load Market Characterization Study	Research Into Action	December 2009

Table 2-2 provides an overview of the data collection activities conducted (including the metrics used) and anticipated data collection tasks for future market progress evaluation reports. A detailed list of these metrics is included in Appendix B.

Table 2-2 Summary of Consumer Electronics Market Baseline and Evaluation Data Collection Activities

	Market Assessment (2009)	MPER2 (2011)	MPER3 (2012)	MPER4 (2013)
Market Characterization		√	√	√
Consumer Electronics Survey	√	√		√
Mystery Shopper	√	√	√	√
Point of Purchase Shelf Analysis	√	√	√	√
Interviews with Manufacturers and Retailers		√	√	√

3. Consumer Electronics Market Characterization

3.1. Overview

The NEEA program seeks to transform the consumer electronics market — specifically the TV and computer markets. Research on the functions of this market, including its operation, primary delivery channels, roles of key players in the market, and market trends is currently being collected by several California utilities. This information is also relevant to the Northwest, as much of the information is national. As such, the findings below draw on secondary market research to help inform the Northwest efforts. The information in Section 3.2 summarizes the market characterization compiled as part of the recent Business and Consumer Electronics Baseline Study for Pacific Gas and Electric Company.

3.2. Findings

In general, the business-to-consumer (B2C) electronics market consists of original equipment manufacturers (OEMs) which supply models directly to consumers through big box retailers, buyers' groups, and online-only retailers. However, supply channels differ among electronics products. In the TV market, OEMs generally do not interact directly with consumers, while in the computer market, leading brands such as Dell and Apple often sell directly to consumers, although the majority of models are sold through retail channels.

Retailers dominate the B2C market, with category buyers as the key actors. The buyers determine store product selection for large territories, often for the entire U.S. or North American market. The buyers determine key product features through discussions with OEM brand managers. Because TV sales occur mostly in-store and computer sales often take place online, retail buyers have greater influence over the consumer TV marketplace.

The importance of energy efficiency among market actors such as retailers and OEMs is increasing in the B2C market. New government standards and voluntary energy efficiency programs targeting the industry have led to rapid changes. Although energy efficiency currently ranks low among retail buyers' purchase considerations, they have started to see energy efficiency as a valuable differentiating feature.

While NEEA's efforts currently focus on consumers, the business-to-business (B2B) market for computers may prove a worthwhile future pursuit. In this market, many OEMs work directly with businesses and sell units in large volumes; however, OEMs also use distributors and value-added resellers (VARs) to move products. Distributors primarily act as middlemen for large customers, while VARs serve as distributors and consultants for small and medium-sized businesses.

The B2B market features several key actors, but is ultimately driven by its end-users: medium to large businesses that require unique product specifications, and thus influence the market. Product and category managers drive feature development to meet these end-users' demands.

Distributors and VARs customize solutions for large-volume customers, resulting in greatly varied model configurations.

Energy efficiency is a second-tier feature in the B2B market as well as in the B2C market, but it is becoming a more prominent differentiating point and helps to promulgate greener corporate images among both manufacturers and end-users.

Consumer electronics is a fast-moving market. TV developments for the subsequent model year begin in late spring, with orders placed in the fall and new products arriving on shelves in the first quarter (February) of each year. Computer cycles vary slightly, but generally follow the school-year cycle, so that new products arrive on shelves during back-to-school season. While these markets are ripe for transformation, they require periodic assessments to determine both the effects of program interventions and progress toward a transformed market.

4. Television Findings

4.1. Consumer Electronics Survey

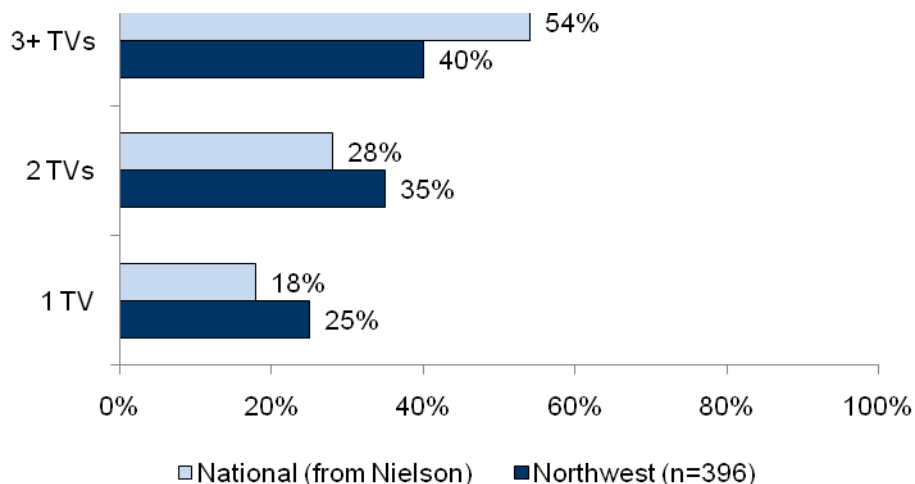
4.1.1 Overview

In order to elicit feedback from consumers in the target geographical area, Opinion Dynamics conducted 402 random-digit-dial telephone interviews with Northwest residents 18 years and older from June 1-18, 2009. Quota groups based on geographic sub-regions, owners vs. renters, age, and household income ensured a representative sample population. The number of completes by area, demographics of survey respondents, and comparisons of survey respondent demographics with census figures are shown in Appendix 0.

4.1.2 Television Ownership Profile

Based on data from the consumer electronics survey and The Nielsen Company, Northwest residents own fewer TVs per capita than the national average. Figure 4-1 shows that the majority (60%) of survey respondents had one or two TVs, with the remaining 40% owning three or more. In contrast, an estimated 46% of residents nationwide have one or two TVs and 54% own three or more. Note that both nationwide and in the Northwest, 2% of households do not have a TV.

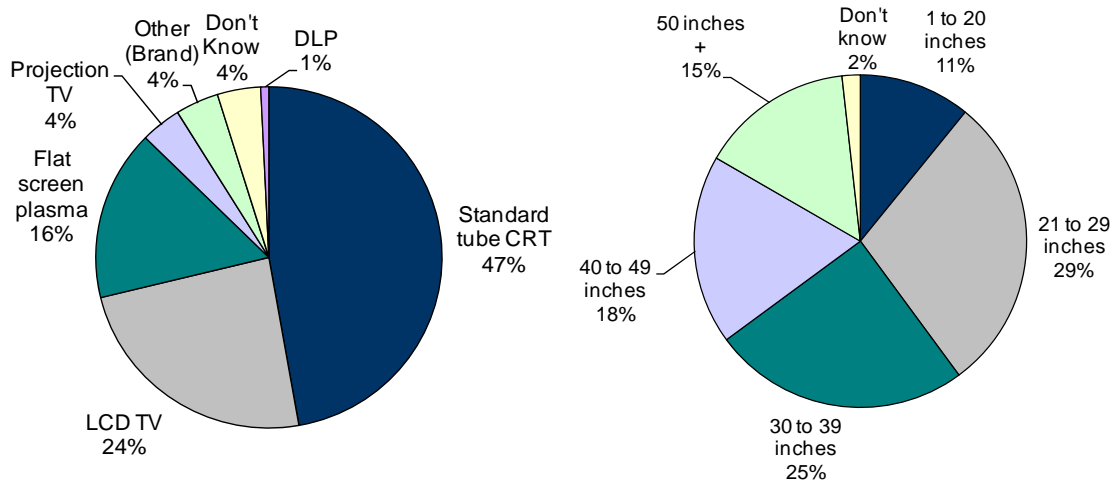
Figure 4-1 Household TV Ownership: Northwest Region vs. National¹
Of those with TVs



¹ National estimates drawn from the following source: The Nielsen Company. Universe Estimates of TV Ownership, Jan. 1, 2009. Northwest numbers drawn from the NEEA consumer electronics survey.

Nearly half (47%) of the Northwest respondents indicated that the primary TV in their households is a cathode ray tube (CRT).

Figure 4-2 Type and Size of Primary TV (n=396)



QTV1: What type of TV is it? (Descriptions provided)
 QTV2: Approximately how large is the TV? (Pre-coded into open ends)

Northwest residents' energy draw for TVs is likely to rise as digital TVs become the primary TVs on the market. Table 4-1 shows that although liquid crystal display (LCD) TVs' active draw is lower, their elevated energy draw in the "off" mode renders them higher overall energy users than CRT TVs.

Table 4-1 Average Energy Draw by TV Type ²

Type	Active Draw ^a (kWh/year)	Overall Draw (kWh/year)
Cathode Ray Tube (CRT)	216	244
Liquid Crystal Display (LCD)	192	256
Plasma	532	679
Digital Light Processing (DLP)	311	444

^a "Active Draw" refers to the amount of energy used by a TV when it is turned on. "Overall Draw" refers to the total amount of energy used by a TV when it is plugged in.

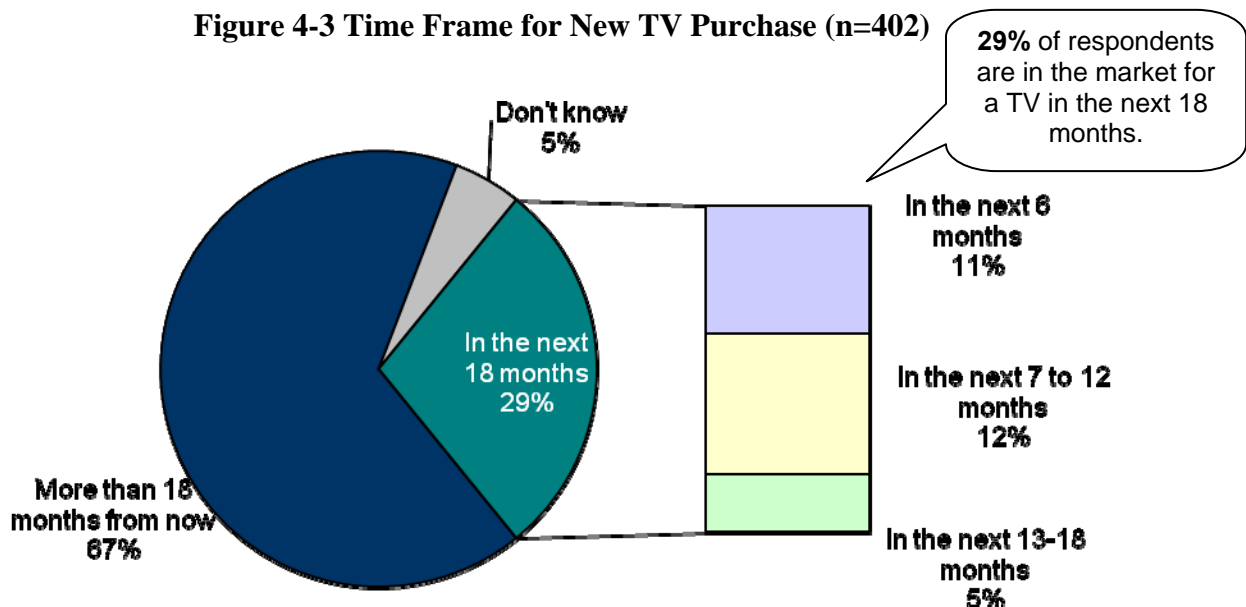
Source: "Overview of the ENERGY STAR® TV Specification Revision," Katharine Kaplan Osdoba, US EPA ENERGY STAR Program.

² ENERGY STAR 3.0 sets the maximum standby draw at 1.0 watts per unit; standby draw numbers by TV type are not readily available.

The increasing prevalence of LCD and other digital TVs on the market means that Northwest residents whose primary TVs are currently CRTs will likely be replacing them with digital models in future TV purchases. Thus, their overall energy draw will increase.

4.1.3 Television Shopping and Purchasing

About three in ten respondents (29%) plan to purchase a new TV in the next 18 months. While 14% of those near-term TV purchasers will be adding a TV to their households, the vast majority (86%) reported that their new TV purchase will replace an old TV;³ nearly all of those currently using a CRT as their primary TV (93%) plan to replace an old TV with their next TV purchase.



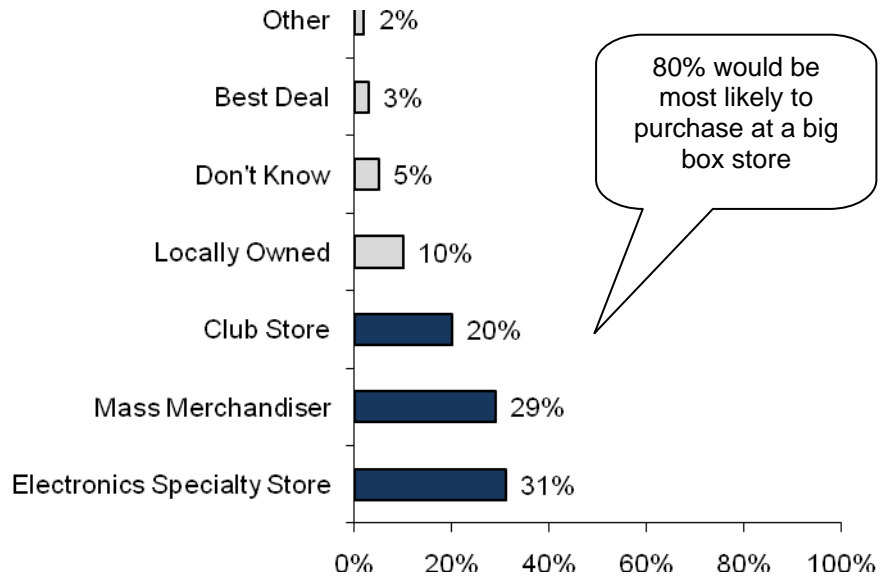
QIP1: When do you think you are MOST LIKELY to purchase a new TV?

The survey findings indicated that most individuals in the market for a new TV in the next 18 months (n=115) will purchase at retail stores (91%), and big box stores in particular (80%) (Figure 4-4).⁴

³ Of the respondents who will be replacing a TV, 40% will recycle the old one, 37% will sell or give it away, and 12% will throw it out.

⁴ Only 10 respondents would purchase online; of those, six indicated that they would purchase their TVs from an online-only store, such as Amazon.

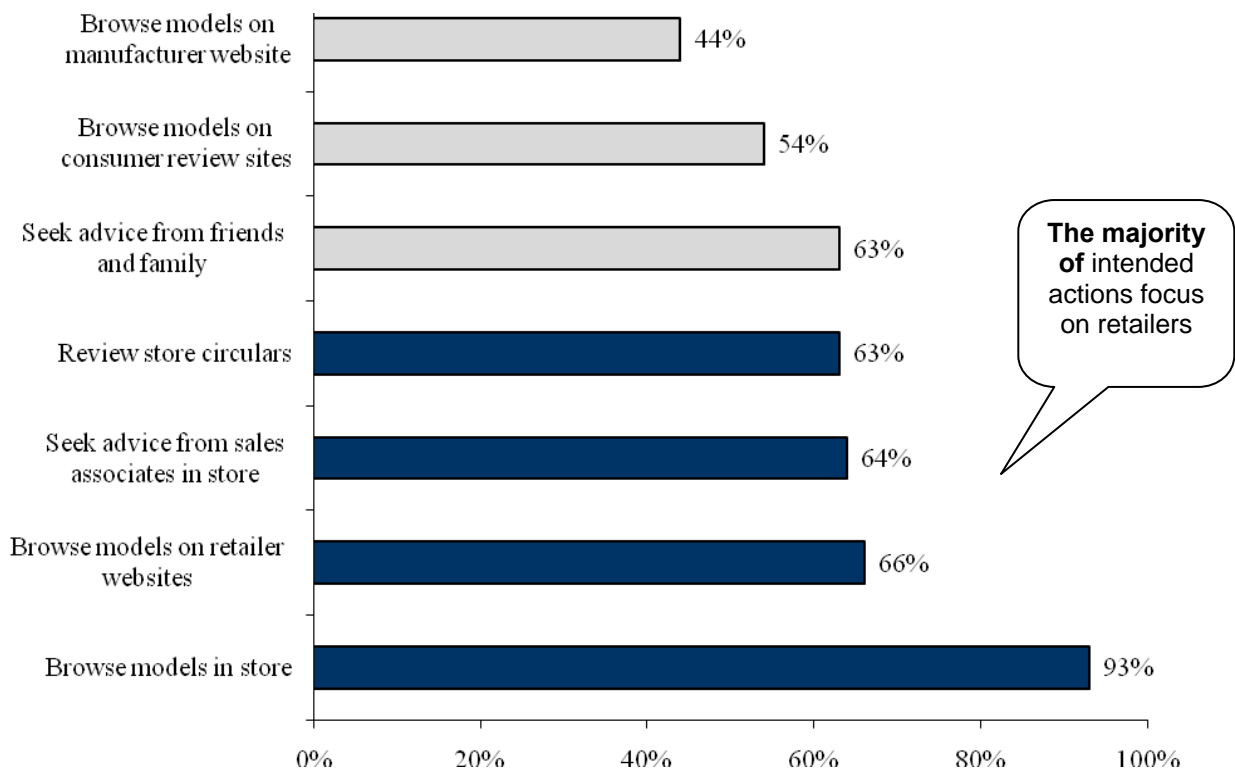
Figure 4-4 Type of Store at which Most Likely to Purchase TV (In the Market, n=109)



QPL3: Which of the following best describes the type of store where you are likely to purchase this TV?
(In the survey, the example of an electronics specialty store was Best Buy.)

Those in the TV market in the next 18 months said they would research their new TV purchases in a number of ways (Figure 4-5), with most of the focus on information from retailers rather than TV manufacturers.

Figure 4-5 Consumer Actions Taken Before Purchasing Electronics (n=115)



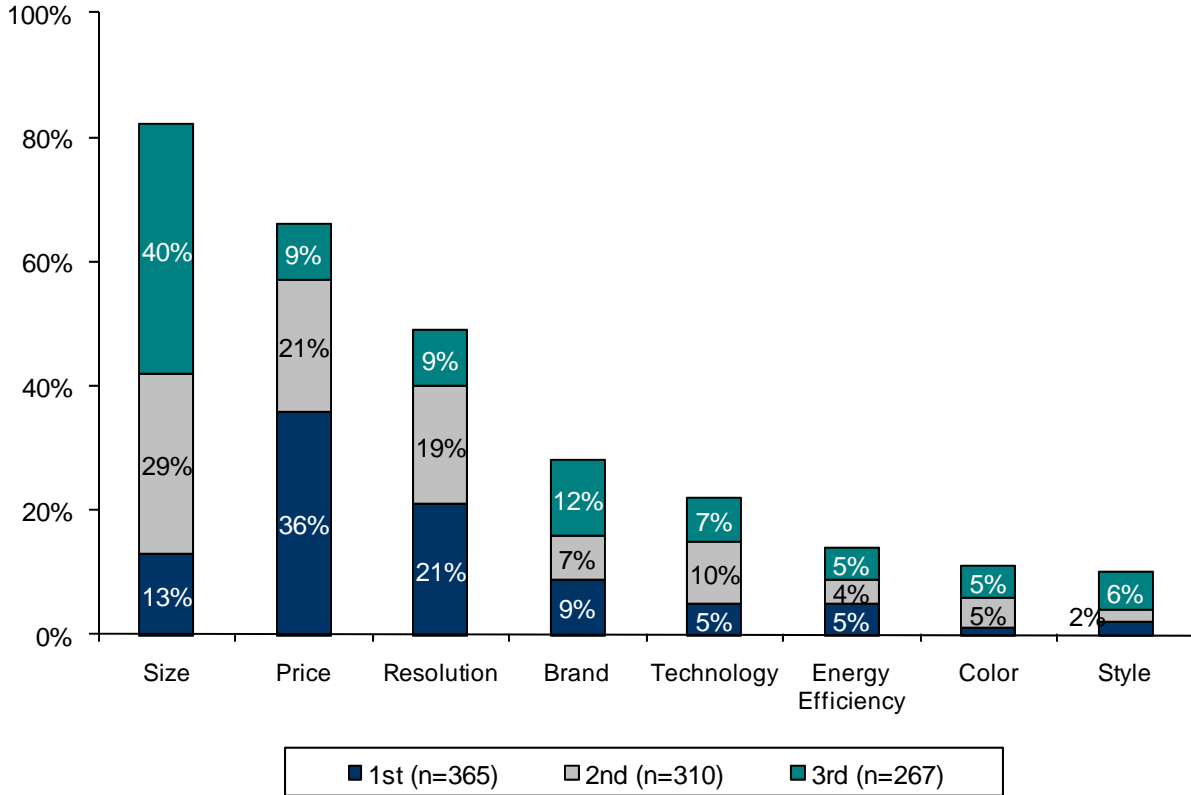
QPL1: Before purchasing your TV, are you likely to do any of the following?
(Aided; multiple responses allowed)

4.1.5 Television Energy Efficiency

One in five respondents (22%) indicated they had previously purchased an ENERGY STAR TV; however, only 11% of respondents mentioned energy efficiency as an unaided top-three purchase consideration. (Figure 4-6 shows the overall importance of factors for purchasing a TV; note that the percentages in the figure do not add up to the total percentages (i.e. the 11% mentioned above) because not everyone gave three responses - the n is different for total, 1st, 2nd, and 3rd.) However, when those who didn't mention energy efficiency unaided were asked whether they would consider energy usage in their TV purchase decision, an additional 54% said they would do so, for a total of 65%.

Of those who said they would not consider energy usage when purchasing a TV, the majority (61%) said they had not thought about it or that it was not important. Other reasons for not considering energy use included perceptions that all TVs use the same energy/all are energy-efficient (10%); limited usage of the TV (7%); and not being responsible for paying the electricity bill (6%).

Figure 4-6 Purchase Consideration Hierarchy for TVs

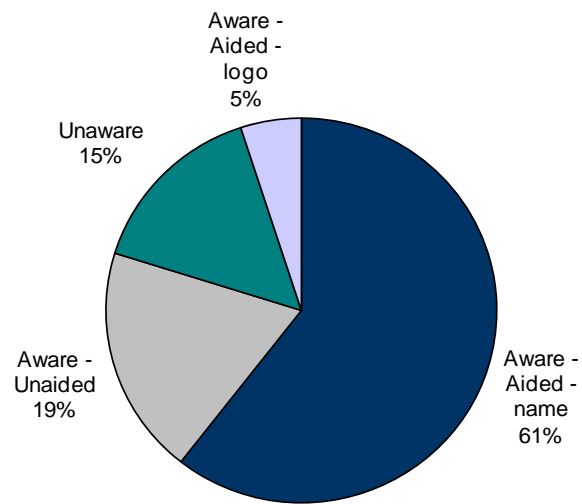


QPD1-QPD1b: Now, please think about the factors involved in the purchase of a TV. What would be your top three considerations when selecting a new TV? Which is the most important? Which is the second most important?

Note: These percentages don't add up to the total percentages for QPD1 because not everyone gave 3 responses, i.e. the n is different for total, 1st, 2nd, and 3rd.)

When asked to identify certifications or labels associated with TVs, only 19% of respondents mentioned ENERGY STAR unaided (Figure 4-7). However, when asked directly about ENERGY STAR, additional respondents were familiar with either the name (61%) or the logo (5%), for a total overall awareness level of 85%.

Figure 4-7 Awareness of ENERGY STAR for TVs (n=402)

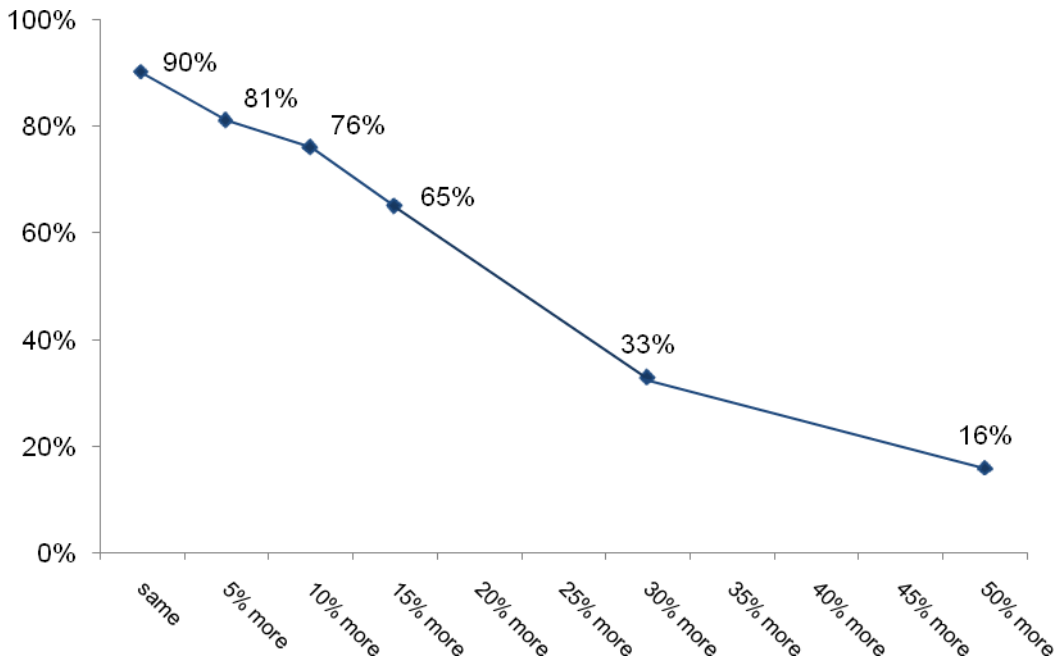


QES1, 1a: Are you aware of any certifications or labels available for TVs? Which ones are you aware of? (ENERGY STAR = aware – unaided); QES2: Have you heard of or seen the ENERGY STAR label? (YES = aware – aided – name); QES3a: The ENERGY STAR label is a blue and white label with the word “energy” followed by a five-pointed star...Before this description, how familiar were you with the ENERGY STAR label? (VERY, SOMEWHAT, or SLIGHTLY = aware – aided – logo) (NOT AT ALL FAMILIAR = unaware)

Respondents generally agreed that energy-efficient TVs are good for the environment; that they perform as well as or better than standard TVs; and that they are less expensive in the long run (see Table D-5 in Appendix 0). In addition, respondents tended to disagree with the statement that “energy-efficient TVs are less expensive up-front.”

Nearly two-thirds (65%) of respondents would be willing to purchase an energy-efficient TV if the cost were no more than 15% higher than that of a similar standard TV (see Figure 4-8).

Figure 4-8 Price Premium Willing to Pay for Energy-Efficient TVs (n=402)



QFP2: If you had a choice between two similar TVs, one high energy efficiency and one standard efficiency, and both cost the same, which one would you purchase?;
 QFP5: Would you be willing to purchase an energy-efficient TV if the cost was...

Note: This chart comes from questions with different n's (because respondents were not asked about lower percentage price premiums after they already said yes to a higher percentage. In the chart, all the percentages have been standardized to the total respondents (n=402).

Price may present a barrier to purchasing energy-efficient TVs. Opinion Dynamics measured price as part of its point-of-purchase shelf analysis (which is discussed further in Section 4.2), but found no conclusive differences by energy specification group. While energy efficiency is a factor in pricing, other considerations such as TV type, screen size, brand, resolution, and features play more sizeable roles, and some of those variables were outside the scope of the data collection.

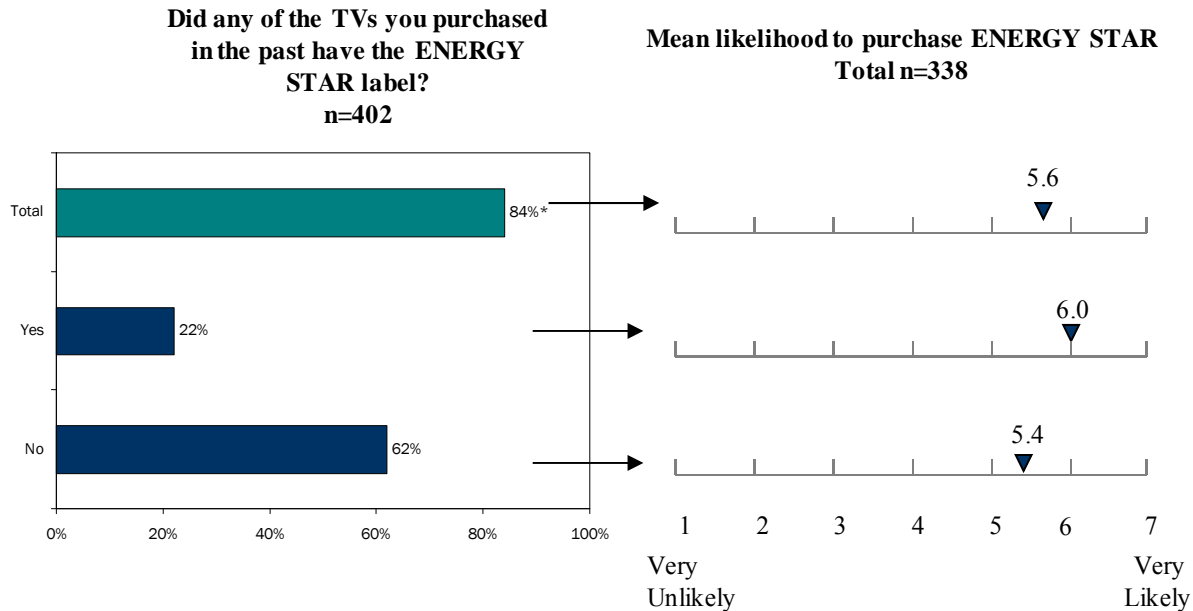
Table 4-2 presents TV prices controlled for type and size (LCD TVs of a screen size 40-50 inches diagonal). Table Error! **No text of specified style in document.**-1 in Appendix D shows price differences by energy efficiency level with no controls for other variables.

Table 4-2 Point-of-Purchase Price by Efficiency Level (LCD TVs, 40-50 in. screen size) (n=559)

Price	ENERGY STAR	ENERGY STAR + 15%	ENERGY STAR + 30%	Not ENERGY STAR
Mean	\$1,217.41	\$1,330.35	\$1,356.43	\$1,310.70
Median	\$1,000.00	\$1,300.00	\$1,100.00	\$1,185.00
Lowest	\$798.00	\$500.00	\$679.00	\$600.00
Highest	\$4,000.00	\$3,060.00	\$2,799.00	\$2,700.00

Respondents who had previously purchased ENERGY STAR TVs were significantly more likely to plan to purchase them again in the future (Figure 4-9). No significant differences existed for purchase likelihood based on awareness of ENERGY STAR.

Figure 4-9 Likelihood to Purchase ENERGY STAR (Mean) Based on Past Purchase



QESP1: As far as you know, did any of the TVs that you purchased in the past have the ENERGY STAR label?; QFP1: On a scale of 1 to 7, with 1 being very unlikely and 7 being very likely, the next time you make a TV purchase, how likely are you to purchase an ENERGY STAR TV?

*16% of respondents selected “don’t know” as a response and are not shown in this table.

4.2. In-Store Television Shelf Assessment

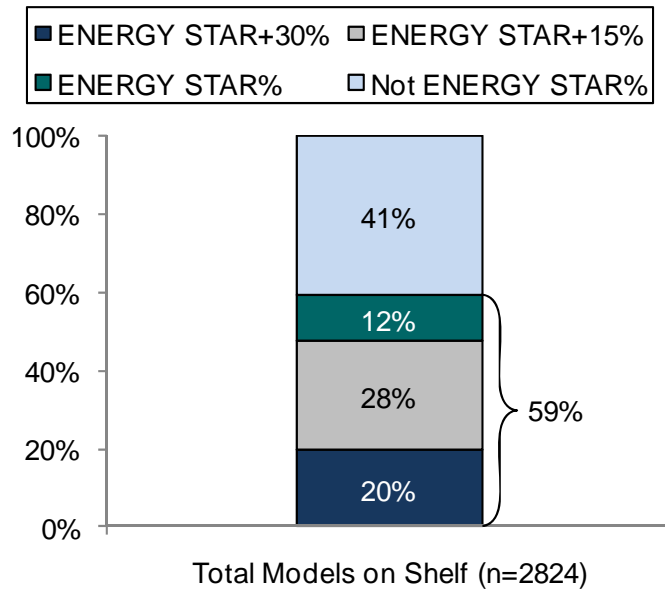
4.2.1 Overview

Opinion Dynamics sent researchers into 69 TV retailers in Washington, Oregon, Idaho, and Montana during April and May 2009 (see Appendix C for sampling plan). Researchers counted the total number of models and the number of ENERGY STAR models on the shelves, and recorded the brands, model numbers, and promotions for all ENERGY STAR models. Sample statistics for the point-of-purchase shelf assessment are provided in Appendix C.

4.2.2 Findings

The shelf data show that across all retailers, 59% of models on the shelf were ENERGY STAR (Figure 4-10), and 20% of models on the shelf met NEEA’s standards. Figure D-6 in Appendix 0 shows that a larger percentage of LCD TVs than digital light processing (DLP) or plasma TVs met NEEA’s standards. In addition, D-7 shows that electronics specialty stores stock more of their shelf space with NEEA-qualified models than do mass merchandise stores.

Figure 4-10 Proportions of ENERGY STAR Models on Shelf



Q2: Please indicate how many models you saw for each type – total ENERGY STAR, total Energy Efficient Shown (not ES+30% or ES)

4.3. In-Store Television Mystery Shopping

4.3.1 Overview

Anonymous Opinion Dynamics mystery shoppers (researchers) asked sales associates in each store to show them a minimum of nine different TV models, three of each of the following: LCD, plasma, and DLP.

To determine if the sales associates were voluntarily promoting energy efficiency, researchers asked them which models they would recommend and which features are most important in a TV. In addition, researchers recorded how many of the models shown to them were ENERGY STAR. Finally, after prompting on ENERGY STAR, researchers assessed sales associates' ability to locate energy-efficient TVs; knowledge of ENERGY STAR; and their ability to cite the benefits of energy efficiency.

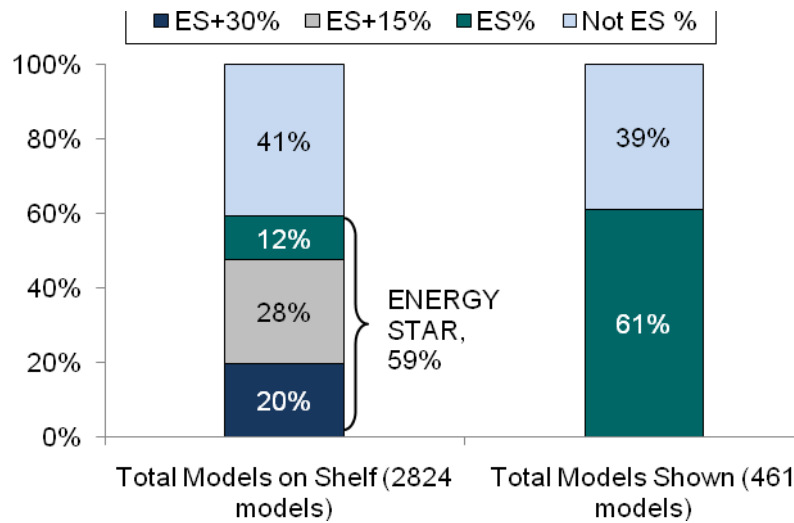
Researchers recorded their results outside of the store at the conclusion of each mystery shop.

Sample statistics for Mystery Shopping are provided in Appendix C.

4.3.2 Findings

Most of the TV models (61%) shown to the researchers were ENERGY STAR (Figure 4-11) – a percentage roughly equal to ENERGY STAR models’ percentage of shelf presence (59%). Nonetheless, only 13% of sales associates addressed ENERGY STAR prior to the researcher mentioning it, and only 17% of sales associates identified energy efficiency as an important feature in a good TV. Sales associates were more likely to mention resolution (57%), price (30%), and type (20%) as important characteristics of a good TV (Table D-8); however, energy efficiency was mentioned roughly as often other traditionally key characteristics such as durability, screen size, and brand.

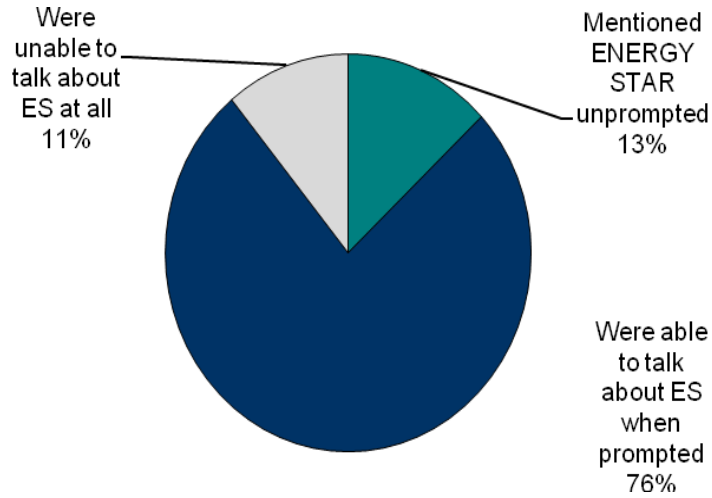
Figure 4-11 Proportions of ENERGY STAR TV Models on Shelf vs. Shown by Associates



Q2: Please indicate how many models you saw for each type – total ENERGY STAR, total Energy Efficient Shown (not ES+30% or ES)

Although 76% of associates were able to talk about ENERGY STAR when prompted (Figure 4-12) and 88% of sales associates had at least some understanding of ENERGY STAR, their level of knowledge varied widely and was not always accurate (Table 4-3). More than one-quarter (28%) of sales associates were unable to answer completely correctly the question “What does ENERGY STAR mean?” and 12% were unable to define or identify ENERGY STAR at all.

Figure 4-12 Number of Sales Associates Able to Discuss ENERGY STAR, Prompted or Unprompted (n=63)



Q4: Did the salesperson bring up Energy Efficiency, ENERGY STAR, or the ES+30% program logo or promotional items without you asking? ENERGY STAR: (Yes/No), and Q7: Please indicate the salesperson's response to your question: What is ENERGY STAR? (Were able to answer/Answered "Don't know")

Table 4-3 Sales Associate Quotes and Knowledge of ENERGY STAR

Category	Example Quotes	Sales Associates (n=68)
Could easily answer "What does ENERGY STAR mean?"	"A rating of energy efficiency for the product. A way of letting a consumer know that the TV is energy-efficient." "Uses less energy."	60%
Could partially answer "What does ENERGY STAR mean?"	"Saves energy?" "Costs less to operate." "ENERGY STAR means it uses less energy; all TV's are [ES] now."	28%
Could not answer "What does ENERGY STAR mean?"	"I don't know but it might be in the manual."	12%

Q6: Please indicate the salesperson's response to your question: What is ENERGY STAR?

Sales associates' ease in finding an energy-efficient TV model was rated an average 4.6 on a 7-point scale by Opinion Dynamics' researchers (Table D-2 in Appendix D). In addition, 13% were unable to find any TVs ("1" on the rating scale) and only 25% were able to find one very easily ("7" on the rating scale).

5. Computer Findings

Opinion Dynamics also examined energy efficiency awareness and perceived importance in the business-to-consumer computer market to aid in program developments for this category.

5.1. Consumer Electronics Survey

5.1.1 Overview

The section of the consumer electronics survey devoted to computers consisted of questions similar to those in the TV section, although many of the questions were duplicated to accommodate both desktop and monitor usage and behaviors.

5.1.2 Findings

About eight in ten (81%) respondents reported owning at least one computer (Figure 5-1). Among those who owned a desktop computer, 34% reported having an ENERGY STAR desktop computer, monitor, or both (Figure 5-2).

Figure 5-1 Computer Ownership (n=402)

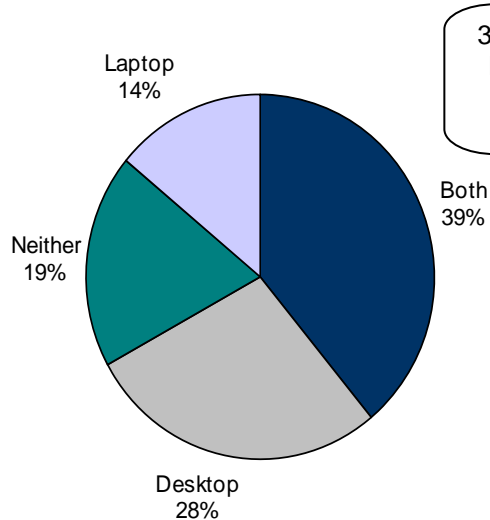
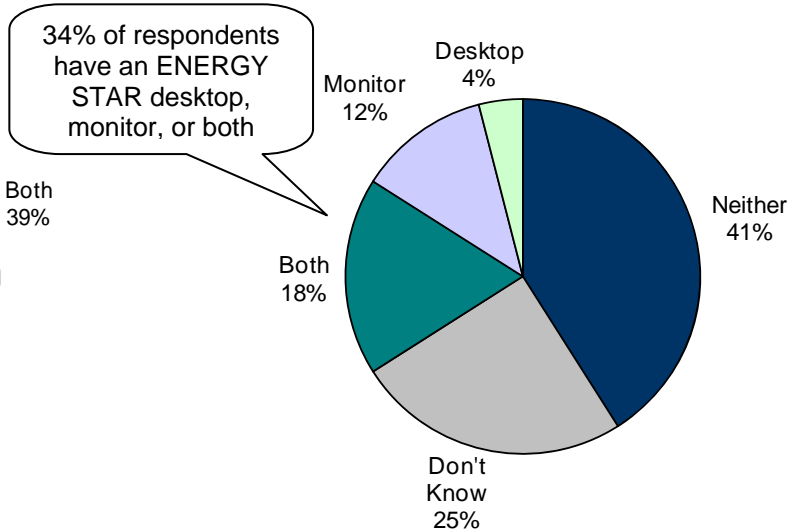


Figure 5-2 ENERGY STAR Desktop Computers and Monitors (n=281)



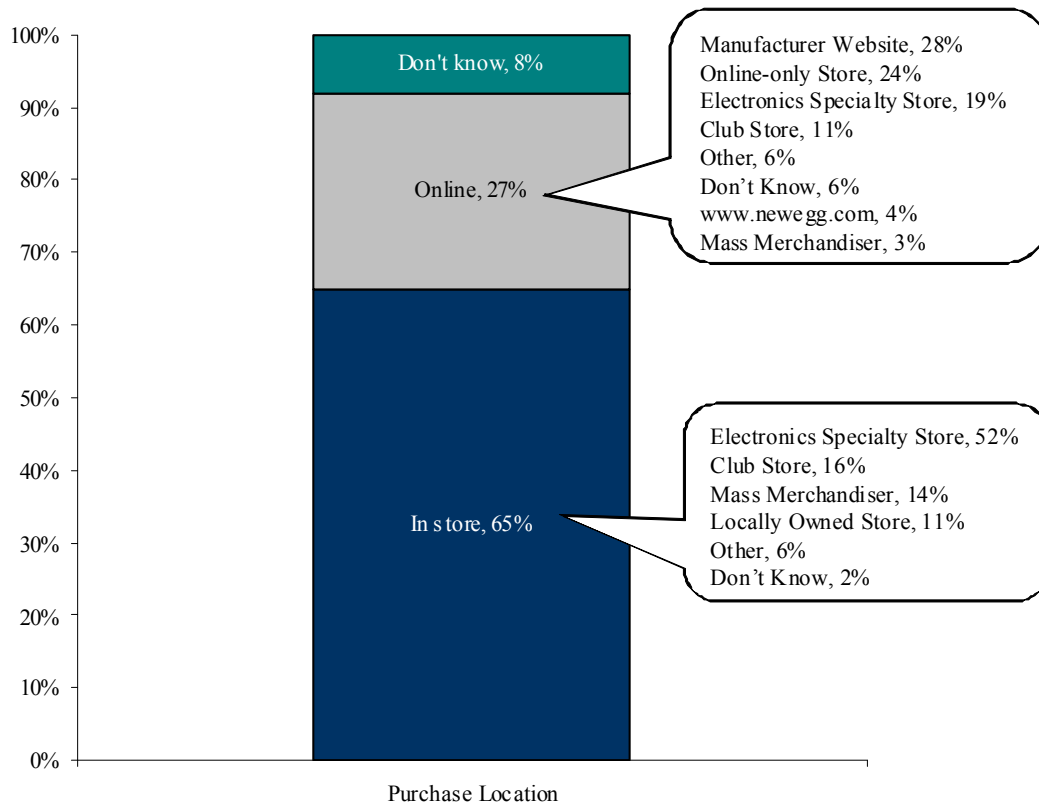
QC1a. How many laptop computers does your household have?

QC1b. How many desktop computers does your household have?

C7: As far as you know, does your desktop computer or monitor have an ENERGY STAR label? Would you say...

Two-thirds of the respondents who own desktops (65%) said they would be most likely to purchase their next desktop CPU or monitor in-store (Figure 5-3); another one in four (27%) would be most likely to make their next desktop CPU/monitor purchase online. The majority of those planning to purchase in-store intend to do so at a big box store (82%), most commonly at electronics specialty stores (52%). Those most likely to purchase online would plan to do so at a variety of sites including manufacturers' web sites (28%), online-only stores (24%), and through the web sites of electronics specialty stores (19%).

Figure 5-3 Most Likely Desktop CPU/Monitor Purchase Location (n=281)



QC8. When purchasing a desktop computer or monitor in the future, are you likely to purchase them in store or online?; QC9. Which of the following best describes the type of store where you are likely to purchase a desktop computer or monitor?; QC10. Which of the following best describes the type of website where you are likely to purchase a desktop computer or monitor?

Notes: Overall n=281 (those who have a desktop computer and/or monitor); questions are not multiple response.

Roughly 60% of current desktop owners mentioned memory, processor speed, and/or price among their top three desktop purchase considerations (Figure D-2 in Appendix 0); seventeen percent mentioned energy efficiency.

Size was the primary purchase consideration for monitors (among top three considerations for 79% of current desktop owners), followed by price (61%) and resolution (55%). Energy

efficiency was a distant fourth-place purchase consideration for monitors (among the top three for 22% of current desktop owners).

5.2. In-Store Computer Shelf Assessment

5.2.1 Overview

Opinion Dynamics sent researchers into 56 computer retailers in Washington, Oregon, Idaho, and Montana during April and May 2009. The researchers took inventory of all models on the store's shelves and recorded the brands and model numbers. Sample statistics for the point-of-purchase shelf assessment are provided in Appendix 0.

5.2.2 Findings

Appendix D outlines the type of in-store computer shelf assessment intended for this study. However, model matching for computers was much more difficult than that observed for TVs; only about 10% of monitors and 1% of computers were able to be matched to ENERGY STAR lists (expected percentages were 75% and 10%, respectively). The following difficulties were encountered:

- The same computer model can be both qualified and not qualified for ENERGY STAR, depending on its specifications (configuration).
- Manufacturers market multiple types of each model, even though they have the same model number. This means they can have the same model number and have significantly different levels of power consumption. For example, a retailer might call a Dell model "1908FP", which has potential matches to: 1908FPb, 1908FPc, 1908FPf, and 1908FPt on the ENERGY STAR list. All these products have differing energy consumption, and only one met ENERGY STAR 4.1+25% standards. This was the case for almost every Dell monitor that did not perfectly match the ENERGY STAR list.
- Monitors and CPUs need to be broken out into their respective units. Combination units do not have a separate ENERGY STAR list, so model matching was not possible for them.

Fixing these issues would require a great deal of time, including line-by-line analysis and painstaking attention to detail. Such steps were not undertaken for this analysis due to time and budget. However, the ENERGY STAR 5.0 list may provide direction for a limited number of models in 2010; it will show all names under which a model is marketed.

5.3. In-Store Computer Mystery Shopping

5.3.1 Overview

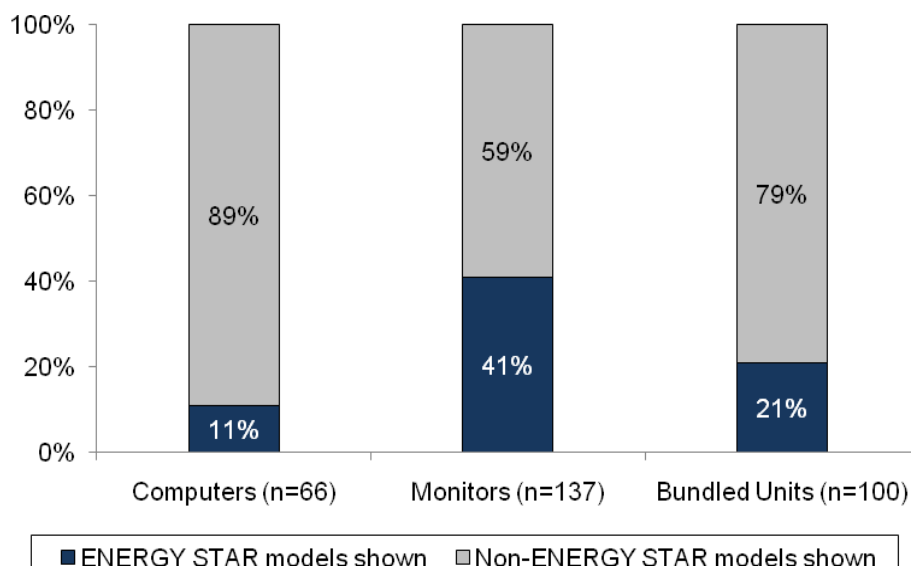
Anonymous Opinion Dynamics mystery shoppers (researchers) visited 56 computer retailers in Washington, Oregon, Idaho, and Montana during April and May 2009 for a baseline assessment of in-store energy efficiency practices. Researchers asked sales associates to show them three

desktop towers, three monitors, and three combination or bundled desktop units. Researchers followed the same assessment process for computers as described previously in the TV section.

5.3.2 Findings

Considerably less than half the computer products sales associates showed to researchers were ENERGY STAR models (Figure 5-4). Furthermore, sales associates rarely mentioned energy efficiency as an important feature of a good computer; it was never mentioned for desktops and was mentioned for only 6% of monitors and 2% of bundled units. Energy efficiency was mentioned much less frequently than characteristics such as memory, resolution, performance, size, and price (see Table D-10 in Appendix D).

Figure 5-4 Proportions of Models Shown that are ENERGY STAR



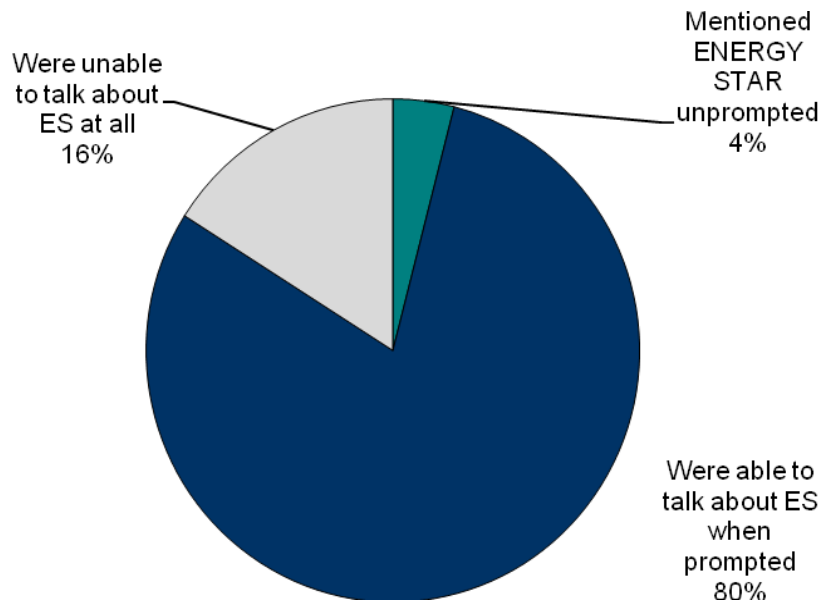
Q2: Please indicate how many models you saw for each type – total ENERGY STAR, total energy efficient shown (not ES+30% or ES)

In addition, only 4% of associates mentioned ENERGY STAR without prompting (Figure 5-5). While 80% of sales associates could discuss ENERGY STAR when prompted, only 42% could easily explain it (see Table D-3 in Appendix 0).

Sales associates also had difficulty finding ENERGY STAR models on the shelf (see Table D-3 in Appendix 0). Researchers’ ratings of sales associates on this measure ranged from 2.2 to 3.5 on a 7-point scale where ”1” meant “could not find” and “7” meant “could find very easily.”⁵

⁵ These findings will be compared with the computer shelf data once the data matching process is complete.

Figure 5-5 Sales Associates' Ability to Discuss ENERGY STAR (n=51)



Q4: Did the salesperson bring up Energy Efficiency, ENERGY STAR, or the ES+30% program logo or promotional items without you asking? ENERGY STAR: (Yes/No), and Q7: Please indicate the salesperson's response to your question: What is ENERGY STAR? (Were able to answer/Answered "Don't know")

6. Summary of Geographic Differences

Respondents from the consumer electronics survey were divided into three geographic groups:

- Metro East -- residents of metropolitan areas east of I-5, including cities such as Boise, Idaho, and Spokane, Washington.
- Metro West -- residents of metropolitan areas west of I-5, including cities such as Portland, Oregon.
- Non-Metro -- residents on either side of I-5 in non-metropolitan areas.

No differences existed in energy-efficient product availability or price across metro regions. However, respondents' awareness of and attitudes toward energy efficiency differed in some respects; for example, Metro West residents appeared the most informed about and interested in issues related to energy efficiency (Table D-5). Non-Metro residents were also generally better-informed and more interested in energy efficiency issues than were Metro East residents.

Respondents' shopping habits, attitudes, and purchase behaviors for energy-efficient electronics among the three geographic areas are summarized in Table D-5, D-6, D-7, D-12, and D-13 in Appendix 0.

7. Conclusions and Recommendations

7.1. Televisions

Northwest residents will use more energy as they convert to new digital TV technologies.

- Northwest residents own fewer TVs than the national average, and nearly half of their primary TVs are CRTs. However, as Northwest residents replace their TVs with digital technologies with higher energy draws than CRTs, the Northwest's power draw for TVs will likely increase.

Northwest residents will look to retailers for information on new TVs.

- Most respondents claimed they would purchase their new TV in-store at brick-and-mortar retailers, primarily at big box stores. They would also research TVs a number of ways prior to purchasing, with a focus on information from retailers (in-store browsing, retailer web site browsing, advice from sales associates) as opposed to information from manufacturers.

Northwest residents are receptive to considering energy efficiency, but need to be reminded of its benefits.

- About 11% of respondents indicated that energy efficiency was among their top-three considerations for TV purchase, following price, size, resolution, and other factors. They did not readily associate ENERGY STAR with TVs, despite relatively high awareness of ENERGY STAR overall.
- However, respondents were receptive to considering energy efficiency when reminded about it. They generally understood the non-energy benefits of energy-efficient models and many were willing to purchase those models at a slightly higher cost. This indicates that the up-front purchase premium does not appear to constitute a barrier to purchase for most TVs on the market.
- In addition, those who have previously bought ENERGY STAR TVs indicated they were more likely to do so in the future, indicating that if program planners can move respondents beyond any initial price barrier that might exist, they are likely to continue purchasing ENERGY STAR and energy efficient models.

Northwest residents have ample opportunity to purchase NEEA-qualified and ENERGY STAR TV models.

- Over half the TV models on the shelf met ENERGY STAR standards (59%). Currently, NEEA-qualified models represent a smaller share (20%). However, as ENERGY STAR specifications change in 2010 and standards become more stringent, the percentage of ENERGY STAR models on the shelf might decrease, thus affecting residents' likelihood of purchasing ENERGY STAR TVs.

Northwest residents are unlikely to be reminded in the store of energy-efficient purchase options for TVs.

- Although most respondents were receptive to considering energy efficiency as one of their purchase considerations, their low top-of-mind awareness and lack of association of ENERGY STAR with TVs indicate barriers to purchase: Northwest residents are not looking for ENERGY STAR TVs. This poses a challenge to NEEA's program due to the implication that corporate energy efficiency initiatives have yet to fully penetrate retail stores' marketing and outreach to consumers.
- Due to the strong shelf presence of ENERGY STAR TV models, sales associates by default often showed ENERGY STAR models to mystery-shopping researchers. Sales associates infrequently mentioned energy efficiency or ENERGY STAR to the researchers and had some difficulty locating ENERGY STAR models, despite their presence on more than half the shelf space.

7.2. Computers

Current desktop computer and monitor owners plan to purchase desktop computers from a variety of locations.

- Purchase location intent is more diversified for computers than for TVs, for both in-store and online retail venues.

Northwest residents need to be reminded of energy efficiency when shopping for desktop computers.

- Respondents focused on a few key features when purchasing desktop computers (memory, processor speed, price) and monitors (size, price, resolution), with energy efficiency following these primary considerations.

Northwest residents are unlikely to be reminded in the store of energy-efficient purchase options for desktop computers.

- Sales associates showed ENERGY STAR models to mystery-shopping researchers, but they less-frequently mentioned energy efficiency or ENERGY STAR in the course of their sales process. Many sales associates were also unable to adequately define ENERGY STAR or to locate an ENERGY STAR model on the shelf. The situation is more pronounced for desktop computer products than for TVs.

7.3. Geographic Differences

Receptivity to energy-efficient considerations differs by region.

- Metro West respondents were the most receptive to energy efficiency considerations and appeared most likely to pay attention to their energy use. Non-Metro residents were also more attentive to energy efficiency considerations than were Metro East residents.

Energy savings may differ by region.

- Because the Metro West region has a larger percentage of CRT TVs than do the other regions, energy savings from the purchase of new TVs may differ between regions.

7.4. Recommendations

Consider increasing awareness of energy efficiency with more signage at the point of purchase.

- Including point-of-purchase information about energy efficiency could increase its importance as a purchase consideration and influence customers' purchase decisions for TV and desktop computer purchases when their primary purchase considerations (such as price, screen size, and memory) are also met by a particular product.

Program messaging should be focused in locations where consumers buy products.

- For TVs, energy efficiency efforts should focus on big box retail stores given respondents' high stated likelihood of purchasing their next TV from such retailers. Given respondents' more disparate intended purchase locations for desktop computers, messaging efforts should be dispersed among multiple channels, including online retailers and manufacturers (in addition to big box and electronics retailers).

Market energy efficiency in terms of money saved in the long run.

- Because price was one of the top features discussed by sales associates and considered by consumers, in-store promotions on the benefits of energy-efficient purchases would aid in alleviating price premium discomfort for ENERGY STAR products.

Train sales associates on ENERGY STAR for TVs and computers.

- Ideally, sales associates should be able to easily identify ENERGY STAR products, since they are clearly marked with labels and, in the case of TVs, take up more than half of the product shelf space. In addition, trained sales associates could promote ENERGY STAR, energy efficiency and their benefits to all customers, not just those who ask about them.

Reassess the market frequently (every year) to address fast-changing markets and yearly product cycles.

- This report does not include a sales baseline for 2009. However, a third-party contractor will provide an independent baseline which will be made available at a later date..

Appendices A-F

The following appendices provide supporting data for this report:

A.	Consumer Electronics Study Sample Characteristics	27
B.	Detailed List of Data Collection Activities and Metrics	29
C.	In-Store Data Collection Statistics	31
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A Consumer Electronics Survey Sample Characteristics

Table A-1 Proposed Population Proportions and Final Completes⁶

	Metro West	Metro East		Non-Metro		Total population 18 years and older
		Washington	Idaho/Montana	Washington/Oregon	Idaho/Montana	
Population 18 years and older	5,053,807	673,810	662,032	2,086,699	1,167,363	9,643,711
% Population 18 years and older	52%	7%	7%	22%	12%	
Target Number of Completes Per Area	210	28	27	87	48	400
Actual Number of Completes Per Area	212	57		133		402

⁶ Source of population data: U.S. Census Bureau, 2007 American Community Survey. The population numbers for the Metro East and Metro West areas were determined by aggregating the numbers for each of the Metro Statistical Areas (MSAs) that fall into each area based on KEMA's criteria (this criteria can be found in Figure 10-1 of KEMA's 2007 *ENERGY STAR® Consumer Products Program* report). Note we included the Portland-Vancouver-Beaverton, OR-WA Metro Area, which was not included in Figure 10-1 of the KEMA report. In some cases, the only data available from the Census site was for a MSA of two cities combined (e.g. Eugene-Springfield), whereas KEMA had listed just one city e.g. Eugene. For sampling, we used all counties defined in the MSA by the US Census Bureau in November 2007 including those that were excluded from KEMA's analysis (and ones that were included in KEMA's analysis but not on Opinion Dynamics' list).

Table A-2 Demographic Population Proportions and Final Completes⁷

	All States	Survey Results
Homeownership (All Ages, of occupied housing units)	n=4,905,995	n=402
Owner occupied	67%	66%
Renter Occupied	33%	32%
Other	NA	1%
Don't Know/Refused	NA	1%
Age Groups (18 and over, total population)	n=9,643,711	n=402
24 years or younger	12%	13%
25 to 34 years	18%	19%
35 to 44 years	18%	19%
45 to 54 years	20%	19%
55 to 64 years	16%	15%
65 or older	16%	15%
Refused	NA	1%
Household Income (All ages, of households)	n=4,905,995	n=402
Less than \$25,000	22%	19%
\$25,000-34,999	11%	12%
\$35,000-49,999	15%	15%
\$50,000-74,999	20%	17%
\$75,000-99,999	13%	10%
\$100,000-149,999	12%	9%
\$150,000-199,999	4%	3%
\$200,000 or more	3%	2%
Don't Know	NA	3%
Refused	NA	10%

⁷ Source of data: U.S. Census Bureau, 2007 American Community Survey 1-Year Estimates.

B Detailed List of Data Collection Activities and Metrics

Table B-1 Consumer Electronics Market Baseline and Evaluation Data Collection Activities and Metrics

	Market Baseline (2009)	MPER1 (2010)	MPER2 (2011)	MPER3 (2012)	MPER4 (2013)
Market Characterization					
Proportion of Sales in NEEA's Territory of NEEA Qualified Models		√	√	√	√
Proportion of Sales in Nationally of NEEA Qualified Models		√	√	√	√
Proportion of Sales in the Northwest of ENERGY STAR models		√	√	√	√
Proportion of Sales in Nationally of ENERGY STAR models		√	√	√	√
Consumer Electronics Study					
Self-Reported TV and Computer Ownership	√				
Self-Reported TV and Computer Usage	√				
Self-Reported Importance of Energy Efficiency in TV and Computer Purchases	√		√		√
Self-Reported Energy Efficiency TV and Computer Past Purchases	√		√		√
Self-Reported Energy Efficiency TV and Computer Purchase Intention	√		√		√
Attitudes Towards Energy Efficient Purchases	√		√		√
Barriers towards Energy Efficient Purchases	√		√		√
Purchase Location Preferences for TV and Computer Purchases	√				
Purchase Process for TV and Computer Purchases	√				
Awareness of ENERGY STAR	√		√		√
Awareness of NEEA			√		√
Mystery Shopper					
Proportion of Sales Associates Voluntarily Promoting ENERGY STAR and Energy Efficiency	√	√	√	√	√
Proportion of Models Shown that are ENERGY STAR and Energy Efficient	√	√	√	√	√
Sales Associates Knowledge of ENERGY STAR and Energy Efficiency	√	√	√	√	√

Proportion of Sales Associates Voluntarily Promoting NEEA Qualified Models		√	√	√	√
Proportion of Models Shown that are NEEA Qualified		√	√	√	√
Sales Associates Knowledge of NEEA Qualified Models		√	√	√	√
Point of Purchase Shelf Analysis					
Proportion of Total Models on the shelf that are ENERGY STAR	√	√	√	√	√
Proportion of Total Models on the shelf <i>on promotion</i> that are ENERGY STAR	√	√	√	√	√
Purchase Price of Models that are ENERGY STAR	√	√	√	√	√
Proportion of Total Models on the shelf that Meet NEEA's Qualifications	√	√	√	√	√
Proportion of Total Models on the shelf <i>on promotion</i> that Meet NEEA's Qualifications	√	√	√	√	√
Purchase Price of Models that Meet NEEA's Qualifications	√	√	√	√	√

C In-Store Data Collection Statistics

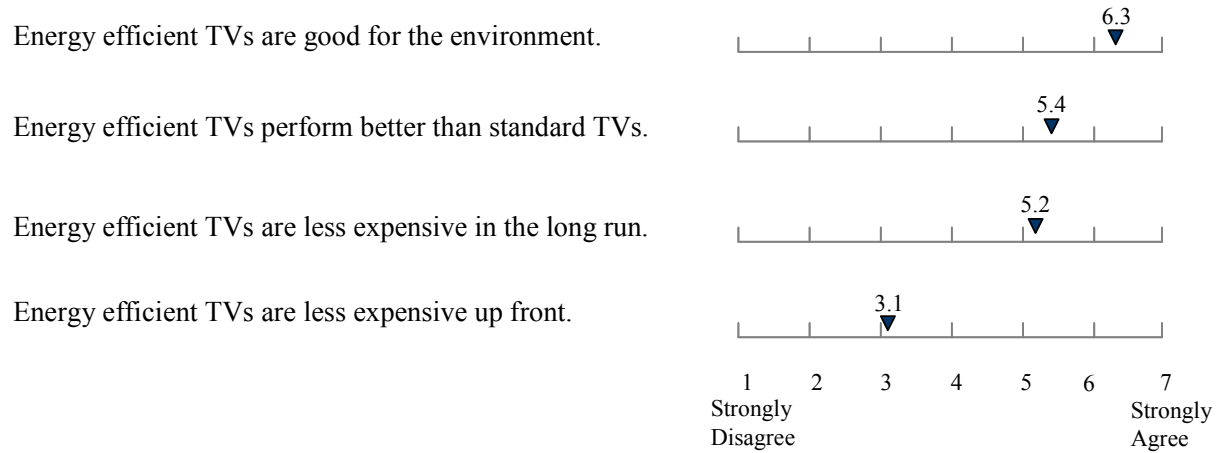
Table C-1 Complete List of Retailers Included in Research

	All Stores			Mystery Shopping			POP Inventory		
	Total	East of I-5	West of I-5	Total	East of I-5	West of I-5	Total	East of I-5	West of I-5
Best Buy	10	5	5	20	10	10	20	10	10
Costco	6	2	4	12	4	8	12	4	8
Independent	23	15	8	34	23	11	34	23	11
K-Mart	8	3	5	8	3	5	8	3	5
Office Depot	5	3	2	5	3	2	5	3	2
Sears	9	4	5	9	4	5	9	4	5
Staples	5	3	2	5	3	2	5	3	2
Target	8	4	4	13	6	7	13	6	7
Wal-Mart	9	2	7	18	4	14	18	4	14
TOTAL	83	41	42	124	60	64	124	60	64

D Additional Market Assessment Analysis Charts

Appendix D provides additional tables and charts that were not used in the final market assessment.

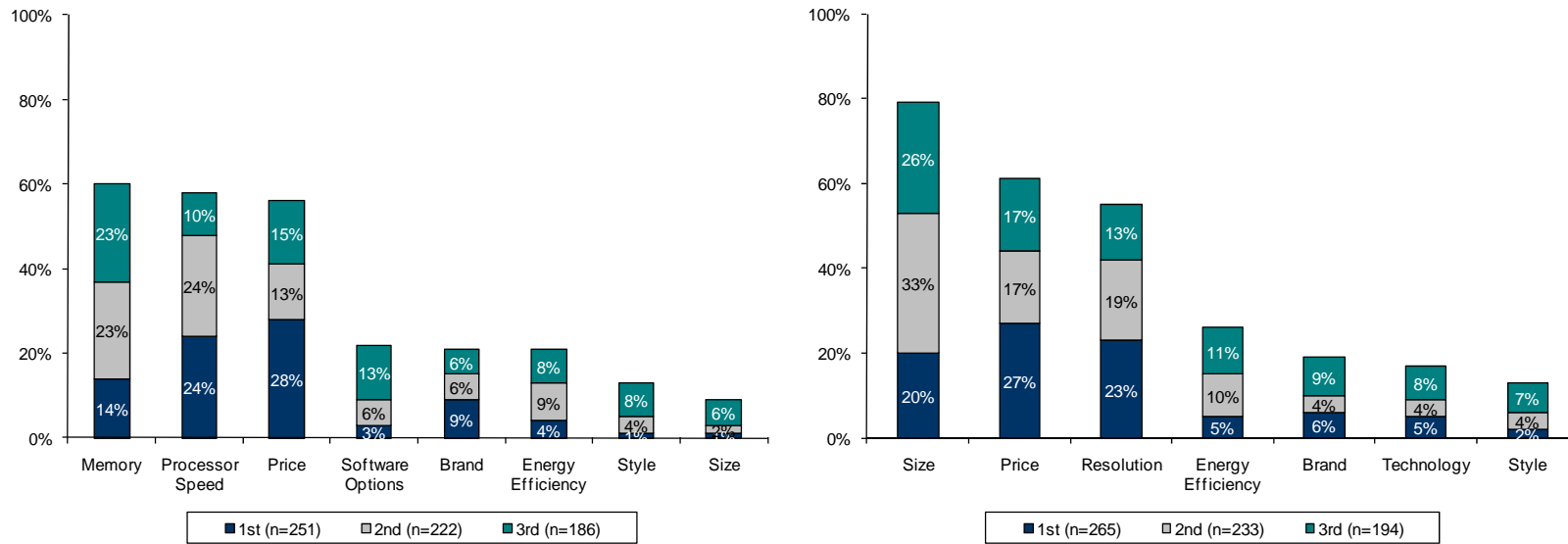
Figure Error! No text of specified style in document.-1 Mean Ratings for Barriers (n=402)



QB1A-D: On a scale from 1-7 where 1 means “Strongly Disagree” and 7 means “Strongly agree,” please rate the following statements.

Note that some of these statements and their data points have been reversed from the survey questions for ease of presentation.

Figure D-2 Desktop Computer (Left) and Monitor (Right) Purchase Considerations



QC11/13: Now, please think about the factors involved in the purchase of a Desktop Computer/Monitor. What would be your top three considerations when selecting a new Desktop Computer/Monitor?

QC11a/13a: Which of these considerations is the most important in the purchase of a Desktop Computer/Monitor?

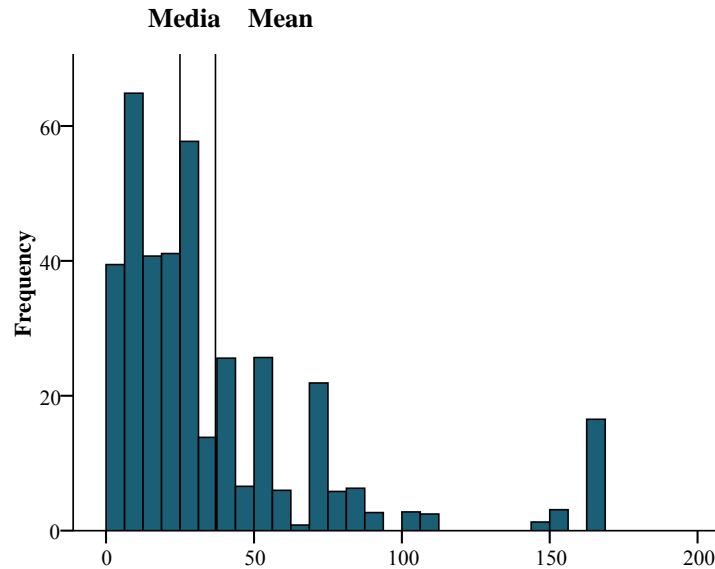
QC11b/13b: Which of these considerations is the second most important in the purchase of a Desktop Computer/Monitor?

Note: Other response computer categories included green, operating cost, warranty, reputation, reliability, quality, ease of use, graphics, features, longevity, upgradable, and tech support. These responses were below 10%.

Note: Other response categories for monitors included color saturation, quality, green, operating costs, warranty, reputation, reliability, clarity, features, performance, and recommendations. These responses were below 10%.

Note: These percentages don't add up to the total percentages for QC11/13 because not everyone gave 3 responses, i.e. the n is different for total, 1st, 2nd, and 3rd.

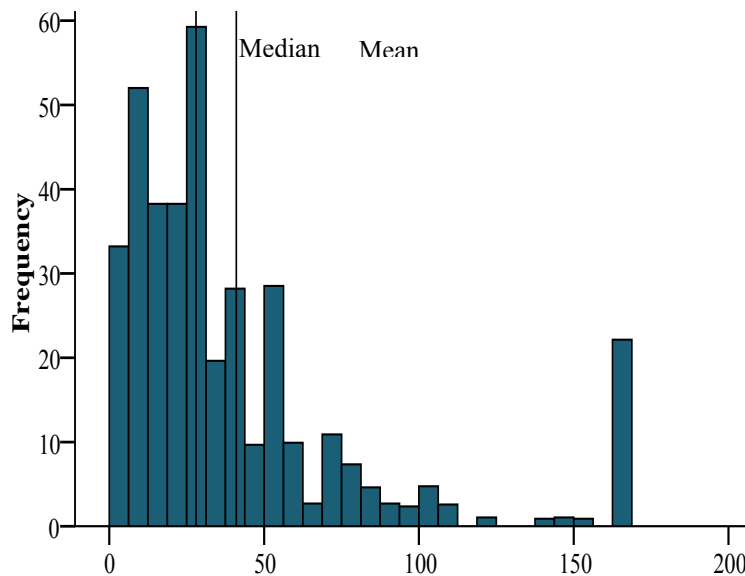
Figure D-3 Histogram of Hours of TV Watched on Primary or Only TV (n=385)



(Respondents with one TV) QT2: Please think about the TV in your home. On average, how many TOTAL HOURS PER WEEK do you have the TV on? Please include both weekdays and weekends in your response. [NUMERIC OPEN END]

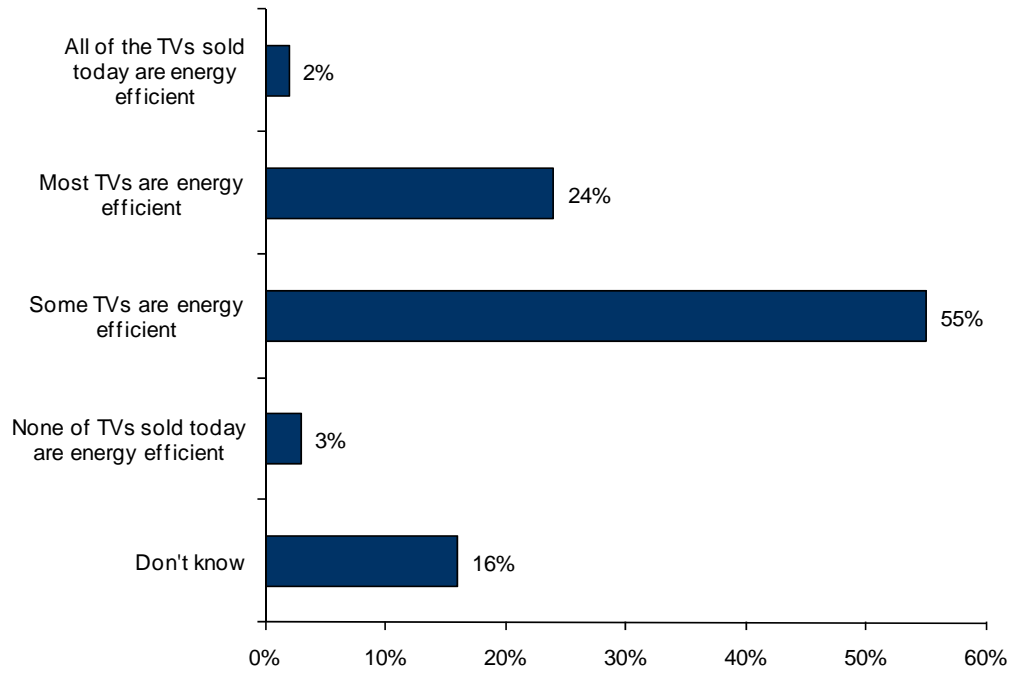
(Respondents with multiple TVs) QTV3: Approximately how many TOTAL HOURS PER WEEK is your primary TV on? Please include both weekdays and weekends in your response. [NUMERIC OPEN END]

Figure D-4 Histogram of Average Hours of TV Watched on All TVs (n=381)



QT2: Please think about the TV in your home. On average, how many TOTAL HOURS PER WEEK do you have the TV on? Please include both weekdays and weekends in your response. [NUMERIC OPEN END]

Figure D-5 Perceptions of Number of Energy Efficient TVs Available (n=402)



QA1: Which of the following statements best characterizes your understanding of the TVs available for purchase?

Figure D-6 TV Efficiency Levels by Technology Type

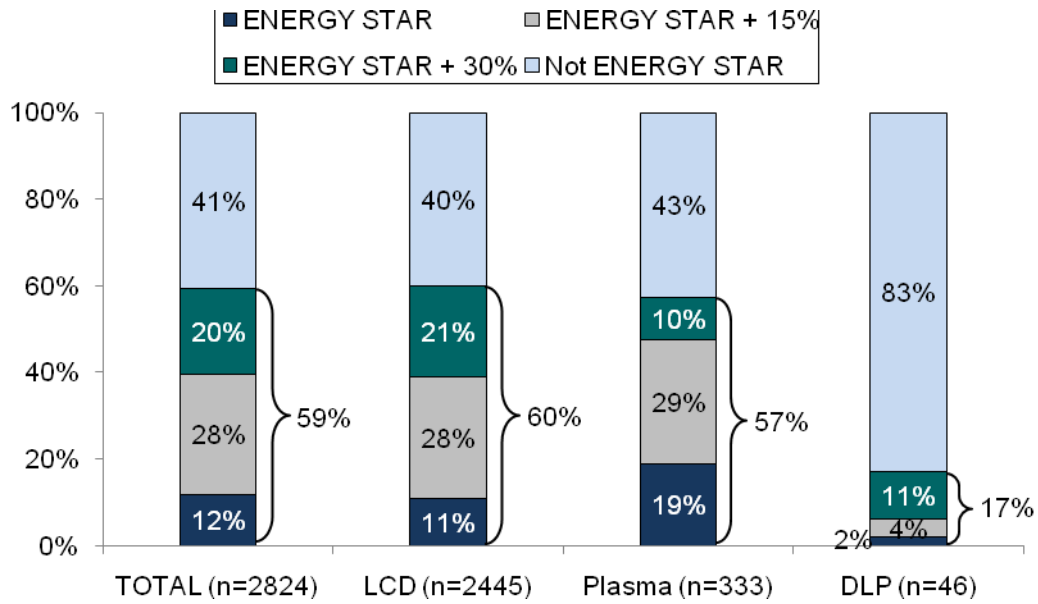
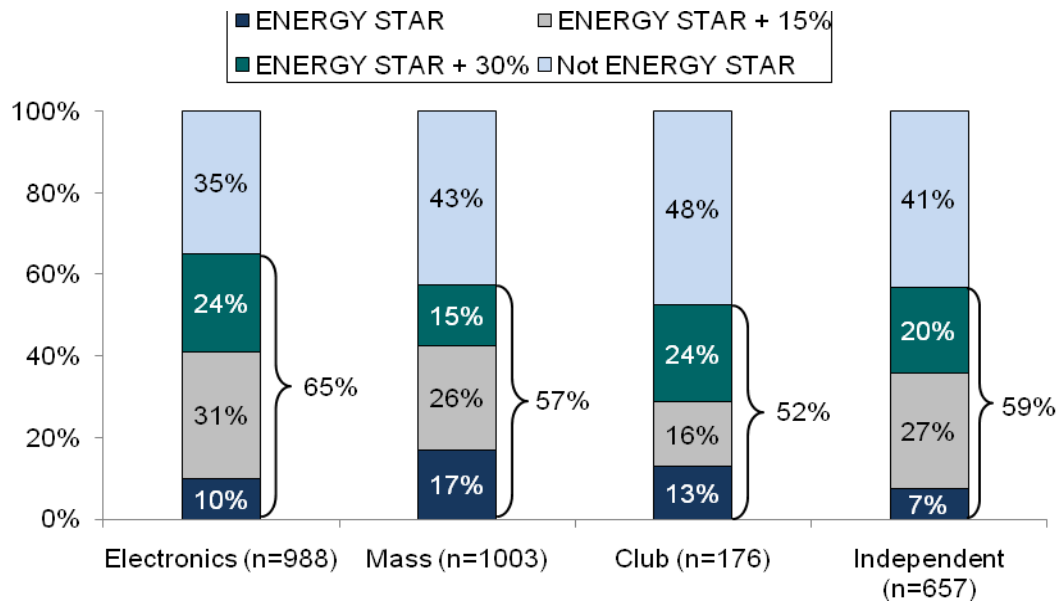


Figure D-7 TV Efficiency Levels by Retail Channel Type^{a b}



^a Sixteen models could not be classified by store and were not included in this chart.

^b Retailers in the Office stores category did not carry any TVs and are not included in this chart.

Table Error! No text of specified style in document.-1 Point of Purchase Price by Efficiency Level (Overall) (n=2118)

Price	ENERGY STAR	ENERGY STAR + 15%	ENERGY STAR + 30%	Not ENERGY STAR
Mean	\$1,213.00	\$1,134.00	\$1,073.00	\$837.00
Median	\$900.00	\$1,084.00	\$798.00	\$600.00
Lowest	\$340.00	\$184.00	\$180.00	\$170.00
Highest	\$5,000.00	\$5,500.00	\$4,500.00	\$5,000.00

Table D-2 Sales Associate Ease of Finding Energy Efficient TVs (n=68)

Mean Rating of Ease	Could not Find ES Models	Could Find ES Very Easily	Dispersion of Ease Levels																
4.6	13%	25%	<table border="1"> <caption>Dispersion of Ease Levels Data</caption> <thead> <tr> <th>Ease Level</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>1</td><td>13%</td></tr> <tr><td>2</td><td>7%</td></tr> <tr><td>3</td><td>9%</td></tr> <tr><td>4</td><td>12%</td></tr> <tr><td>5</td><td>19%</td></tr> <tr><td>6</td><td>15%</td></tr> <tr><td>7</td><td>25%</td></tr> </tbody> </table>	Ease Level	Percentage	1	13%	2	7%	3	9%	4	12%	5	19%	6	15%	7	25%
Ease Level	Percentage																		
1	13%																		
2	7%																		
3	9%																		
4	12%																		
5	19%																		
6	15%																		
7	25%																		

CQ15, TQ10: Please indicate the extent to which the salesperson could find energy-efficient TVs/desktop computers/monitors/bundled units. Record your answers on a scale of 1 to 7 with one meaning "could not find energy-efficient TVs/computers/monitors/bundled units" and seven being "could find energy-efficient TVs/computers/monitors/bundled units very easily."

Table D-3 Sales Associate Quotes and Knowledge of ENERGY STAR

Category	Example Quotes	Computers (n=52)
Could easily answer "What is ENERGY STAR?"	"A rating of energy efficiency for the product. A way of letting a consumer know that the TV is energy-efficient." "Uses less energy."	42%
Could partially answer "What is ENERGY STAR?"	"Saves energy?" "Costs less to operate." "ENERGY STAR means it uses less energy; all TV's are [ES] now."	40%
Could not answer "What is ENERGY STAR?"	"I don't know but it might be in the manual."	17%

Q6: Please indicate the salesperson's response to your question: What is ENERGY STAR?

Table D-4 Sales Associate Ease of Finding Energy Efficient Products

Product	Mean Rating of Ease	Could not Find ES Models	Could Find ES Very Easily	Dispersion of Ease Levels																
Desktops (n=45)	2.7	58%	18%	<table border="1"> <caption>Dispersion of Ease Levels for Desktops</caption> <thead> <tr> <th>Ease Level</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>1</td><td>58%</td></tr> <tr><td>2</td><td>2%</td></tr> <tr><td>3</td><td>13%</td></tr> <tr><td>4</td><td>2%</td></tr> <tr><td>5</td><td>2%</td></tr> <tr><td>6</td><td>4%</td></tr> <tr><td>7</td><td>18%</td></tr> </tbody> </table>	Ease Level	Percentage	1	58%	2	2%	3	13%	4	2%	5	2%	6	4%	7	18%
Ease Level	Percentage																			
1	58%																			
2	2%																			
3	13%																			
4	2%																			
5	2%																			
6	4%																			
7	18%																			
Monitors (n=47)	3.5	40%	23%	<table border="1"> <caption>Dispersion of Ease Levels for Monitors</caption> <thead> <tr> <th>Ease Level</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>1</td><td>40%</td></tr> <tr><td>2</td><td>9%</td></tr> <tr><td>3</td><td>11%</td></tr> <tr><td>4</td><td>2%</td></tr> <tr><td>5</td><td>4%</td></tr> <tr><td>6</td><td>11%</td></tr> <tr><td>7</td><td>23%</td></tr> </tbody> </table>	Ease Level	Percentage	1	40%	2	9%	3	11%	4	2%	5	4%	6	11%	7	23%
Ease Level	Percentage																			
1	40%																			
2	9%																			
3	11%																			
4	2%																			
5	4%																			
6	11%																			
7	23%																			
Bundled Units (n=45)	2.2	60%	9%	<table border="1"> <caption>Dispersion of Ease Levels for Bundled Units</caption> <thead> <tr> <th>Ease Level</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>1</td><td>60%</td></tr> <tr><td>2</td><td>11%</td></tr> <tr><td>3</td><td>11%</td></tr> <tr><td>4</td><td>2%</td></tr> <tr><td>5</td><td>2%</td></tr> <tr><td>6</td><td>4%</td></tr> <tr><td>7</td><td>9%</td></tr> </tbody> </table>	Ease Level	Percentage	1	60%	2	11%	3	11%	4	2%	5	2%	6	4%	7	9%
Ease Level	Percentage																			
1	60%																			
2	11%																			
3	11%																			
4	2%																			
5	2%																			
6	4%																			
7	9%																			

CQ15, TQ10: Please indicate the extent to which the salesperson could find energy-efficient TVs/desktop computers/monitors/bundled units. Record your answers on a scale of 1 to 7 with one meaning “could not find energy-efficient TVs/computers/monitors/bundled units” and seven being “could find energy-efficient TVs/computers/monitors/bundled units very easily.”

Table D-5 Geographic Differences

	Metro West (A)	Metro East (B)	Non Metro (C)
	n=208	n=57	n=130
Primary TV is a CRT	52% ^c	43%	42%
	n=212	n=57	n=133
Replacing a TV (instead of adding)	84%	83%	91% ^a
Browse models on manufacturer website	49% ^b	30%	45% ^b
Review store circulars	60%	73% ^a	61%
	n=198	n=54	n=126
Purchase TV at electronics specialty stores	34% ^c	30%	21%
Purchase TV at locally owned retailers	8%	7%	19% ^{ab}
	n=187	n=52	n=117
Will consider energy use in TV purchase	65% ^c	61%	53%
	n=212	n=57	n=133
Would purchase high efficiency TV at same cost	93% ^c	93% ^c	85%
	n=196	n=54	n=113
Reason: lower utility bills	53% ^c	60% ^c	41%
	n=171	n=46	n=110
Aided awareness of ENERGY STAR	80% ^c	73%	66%
	Mean	Mean	Mean
	n=212	n=57	n=133
Mean likelihood to purchase ENERGY STAR TV	5.7 ^b	5.0	5.4
Mean agreement with "energy-efficient TVs are good for the environment."	6.4 ^b	5.8	6.2

Note: Values in bold are significantly different at the $p < 0.10$ level from the values in the column letters provided.

Table D-6 Attitudes

Attitude	Total (n=402)	Metro West (A) (n=212)	Metro East (B) (n=57)	Non Metro (C) (n=133)
Positive Statements	Top 2 Box	Top 2 Box	Top 2 Box	Top 2 Box
Everyone should make a real effort to save energy.	83%	84%	80%	85%
Instead of building new power plants, customers should use less electricity.	44%	40%	41%	49% ^a
When looking to buy a product that uses energy, my household seeks out the most energy-efficient products available.	40%	44% ^b	23%	40% ^b
Negative Statements	Bottom 2 Box	Bottom 2 Box	Bottom 2 Box	Bottom 2 Box
The household is such a small part of the whole energy consumption picture that it really doesn't matter how a household uses energy.	64%	67%	60%	61%
I am not very concerned about the amount of energy used in my home.	62%	64% ^b	53%	62%
It is my right to use as much energy as I want, as long as I can pay for it.	52%	60% ^{bc}	41%	43%
Making energy-related improvements in my home is not a priority for me.	49%	50%	45%	50%

QAE1: On a scale from 1 to 7 where 1 means strongly disagree and 7 means strongly agree, please rate the following statements regarding energy use in your home.

Note: Values in bold are significantly different at the $p < 0.10$ level from the values in the column letters provided. In this case, the lower mean is bolded to be consistent with the bottom 2 box score.

Table D-7 Type of Store Likely to Purchase TV (n=378)

	Total	Metro West (n=198) (A)	Metro East (n=54) (B)	Non Metro (n=126) (C)
Electronics specialty store	29%	34% ^c	30%	21%
Mass merchandiser	27%	24%	36%	28%
Club store	21%	24%	14%	20%
Locally-owned store	12%	8%	7%	19% ^{ab}
Don't know	6%	4%	7%	8%
Best deal	4%	4%	4%	3%
Other	2%	2%	2%	1%

QPL3: Which of the following best describes the type of store where you are likely to purchase this TV?

Note: Values in bold are significantly different at the $p < 0.10$ level from the values in the column letters provided.

Table D-8 Characteristics of a “Good” TV Mentioned by Sales Associate (Multiple Response)

Feature Mentioned	TVs (n=69)
Resolution/Picture Quality	57%
Price	30%
Type (LCD or Plasma)	20%
Energy Efficient/Green	17%
Durable/Lasts Longer	16%
Screen Size	14%
Brand	13%
Gaming Capabilities	9%
Glare	9%
Features	7%
Quality (Non-Specific)	7%
Processor/Refresh Rate	7%
Color	6%
Other ^a	26%
Don't Know/No Recommendation/None in Stock	1%

^a “Other” includes all responses which were given by less than 5% of sales associates.

CQ12, CQ17, CQ22, TQ7: Please list the reasons why the sales person said it was a good TV/desktop computer/monitor/bundled unit and why they would buy it.

Table D-9 Ratings of Sales Associate Knowledge of ENERGY STAR TVs

Product	Mean Rating of Knowledge	Did not Know about ES	Very Knowledgeable about ES	Dispersion of Knowledge Ratings																
TVs (n=69)	3.7	13%	1%	<table border="1"> <caption>Dispersion of Knowledge Ratings Data</caption> <thead> <tr> <th>Rating</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>1</td><td>13%</td></tr> <tr><td>2</td><td>13%</td></tr> <tr><td>3</td><td>16%</td></tr> <tr><td>4</td><td>25%</td></tr> <tr><td>5</td><td>20%</td></tr> <tr><td>6</td><td>12%</td></tr> <tr><td>7</td><td>1%</td></tr> </tbody> </table>	Rating	Percentage	1	13%	2	13%	3	16%	4	25%	5	20%	6	12%	7	1%
Rating	Percentage																			
1	13%																			
2	13%																			
3	16%																			
4	25%																			
5	20%																			
6	12%																			
7	1%																			

Q12: Please indicate the extent to which the salesperson was knowledgeable about ENERGY STAR.

Table D-10 Characteristics of a “Good” Desktop/Monitor/Bundled Unit Mentioned by Sales Associate (Multiple Response)⁸

Feature Mentioned	Desktops (n=43)	Monitors (n=47)	Bundled Units (n=47)
Memory	40%		28%
Resolution/Picture Quality		40%	
Processor/Performance/Speed	35%		17%
Size (Non-Specific)		28%	
Price	28%	26%	49%
Operating System	14%		6%
Type (LCD or Plasma)		13%	
Color		13%	
Monitor Size/Quality			13%
Processor/Refresh Rate		11%	
Convenience/All in One			11%
Good for Needs	7%		
Energy Efficient/Green		6%	2%
Screen Size	5%	11%	
Brand	5%		
Gaming Capabilities	5%		
Features	5%		
Warranty	5%		
Other ^a	26%	13%	32%
Don't Know/No Recommendation/None in Stock	19%	15%	26%

^a “Other” includes all responses which were given by less than 5% of sales associates.

⁸ CQ12, CQ17, CQ22, TQ7: Please list the reasons why the sales person said it was a good TV/desktop computer/monitor/bundled unit and why they would buy it.

Table D-11 Ratings of Sales Associate Knowledge of ENERGY STAR Computers

Product	Mean Rating of Knowledge	Did not Know about ES	Very Knowledgeable about ES	Dispersion of Knowledge Ratings																
Computers (n=52)	3.4	17%	12%	<table border="1"> <caption>Dispersion of Knowledge Ratings Data</caption> <thead> <tr> <th>Rating</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>1</td><td>17%</td></tr> <tr><td>2</td><td>25%</td></tr> <tr><td>3</td><td>15%</td></tr> <tr><td>4</td><td>12%</td></tr> <tr><td>5</td><td>12%</td></tr> <tr><td>6</td><td>8%</td></tr> <tr><td>7</td><td>12%</td></tr> </tbody> </table>	Rating	Percentage	1	17%	2	25%	3	15%	4	12%	5	12%	6	8%	7	12%
Rating	Percentage																			
1	17%																			
2	25%																			
3	15%																			
4	12%																			
5	12%																			
6	8%																			
7	12%																			

Q7: Please indicate the extent to which the salesperson was knowledgeable about ENERGY STAR.

Table D-12 Northwest Residents' Attitudes (Positive Statements)

Attitude (Positive Statements)	Total (n=402)		Metro West (A) (n=212)		Metro East (B) (n=57)		Non Metro (C) (n=133)	
	Mean ^a	Top 2 Box	Mean	Top 2 Box	Mean	Top 2 Box	Mean	Top 2 Box
Everyone should make a real effort to save energy.	6.4	83%	6.3	84%	6.3	80%	6.4	85%
Instead of building new power plants, customers should use less electricity.	5.0	44%	4.8	40%	4.9	41%	5.3 ^a	49% ^a
When looking to buy a product that uses energy, my household seeks out the most energy-efficient products available.	4.9	40%	5.1 ^b	44% ^b	4.4	23%	4.8	40% ^b

QAE1: On a scale from 1 to 7 where 1 means strongly disagree and 7 means strongly agree, please rate the following statements regarding energy use in your home.

^a Mean is for a scale of 1 to 7 where 1 is strongly disagree and 7 is strongly agree.

Note: Values in bold are significantly different at the p<0.10 level from the values in the column letters provided.

Table D-13 Northwest Residents' Attitudes (Negative Statements)

Attitude (Negative Statements)	Total (n=402)		Metro West (A) (n=212)		Metro East (B) (n=57)		Non Metro (C) (n=133)	
	Mean ^a	Bottom 2 Box	Mean	Bottom 2 Box	Mean	Bottom 2 Box	Mean	Bottom 2 Box
The household is such a small part of the whole energy consumption picture that it really doesn't matter how a household uses energy.	2.4	64%	2.3	67%	2.6	60%	2.5	61%
I am not very concerned about the amount of energy used in my home.	2.8	62%	2.5 ^b	64% ^b	3.3 ^a	53%	2.9	62%
It is my right to use as much energy as I want, as long as I can pay for it.	3.0	52%	2.7 ^{bc}	60% ^{bc}	3.3	41%	3.4	43%
Making energy-related improvements in my home is not a priority for me.	3.1	49%	2.9	50%	3.3	45%	3.2	50%

QAE1: On a scale from 1 to 7 where 1 means strongly disagree and 7 means strongly agree, please rate the following statements regarding energy use in your home.

^a Mean is for a scale of 1 to 7 where 1 is strongly disagree and 7 is strongly agree.

Note: Values in bold are significantly different at the $p < 0.10$ level from the values in the column letters provided. In this case, the lower mean is bolded to be consistent with the bottom 2 box score.

E Examples of On-Shelf Computer Analysis

The following tables and figures provide examples of how the Opinion Dynamics team would analyze the computer shelf data if the model matching had been successful. The format of these figures and tables are subject to changes and revisions if data becomes available.

Table E-1 Efficiency Levels by Product Type

Type of Computer	Specification	% Meet Efficiency Standard	% Do Not Meet Efficiency Standard
Desktops	ENERGY STAR 4.0		
Monitors	ENERGY STAR 4.1+25%		
Bundled Units	Both desktop and monitor meet efficiency standards above		

Table E-2 Efficiency Levels by Retail Channel Type

Type of Store by Computer Type	Specification	% Meet Efficiency Standard	% Do Not Meet Efficiency Standard
Desktops	ENERGY STAR 4.0		
Electronics Stores			
Mass Merchandisers			
Office Stores			
Club Stores			
Independent Stores			
Monitors	ENERGY STAR 4.1+25%		
Electronics			
Mass			
Office			
Club			
Independent			
Bundled Units	Both desktop and monitor meet efficiency standards above		
Electronics			
Mass			
Office			
Club			
Independent			

Table E-3 Efficiency Levels by Location Relative to I-5

East or West of I-5 by Computer Type	Specification	% Meet Efficiency Standard	% Do Not Meet Efficiency Standard
Desktops	ENERGY STAR 4.0		
East of I-5			
West of I-5			
Monitors	ENERGY STAR 4.1+25%		
East of I-5			
West of I-5			
Bundled Units	Both desktop and monitor meet efficiency standards above		
East of I-5			
West of I-5			

Table E-4 Point of Purchase Price by Efficiency Level

Price By Computer Type	Specification	Mean Price			Median Price		
		Meets Standard	Does Not Meet Standard	Difference	Meets Standard	Does Not Meet Standard	Difference
Desktop	ENERGY STAR 4.0						
Monitor	ENERGY STAR 4.1+25%						
Combo Unit	Both desktop and monitor meet efficiency standards above						

F Data Instruments Used in Consumer Demand Survey and In-Store Research

This section includes the following data collection forms.

Consumer Electronics Survey.....	48
In-Store – Mystery Shopper Conversation Form (TVs)	63
Mystery Shopper Questionnaire (TVs).....	65
In-Store – Mystery Shopper Conversation Form (Computers)	68
Mystery Shopper Questionnaire (Computers).....	70
POP and Product Observations (TVs).....	74
POP and Product Observations (Computers and Monitors).....	77

Consumer Electronics Survey

The goals of this effort are to assess ownership and the consumer market for TVs, as well as develop a baseline of indicators to track over time. We have used an asterisk (*) before the question number to indicate questions you could track over time. We are happy to adjust these with NEEA based on program goals.

Hello, my name is _____ calling on behalf of the Northwest Energy Efficiency Alliance. We're conducting a study about TVs.

May I please speak to a person in your household who was either involved with the purchase of your TV or who would be involved with a future TV purchase?

[CONTINUE OR ARRANGE FOR CALLBACK]

IF NECESSARY: I want to assure you that this is NOT a sales call and that the information that you provide will be kept strictly confidential. This will only take about 15 minutes of your time.

[NEEA DESCRIPTION PROVIDED SEPARATELY TO INTERVIEWERS]

IF NECESSARY: The NORTHWEST ENERGY EFFICIENCY ALLIANCE is a non-profit organization, which funds projects that encourage energy efficiency in the Northwest. Its Board of Directors has representatives from utilities, environmental groups, regulatory agencies, and energy-related private businesses. For more information you can visit the website at www.nwalliance.org.

SCREENING QUESTIONS

S1. Do you work for a consumer electronics manufacturing company? [TRACK TO SEE IF THE RATE IS HIGHER THAN EXPECTED]

1. Yes [THANK AND TERMINATE]
2. No
3. (Don't know) [THANK AND TERMINATE]

T1. How many TVs does your household have?

1. 1
2. 2
3. 3
4. 4
5. 5 or more
6. Don't have a TV
7. (Don't know) (PROBE))

C1a. How many laptop computers does your household have?

1. 1
2. 2
3. 3
4. 4
5. 5 or more
6. Don't have a laptop
7. (Don't know) (PROBE)

C1b. How many desktop computers does your household have?

1. 1
2. 2
3. 3
4. 4
5. 5 or more
6. Don't have a desktop computer
7. (Don't know) (PROBE)

C1c. How many computer monitors does your household have?

1. 1
2. 2
3. 3
4. 4
5. 5 or more
6. Don't have a computer monitor
7. (Don't know) (PROBE)

THANK AND TERMINATE IF (T1=6 or7) and (C1b = 6 or 7) and (C1c = 6 or7)

TV Survey Battery

(ASK IF T1<>6 or 7, ELSE SKIP TO IP1)

“Now, we would like to talk to you about the TVs.”

T2. Please think about the [READ IN NUMBER OF TVs FROM T1] in your home. On average, how many TOTAL HOURS PER WEEK do you have each TV on? Please include both weekdays and weekends in your response.

1. [OPEN ENDED NUMBER (up to three digits)] [0-168]
998. (Don't know)

TV INVENTORY

[READ IF T1=2, 3, 4, or 5 ELSE QTV1] For the next series of questions, please answer for the TV that your household USES THE MOST FREQUENTLY.

TV1. What type of TV is it? (TV TYPE DESCRIPTIONS PROVIDED SEPARATELY TO INTERVIEWERS)

1. LCD TV (Read if necessary: A thin flat screen TV that uses a liquid crystal display. LCD TVs are normally thinner and lighter than plasma TVs, and can range in display size from 15" to 65" or larger, and are usually only a few inches deep)
2. Flat screen Plasma (Read if necessary: A type of flat screen TV that is normally thicker and heavier than LCD TVs. Plasma TVs usually range in display size from 32" to 102", and are normally just a few inches deep)
3. Standard tube CRT – "Traditional TV" (Read if necessary: CRT TVs use the traditional tube technology and usually range from just 3" or 4" to 40" in display size. The display may be square or widescreen, but CRT TVs are normally at least 12" to 36" deep)
4. DLP (Read if necessary: A type of rear projection TV. Newer models look similar to LCD or plasma TVs. Some of these units may be wall-mountable, but they are still much thicker than LCD or plasma models)
5. Projection TV (Read if necessary: an older type of rear projection TV that was often referred to as a "big screen TV" before LCD, plasma and DLP TVs came into the market. These TVs are usually floor-standing, at least 18" to 24" deep, and have flat screens with textured ridges)
6. (Other, specify)
7. (Don't know)

TV2. Approximately how large is the TV? (USE DESCRIPTIONS IF RESPONDENT CAN'T PROVIDE SIZE IN INCHES)¹

1. (1 to 20 inches/very small)
2. (21 to 29 inches/small)
3. (30 to 39 inches/medium)
4. (40 to 49 inches/large)
5. (50 inches or more/very large)
6. (Don't know)

¹ Size categories taken from BestBuy website:
<http://www.bestbuy.com/site/olspage.jsp?id=abcat0101000&type=category>

[ASK IF T1=2, 3, 4, or 5]

TV3. Approximately how many TOTAL HOURS PER WEEK is this TV on? Please include both weekdays and weekends in your response.

1. [OPEN ENDED NUMBER (0-168 hrs)]
998. (Don't know)

INTENTION TO PURCHASE IN THE NEXT YEAR [ASK ALL]

“Please think about your next potential TV purchase for the following questions. Please answer as if you were shopping for a new TV.”

IP1. When do you think you are MOST LIKELY to purchase a new TV in the future?

1. (In the next 6 months)
2. (In the next 7-12 months)
3. (In the next 13-18 months)
4. (In the next 19-24 months)
5. (More than two years from now)
98. (Don't know)

IP2. Would this TV replace one of your existing TVs or would it be an additional TV?

1. Replacing
2. Adding
3. (Don't know)

[ASK IF IP2=1]

IP3. What will you do with the old TV? (probe for specific response)

1. (Move it to another room)
2. (Sell or give it away)
3. (Throw it out)
4. (Recycle it)
5. (Keep it but not use it)
6. (Other, specify)
98. (Don't know)

PURCHASE LOCATION

PL1. Before purchasing your TV, are you likely to do any of the following: (ROTATE, 1=YES, 2=NO, 3=Don't know)

- a. Browse models on manufacturer websites
- b. Browse models on retailer websites, like Best Buy.com or Wal-Mart.com
- c. Browse models on consumer review sites, like CNET or Consumer Reports

- d. Browse models in store
- e. Review store circulars
- f. Seek advice from sales associates in store
- g. Seek advice from friends and family
- h. Anything else?

[ASK IF PL1h=1]

PL1I. Please describe what else you are likely to do before purchasing your TV?

- 1. [OPEN END] (Don't know)

PL2. Are you likely to purchase your TV in store or online?

- 1. In store
- 2. Online
- 3. (Don't know)

[ASK IF PL2=1 or 3]

PL3. Which of the following best describes the type of store where you are likely to purchase this TV?

- 1. An electronics specialty store such as Best Buy
- 2. A mass merchandiser such as Wal-Mart or Target
- 3. A club store such as Costco or Sam's Club
- 4. A locally owned or independently owned store
- 00. Other, specify
- 98. (Don't know)

[ASK IF PL2=2 or 3]

PL4. Which of the following best describes the type of website where are you likely to purchase this TV?

- 1. A electronics specialty store website such as bestbuy.com
- 2. A mass merchandiser website such as walmart.com or target.com
- 3. A club store website such as Costco.com or samsclub.com
- 4. An online-only store such as amazon.com
- 00. Other, specify
- 98. (Don't know)

PURCHASE DECISION HIERARCHY

*PD1. Now, please think about the factors involved in the purchase of a TV. What would be your top three considerations when selecting a new TV? [PROBE FOR THREE]

- 1. (Size/Screen Size)

2. (Brand)
3. (Resolution (e.g. 1080p))
4. (Style or Casing)
5. (Color Saturation)
6. (Price)
7. (Technology Type (LCD, Plasma, CRT, DLP))
8. (Energy Efficiency/Energy Use)
9. (Green or Environmentally Friendly)
10. (Operating Costs/Life Cycle Costs)
00. (Other, specify)
98. (Don't know)

[ASK IF QPD1>1 ELSE QPD2] [I.E. ASK IF THE NUMBER OF FACTORS IN QPD1 IS GREATER THAN ONE]

*PD1a. Which of these considerations is the most important in the purchase of a TV?
[PROGRAM IN ONLY REPOSSES FROM PD1]

[ASK IF QPD1>2 AND NOT QPD1a=98 ELSE QPD2] [I.E. ASK IF THE NUMBER OF FACTORS IN QPD1 IS GREATER THAN TWO AND QPD1A IS NOT EQUAL TO "Don't Know"]

*PD1b. Which of these considerations is the second most important in the purchase of a TV?
[PROGRAM IN ONLY REPOSSES FROM PD1] [REMOVE RESPONSE FROM PD1a]

[SKIP IF PD1=8,98]

*PD2. When you think about purchasing a TV, will you consider how much energy it uses?

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

[IF PD2=2]

PD3. Why not? [MULTIPLE RESPONSE]

1. (I don't pay the electricity bill)
2. (Haven't thought about it/Not important)
00. (Other, specify)
98. (Don't know)

[ASK IF NOT QPD1=98 AND NOT QPD1=8, ELSE QES1]

*PD4. Think about the top considerations that you mentioned earlier: [READ IN RESPONSES FROM PD1]. On a scale of 1 to 7 where 1 is not important at all and 7 is very important, how important is energy efficiency compared to these other considerations when selecting a TV?
[8=(Don't know)]

AWARENESS OF ENERGY STAR [ASK ALL]

ES1. Are you aware of any certifications or labels available for TVs?

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

[ASK IF ES1=1]

*ES1a. Which ones are you aware of? [MULTIPLE RESPONSE]

1. (ENERGY STAR)
00. (Other, specify)
98. (Don't know)

[SKIP IF ES1a =1]

ES2. Have you heard of or seen the ENERGY STAR® label?

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

[ASK IF ES2=1 OR ES1a=1]

ES3. How familiar, would you say you are with the ENERGY STAR label? Would you say you are...

1. Very familiar
2. Somewhat familiar
3. Slightly familiar, or
4. Not at all familiar with the ENERGY STAR label?
5. (Don't know)

[ASK IF ES2=2,3]

ES3a. The ENERGY STAR label is a blue and white label with the word "energy" followed by a five-pointed star. ENERGY STAR labels are used by the Environmental Protection Agency and the Department of Energy to identify and label highly energy-efficient lighting and appliances for consumers. Before this description, how familiar were you with the ENERGY STAR label? Would you say you were...

1. Very familiar
2. Somewhat familiar
3. Slightly familiar, or
4. Not at all familiar before being read this description?
5. (Don't know)

[ASK IF ES3=1, 2 or 3 OR ES3a=1, 2 or 3]

*ES3b. What do you think an ENERGY STAR label means when it is on a TV? [MULTIPLE RESPONSE]

1. (Less pollution)
2. (Lower utility bills/saves money)
3. (Uses less energy)
4. (Good for the environment)
5. (High quality)
6. (Product is tested; meets standards)
7. (Government endorsement)
8. (Haven't thought about it/Not important)
00. (Other, specify)
98. (Don't know)

ENERGY STAR PURCHASE

*ESP1. As far as you know, did any of the TVs that you purchased in the past have the ENERGY STAR label?

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

FUTURE PURCHASE INTENT [ASK ALL]

*FP1. On a scale of 1 to 7, with 1 being very unlikely and 7 being very likely, the next time you make a TV purchase, how likely are you to purchase an ENERGY STAR TV? [(8=(Don't know))]

FP2. If you had a choice between two similar TVs, one high energy efficiency and one standard efficiency, and both cost the same, which one would you purchase?

1. The high energy efficiency TV
2. The standard efficiency TV
3. (Don't know)

FP3. What are reasons why you wouldn't purchase a high energy efficiency TV? [OPEN END]

98. (Don't know)

[IF FP2 = 1]

FP4. Why would you purchase the high energy efficiency TV? [MULTIPLE RESPONSE]

1. (Lower utility bills/Cost less to use)
2. (Use less energy)

- 3. (Better for the environment)
- 4. (General response about benefits of energy-efficient TVs)
- 00. (Other, specify)
- 98. (Don't know)

[ASK IF FP2=1 or 3]

*FP5. Would you be willing to purchase an energy-efficient TV if the cost was (1=Yes, 2=No, 3=Don't know)

- A. 50% more than a standard TV [IF =1, SKIP TO A1]
- B. 30% more than a standard TV [IF =1, SKIP TO A1]
- C. 15% more than a standard TV [IF =1, SKIP TO A1]
- D. 10% more than a standard TV [IF =1, SKIP TO A1]
- E. 5% more than a standard TV.

AWARENESS OF ENERGY EFFICIENCY CONSUMER ELECTRONIC OPTIONS [ASK ALL]

A1. Which of the following statements best characterizes your understanding of the TVs available for purchase:

- 1. None of TVs sold today are energy-efficient.
- 2. Some TVs are energy-efficient.
- 3. Most TVs are energy-efficient.
- 4. All of the TVs sold today are energy-efficient.
- 5. (Don't know)

BARRIERS/DRIVERS TO PURCHASE [ASK ALL]

*B1. On a scale from 1-7 where 1 means "Strongly Disagree" and 7 means "Strongly agree", please rate the following statements: [ROTATE, 8=(Don't know)]

- A. Energy-efficient TVs are less expensive in the long run than TVs that are not energy-efficient.
- B. Energy-efficient TVs are more expensive up-front than TVs that are not energy efficient.
- C. Energy-efficient TVs are good for the environment.
- D. Standard TVs perform better than energy-efficient TVs.

COMPUTERS AND MONITORS

[ASK IF C1b or C1c = 1, 2, 3, 4, or 5, ELSE SKIP TO AE1]

"Now, we would like to discuss computers and monitors with you." [READ IF C1B = 2, 3, 4, 5 or C1C = 2, 3, 4, 5] For the next series of questions, please answer for the computer/monitor that your household USES THE MOST FREQUENTLY.

C3. After you are done using your computer and monitor at night, do you...

1. Shut them both down completely
2. Put them both into stand by or sleep mode
3. Leave them both on
4. Leave one on but not the other
00. Other, specify
98. (Don't know)

[ASK IF C3=4]

C4. Which do you leave on at night?

1. Computer
2. Monitor
3. (Don't know)

C5. And when you're not using your desktop computer during the day, do you generally...

1. Shut it down completely
2. Put it into stand by or sleep mode
3. Leave it on
4. (Don't know)

C6. Approximately how many TOTAL HOURS PER WEEK does your household have the desktop computer and monitor turned on? Please include both weekdays and weekends in your response.

- 1.[OPEN ENDED NUMBER (0-168 hrs)]
998. (Don't know)

C7. As far as you know, does your desktop computer or monitor have an ENERGY STAR label? Would you say...

1. Only my desktop has an ENERGY STAR label
2. Only my monitor has an ENERGY STAR label
3. Both have an ENERGY STAR label
4. Neither have an ENERGY STAR label
5. (Don't know)

“Please think about a new desktop computer or monitor purchase for the following questions. Please answer as if you were shopping for a new computer or monitor.”

C8. When purchasing a desktop computer or monitor in the future, are you likely to purchase them in store or online?

1. In store
2. Online

3. (Don't know)

[ASK IF C8=1 or 3]

C9. Which of the following best describes the type of store where you are likely to purchase a desktop computer or monitor?

1. An electronics specialty store such as Best Buy
2. A mass merchandiser such as Wal-Mart or Target
3. A club store such as Costco or Sam's Club
4. A locally owned or independently owned store
00. Other, specify
98. (Don't know)

[ASK IF C8=2 or 3]

C10. Which of the following best describes the type of website where are you likely to purchase a desktop computer or monitor?

1. A electronics specialty store website such as bestbuy.com
2. A mass merchandiser website such as walmart.com or target.com
3. A club store website such as Costco.com or samsclub.com
4. An online-only store such as amazon.com
00. Other, specify
98. (Don't know)

C11. Now, please think about the factors involved in the purchase of a DESKTOP COMPUTER. What would be your top three considerations when selecting a new COMPUTER? [PROBE FOR THREE]

1. (Memory)
2. (Processor Speed)
3. (Software Options)
4. (Brand)
5. (Style or Casing)
6. (Price)
7. (Energy Efficiency/Energy Use)
8. (Green or Environmentally Friendly)
9. (Operating Costs/Life Cycle Costs)
00. (Other, specify)
98. (Don't know)

[ASK IF QC11>1 ELSE QC12] [I.E. ASK IF THE NUMBER OF FACTORS IN QC11 IS GREATER THAN ONE]

*C11a. Which of these considerations is the most important in the purchase of a desktop computer? [PROGRAM IN ONLY REPOSSES FROM C11]

[ASK IF QC11>2 AND NOT QC11A=98] [I.E. ASK IF THE NUMBER OF FACTORS IN QC11 IS GREATER THAN TWO AND QC11A IS NOT EQUAL TO "Don't Know"]

*C11b. Which of these considerations is the second most important in the purchase of a desktop computer [PROGRAM IN ONLY REPOSSES FROM C11] [REMOVE RESPONSE FROM C11a]

[ASK IF NOT QC11=98 AND NOT QC11=7 ELSE QC13]

*C12. Think about the top considerations that you mentioned earlier [READ IN RESPONSES FROM C11]. On a scale of 1 to 7 where 1 is not at all important and 7 is very important, how important is energy efficiency compared with these other considerations when selecting a COMPUTER? [8=(Don't know)]

C13. Now, please think about the factors involved in the purchase of a MONITOR. What would be your top three considerations when selecting a new MONITOR? [PROBE FOR THREE]

1. (Size/Screen Size)
2. (Brand)
3. (Resolution (e.g. 1080p))
4. (Style or Casing)
5. (Color Saturation)
6. (Price)
7. (Technology Type (LCD, Plasma, CRT, DLP))
8. (Energy Efficiency/Energy Use)
9. (Green or Environmentally Friendly)
10. (Operating Costs/Life Cycle Costs)
00. (Other, specify)
98. (Don't know)

[ASK IF QC13>1 ELSE QC14] [I.E. ASK IF THE NUMBER OF FACTORS IN QC13 IS GREATER THAN ONE]

*C13a. Which of these considerations is the most important in the purchase of computer monitor? [PROGRAM IN ONLY REPOSSES FROM C13]

[ASK IF QC13>2 AND NOT QC13A=98] [I.E. ASK IF THE NUMBER OF FACTORS IN QC13 IS GREATER THAN TWO AND QC13A IS NOT EQUAL TO "Don't Know"]

*C13b. Which of these considerations is the second most important in the purchase of a computer monitor [PROGRAM IN ONLY REPOSSES FROM C13] [REMOVE RESPONSE FROM C13a]

[ASK IF NOT QC13=98 AND NOT QC13=7 ELSE QAE1A]

*C14. Think about the top considerations that you mentioned earlier for purchasing a MONITOR [READ IN RESPONSES FROM C13]. On a scale of 1 to 7 where 1 is not at all important and 7

is very important, how important is energy efficiency compared with these other considerations when selecting a MONITOR? [8=(Don't know)]

ATTITUDES TOWARD ENERGY EFFICIENCY – GENERAL [ASK ALL]

AE1. On a scale from 1-7 where 1 means “Strongly Disagree” and 7 means “Strongly agree”, please rate the following statements regarding energy use in your home: [ROTATE, 8=(Don't know)]

- A. I am not very concerned about the amount of energy used in my home.
- B. It is my right to use as much energy as I want, as long as I can pay for it.
- C. Making energy-related improvements in my home is not a priority for me.
- D. The household consumer is such a small part of the whole energy consumption picture that it really doesn't matter how a household uses energy.
- E. When looking to buy a product that uses energy, my household seeks out the most energy-efficient product available.
- F. Everyone should make a real effort to save energy.
- G. Instead of building new power plants, customers should use less electricity.

DEMOGRAPHICS

I just have a few demographic questions for you.

D1. What type of residence do you live in? (READ LIST IF NEEDED)

- 1. (A mobile home)
- 2. (A one-family house detached from any other house)
- 3. (A one-family house attached to one or more houses)
- 4. (A building with 2 apartments)
- 5. (A building with 3 or 4 apartments)
- 6. (A building with 5 or more apartments)
- 00. (Other, Specify)
- 98. (Don't Know)
- 99. (Refused)

D2. Including yourself, how many people normally live in your household on a full time basis?

- 1. 1
- 2. 2
- 3. 3
- 4. 4
- 5. 5
- 6. 6
- 7. 7 or more
- 8. (Don't Know)
- 9. (Refused)

D3. Which of the following best represents your annual household income from all sources in 2008, before taxes? Was it...? (*READ*)

1. Less than \$25,000²
2. \$25,000-to less than \$35,000
3. \$35,000- to less than \$50,000
4. \$50,000- to less than \$75,000
5. \$75,000- to less than \$100,000
6. \$100,000- to less than \$150,000
7. \$150,000- to less than \$200,000
8. \$200,000 or more
9. (Don't Know)
10. (Refused)

D4. What is the highest level of education that you have completed so far? (*READ CATEGORIES, IF NECESSARY*)

1. Less than 9th grade
2. 9th to 12th grade no diploma
3. High school graduate (includes equivalence)
4. Some college, no degree
5. Associates degree
6. Bachelors degree
7. Graduate or professional degree
8. (Don't know)
9. (Refused)

D5. Which of the following best describes your age?

1. Less than 18 years old
2. 18-24 years old
3. 25-34 years old
4. 35-44 years old
5. 45-54 years old
6. 55-64 years old
7. 65 or older
98. (Don't know)
99. (Refused)

² We changed the "less than \$20,000" category to be "less than \$25,000" to match the categories of the data tables on the American FactFinder website for the 2006 American Community Survey.

D6. Do you own or rent your home?

1. Own
2. Rent
00. (Other, specify)
98. (Don't know)
99. (Refused)

D7. Which best characterizes your involvement with your electricity bill.

1. I pay it
2. I am aware of it but don't pay it
3. My landlord pays it
4. (Don't know)
5. (Refused)

Thank you for your time.

D8. Note to interviewer: Record respondent gender.

In-Store – Mystery Shopper Conversation Form (TVs)

Note to Researcher: The following questions are intended to get a sense of whether the salesperson on the floor actively promotes energy efficiency or has an understanding of energy efficiency for that product. You don't have to ask each question as it is written, but the topics of these questions should be covered in the conversation with the salesperson. Please note the total number of models shown to you, the number of models shown that were ENERGY STAR or ENERGY STAR+30% (ES+30%), and whether the salesperson explained the benefits of energy efficiency without you asking questions about it or only after you inquired. Remember, you are a MYSTERY shopper, so act like a regular customer!

*You have been assigned to shop for a TV. For **each** type: LCD, Plasma, and Rear Projection, ask to be shown a **minimum** of 3 different TV models. Be prepared to provide a screen size.*

Conversation Guide

“I'm looking for a new [screen size] TV. I would like to see at least three LCD, Plasma, and DLP TVs to compare them. Are you the right person to ask a few questions? Can you show me the TVs that you would recommend?”

1. What makes this a good TV? What features are most important when picking out my new TV?
2. If you were going to buy a [screen size] TV which one would you buy? Why?

**Note if salesperson brings up energy efficiency, ENERGY STAR, or the ES+30% Program logo or promotional items without you asking. (check all that they say)*

3. Do you have any models on promotion?

**Note if salesperson shows you the promotional ENERGY STAR or the ES+30% Program logo (check all that they say)*

[ASK Q4 IF energy efficiency is NOT mentioned]

4. Do you have any TVs like these that are energy-efficient?

[ASK ALL Q5-6]

5. How are these (EE) TVs different from other standard TVs?
6. Can you tell me which models are energy-efficient?

[ASK Q7-8 IF salesperson brings up ENERGY STAR unprompted]

7. What does ENERGY STAR mean? What is it exactly?
8. Which of these models are ENERGY STAR compliant?

[ASK Q9-10 IF salesperson does NOT bring up ENERGY STAR]

9. I have been hearing a lot about ENERGY STAR. What does ENERGY STAR mean? What is it exactly?

10. Which of these models are ENERGY STAR compliant?

[ASK ALL]

11. Does it cost more money to buy an energy-efficient TV?

12. Do energy-efficient TVs perform better or worse than standard TVs?

Thank you for your time. We'll think about it.

Mystery Shopper Questionnaire (TVs)

Please complete this section after the mystery shopping session.

1. Did you speak with: (circle your response below):

Salesperson

Stocker

Store Manager/Floor Manager

Please indicate how many models you saw for each category below. **Write a zero "0" if you were shown NO models for each TV type.**

Type	Total Shown	Total ENERGY STAR (ES)	Total ES+30%	Total Energy Efficient TVs Shown (not ES+30% or ES)
<i>LCD</i>				
<i>Plasma</i>				
<i>Projection</i>				

2. How many of the models shown to you were described as energy-efficient **before** you explicitly asked about energy efficiency (EE)?

Type	Total Number of Models Voluntarily Described as EE	Check Here if NO Models Were Described as EE
<i>LCD</i>		
<i>Plasma</i>		
<i>Projection</i>		

3. Did the salesperson bring up energy efficiency, ENERGY STAR, or the ES+30% Program logo or promotional items **without you asking?** (check all that they mention)

Energy Efficiency (not ES+30% or ENERGY STAR): Yes _____ No _____

ENERGY STAR: Yes _____ No _____

ES+30% program logo: Yes _____ No _____

4. Did the salesperson show you the ENERGY STAR or the ES+30% Program models **after** you asked about EE? (check all that they mention)

Energy Efficiency (not ES+30% or ENERGY STAR): Yes _____ No _____

ENERGY STAR: Yes _____ No _____

ES+30% program logo: Yes _____ No _____

5. Please indicate the salesperson's response to your question: *What does ENERGY STAR mean?*

6. Please list the reasons why the salesperson said it was a “good” TV and why they would “buy it.”
- a. _____
 - b. _____
 - c. _____
 - d. _____
7. Did the salesperson indicate which **TVs** they had on promotions? (Y/N) _____
8. Please list the **TVs** on promotion you were shown and how they were promoted:
- a. _____
 - b. _____
 - c. _____
 - d. _____
9. Please indicate the extent to which the salesperson could easily locate efficient TVs. Record your answers on a scale of 1 to 7 with one meaning “could not find energy-efficient TVs” and seven meaning “could find efficient TVs very easily.” _____
10. Please indicate the extent to which the salesperson mentioned energy efficiency as a *positive feature* in his or her discussion of models. Record your answers on a scale of 1 to 7 with one meaning “not at all positive” and seven meaning “very positive.” _____
11. Please indicate the extent to which the salesperson was knowledgeable about ENERGY STAR. Record your answers on a scale of 1 to 7 with one meaning “did not know about ENERGY STAR” and seven meaning “was very knowledgeable about ENERGY STAR.” _____
12. Please indicate the extent to which the salesperson was knowledgeable about the ES+30% program. Record your answers on a scale of 1 to 7 with one meaning “did not know about the ES+30% program” and seven being “Very knowledgeable about the ES+30% program.”

13. Did the salesperson indicate that it costs more money to buy an energy-efficient **TV**? Please selection one of the options below:
- a. ___ Energy-efficient models **cost more money** than non-energy-efficient models
 - b. ___ Energy-efficient models **cost the same amount of money** than non-energy-efficient models
 - c. ___ Energy-efficient models **cost less money** than non-energy-efficient models
14. Did the salesperson indicate that an energy-efficient **TV performs (or works)** better than non-energy-efficient models? Please select one of the options below:
- a. ___ Energy-efficient models perform **better** than non-energy-efficient models
 - b. ___ Energy-efficient models perform **the same as** than non-energy-efficient models
 - c. ___ Energy-efficient models perform **worse** than non-energy-efficient models

³ Note that salesperson is unlikely to discuss ES+30% program

15. If the salesperson discussed energy efficiency, the ES+30% program, or ENERGY STAR with respect to **TVs**, please indicate if the salesperson mentioned any of the following benefits:

- a. Annual Operating Costs
- b. Life cycle costs
- c. Life cycle savings
- d. Lower utility bills
- e. Green
- f. Environmentally friendly
- g. Other, specify below:

In-Store – Mystery Shopper Conversation Form (Computers)

Note to Researcher: The following questions are intended to get a sense of whether or not the salesperson on the floor actively promotes energy efficiency or has an understanding of energy efficiency for that product. You don't have to ask each question as it is written, but the topics of these questions should be covered in the conversation with the salesperson. Please note the total number of models shown to you, the number of models shown that were ENERGY STAR or ENERGY STAR+30% (ES+30%), and whether the salesperson explained the benefits of energy efficiency without you asking questions about it or only after you inquired. Remember, you are a MYSTERY shopper, so act like a regular customer!

*You have been assigned to shop for a new computer. If the salesperson asks, you are looking for a computer for home use. For **each** type: Monitors, Desktop Towers, and Bundled Units, ask to be shown a minimum of 3 different models.*

Conversation Guide

“I'm looking for a new desktop computer and monitor. I would like to see at least three different towers and monitors to compare them. Are you the right person to ask a few questions? Can you show me the computers that you would recommend?”

1. What makes this a good computer/monitor/bundle? What features are most important when picking out my new computer/monitor?
2. If you were going to buy a new computer/monitor/bundle, which one would you buy? Why?

**Note if salesperson brings up energy efficiency, ENERGY STAR, or the ES+30% Program logo or promotional items without you asking. (check all that they say)*

3. Do you have any models on promotion?

**Note if salesperson shows you the promotional ENERGY STAR or the ES+30% Program logo (check all that they say)*

[ASK Q4 if energy efficiency is NOT mentioned]

4. Do you have any computers/monitors/bundles like these that are energy-efficient?

[ASK ALL Q5-6]

5. How are these (energy-efficient) flat computers/monitors/bundles different from other standard computers/monitors?
6. Can you tell me which models are energy-efficient?

[ASK Q7-8 IF salesperson brings up ENERGY STAR unprompted]

7. What does ENERGY STAR mean? What is it exactly?

8. Which of these models are ENERGY STAR compliant?

[ASK Q9-10 IF salesperson does NOT bring up ENERGY STAR]

9. I have been hearing a lot about ENERGY STAR. What does ENERGY STAR mean? What is it exactly?

10. Which of these models are ENERGY STAR compliant?

[ASK ALL]

11. Does it cost more money to buy an energy-efficient model?

12. Do energy-efficient computers perform better or worse than standard computers?

Thank you for your time. We'll think about it.

Mystery Shopper Questionnaire (Computers)

Desktop Computers, Monitors, Bundled Units

Please complete this section after the mystery shopping session.

GENERAL ENERGY EFFICIENCY INSIGHTS

1. Did you speak with: (circle your response below):

Salesperson

Stocker

Store Manager/Floor Manager

2. Please indicate how many models you saw for each category below. **Add a zero "0" if you were shown NO models for each Computer type.**

Type	Total Shown	Total ENERGY STAR (ES)	Total ES+30%	Total Other Energy Efficient computers Shown (not ES+30% or ES)
<i>Desktop Tower</i>				
<i>Monitor</i>				
<i>Bundled Unit</i>				

3. How many of the total models shown to you did the salesperson describe as energy-efficient **before** you explicitly asked about energy efficiency (EE)? *Please enter a zero in the box if NO computers were described as energy-efficient.*

Type	Total Number of Models Voluntarily Described as EE
<i>Desktop Tower</i>	
<i>Monitor</i>	
<i>Bundled Unit</i>	

4. Did the salesperson bring up energy efficiency, ENERGY STAR, or the ES+30% Program logo or promotional items without you asking? (check Yes or No to each category below)

Energy Efficiency (not ES+30% or ENERGY STAR): Yes _____ No _____

ENERGY STAR: Yes _____ No _____

ES+30% program logo: Yes _____ No _____

5. Did the salesperson show you ENERGY STAR or the ES+30% Program models **after** you asked about EE? (check Yes or No to each category below)

Energy Efficiency (not ES+30% or ENERGY STAR): Yes _____ No _____

ENERGY STAR: Yes _____ No _____

ES+30% program logo: Yes _____ No _____

6. Please indicate the salesperson's response to your question: *What does ENERGY STAR mean?*

7. Please indicate the extent to which the salesperson was knowledgeable about ENERGY STAR. Record your answers on a scale of 1 to 7 with one meaning "did not know about ENERGY STAR" and seven being "very knowledgeable about ENERGY STAR." _____

8. Please indicate the extent to which the salesperson was knowledgeable about the ES+30% program. Record your answers on a scale of 1 to 7 with one meaning "did not know about the ES+30% program" and seven being "very knowledgeable about the ES+30% program."⁴ _____.

9. Did the salesperson indicate that it costs more money to buy energy-efficient **desktop computers, monitors, or bundled units**? Please selection one of the options below:

- a. ___ Energy-efficient models **cost more money** than non-energy-efficient models
- b. ___ Energy-efficient models **cost the same amount of money** than non-energy-efficient models
- c. ___ Energy-efficient models **cost less money** than non-energy-efficient models

10. Did the salesperson indicate that an energy-efficient **desktop computer, monitor, or bundled unit performs (or works)** better than non-energy-efficient models? Please select one of the options below:

- a. ___ Energy-efficient models perform **better** than non-energy-efficient models
- b. ___ Energy-efficient models perform **the same as** than non-energy-efficient models
- c. ___ Energy-efficient models perform **worse** than non-energy-efficient models

11. If the salesperson discussed energy efficiency, the ES+30% program, or ENERGY STAR with respect to **desktop computers, monitors, or bundled units** please indicate if the salesperson mentioned any of the following benefits:

- a. ___ Annual Operating Costs
- b. ___ Life cycle costs
- c. ___ Life cycle savings
- d. ___ Lower utility bills
- e. ___ Green
- f. ___ Environmentally friendly
- g. Other, specify below:

⁴ Note that salesperson is unlikely to discuss ES+30% program

Other notes about the salesperson and energy efficiency generally:

DESKTOP COMPUTERS

12. Please list the reasons why the salesperson said it was a “good” **desktop computer** and why they would “buy it.”

- a. _____
- b. _____
- c. _____
- d. _____

13. Did the salesperson indicate which **desktop computers** they had on promotion? (Y/N) _____

14. Please list the **desktop computers** on promotion you were shown and how they were promoted:

- a. _____
- b. _____
- c. _____
- d. _____

15. Please indicate the extent to which the salesperson could easily identify energy-efficient **desktop computers**. Record your answers on a scale of 1 to 7 with one meaning “could not find energy-efficient computers” and seven being “could find energy-efficient computers very easily.”

16. Please indicate the extent to which the salesperson mentioned energy efficiency as a *positive feature* in his or her discussion of **computers**. Record your answers on a scale of 1 to 7, with one meaning “not at all positive” and seven meaning “very positive.” _____

MONITORS

17. Please list the reasons why the salesperson said it was a “good” **monitor** and why they would “buy it.”

- a. _____
- b. _____
- c. _____
- d. _____

18. Did the salesperson indicate which **monitors** they had on promotion? (Y/N) _____

19. Please list the **monitors** on promotion you were shown and how they were promoted:

- a. _____

- b. _____
- c. _____
- d. _____

20. Please indicate the extent to which the salesperson could easily identify energy-efficient **monitors**. Record your answers on a scale of 1 to 7 with one meaning “could not find energy-efficient monitors” and seven being “could find energy-efficient monitors very easily.” _____
21. Please indicate the extent to which the salesperson mentioned energy efficiency as a *positive feature* in his or her discussion of **monitors**. Record your answers on a scale of 1 to 7, with one meaning “not at all positive” and seven meaning “very positive.” _____

BUNDLED UNITS _____

22. Please list the reasons why the salesperson said it was a “good” **bundle** and why they would “buy it.”
- a. _____
 - b. _____
 - c. _____
 - d. _____
23. Did the salesperson indicate which **bundled units** they had on promotion? (Y/N) _____
24. Please list the **bundled units** on promotion you were shown and how they were promoted:
- a. _____
 - b. _____
 - c. _____
 - d. _____
25. Please indicate the extent to which the salesperson could easily identify energy-efficient **bundled units**. Record your answers on a scale of 1 to 7 with one meaning “could not find energy-efficient monitors” and seven being “could find energy-efficient monitors very easily.” _____
26. Please indicate the extent to which the salesperson mentioned energy efficiency as a *positive feature* in his or her discussion of **bundled units**. Record your answers on a scale of 1 to 7, with one meaning “not at all positive” and seven meaning “very positive.” _____

POP and Product Observations (TVs)¹

Note to Researcher: The aim of this effort is to take inventory of all Energy Efficient LCD, Plasma, and DLP Rear Projection TVs. For each TV, please circle the type of promotions (both energy efficiency related or not) for each of the models listed below. If there are **additional models labeled as Energy Efficient that are not included in the list below**, please record their information in the “Additional Energy Efficient LCD, Plasma, and Rear Projection TVs” grid. **Models NOT labeled as Energy Efficient DO NOT need to be added.**

For all questions, please mark the appropriate responses. Include any additional observations or comments below the questions, in the margin, or on the back of the page.

Point of Purchase Inventory

TVs (LCDs, Plasmas, and Rear Projection Only)										
How many total LCD, Plasma, and Rear Projection TVs (number) are on display at the store? Please provide your answer in numbers, e.g. 59 total LCD, Plasma, and Rear Projection TVs							LCD	Plasma	Rear Projection	
Of those TVs, how many are labeled as ENERGY STAR compliant? Please provide your answer in numbers, e.g. 59 total LCD, Plasma, and Rear Projection TVs							LCD	Plasma	Rear Projection	
Are there any messages playing on any TVs in the store related to energy efficiency or using less energy? Please circle your response							Yes		No	
Please fill out section below for each TV that is labeled as ENERGY STAR compliant or as energy-efficient. Circle applicable type/s of energy efficiency promotional materials for that TV.										
#	On Shelf or Display	Screen Size (inches)	Price	Type	Make/Brand	Model Number	Promoted as Energy Efficient?	Types of Promotional Material/s		
1	<input type="checkbox"/> YES If Yes, please answer questions at right <input type="checkbox"/> NO	15		LCD	Dynex	DX-L15-10A	<input type="checkbox"/>	Energy Star Logo	Regional ES+30% Logo	Shelf Tags/Talkers
								Sticker on the Shelf	Sticker on TV Casing/Screen	Brochure
								Rebate Coupon	End Cap Display	EE Promotion on TV Box
2	<input type="checkbox"/> YES If Yes, please answer questions at right <input type="checkbox"/> NO	19		LCD	Dynex	DX-LCD19-09	<input type="checkbox"/>	Energy Star Logo	Regional ES+30% Logo	Shelf Tags/Talkers
								Sticker on the Shelf	Sticker on TV Casing/Screen	Brochure
								Rebate Coupon	End Cap Display	EE Promotion on TV Box

¹ Note: The TV and Computer POP and Observation forms are abridged.

#	On Shelf or Display	Screen Size (inches)	Price	Type	Make/Brand	Model Number	Promoted as Energy Efficient?	Types of Promotional Material/s		
---	---------------------	----------------------	-------	------	------------	--------------	-------------------------------	---------------------------------	--	--

3	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	22		LCD	Dynex	DX-LCD22-09	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	Regional ES+30% Logo Sticker on TV Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on TV Box
4	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	22		LCD	Dynex	DX-LTDVD2-09	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	Regional ES+30% Logo Sticker on TV Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on TV Box
5	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	Regional ES+30% Logo Sticker on TV Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on TV Box
6	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	Regional ES+30% Logo Sticker on TV Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on TV Box
7	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	Regional ES+30% Logo Sticker on TV Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on TV Box
8	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i>						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf	Regional ES+30% Logo Sticker on TV Casing/Screen	Shelf Tags/Talkers Brochure

#	On Shelf or Display	Screen Size (inches)	Price	Type	Make/Brand	Model Number	Promoted as Energy Efficient?	Types of Promotional Material/s		
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	<input type="checkbox"/> NO							Rebate Coupon	End Cap Display	EE Promotion on TV Box
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POP and Product Observations (Computers and Monitors)

*Note to Researcher: The aim of this effort is to take inventory of all Energy Efficient Computers, Monitors, and Bundled Units. For each model, please circle the type of promotions (both energy efficiency related or not) for each of the models listed below. If there are **additional models labeled as Energy Efficient that are not included in the list below**, please record their information in the “Additional Energy Efficient Computers, Bundles, and Monitors” grids. If adding Bundled Units, please write in both the Desktop Tower model number and the Monitor model number. **Models NOT labeled as Energy Efficient DO NOT need to be added.***

For all questions, please mark the appropriate responses. Include any additional observations or comments below the questions, in the margin, or on the back of the page.

Point of Purchase Inventory

Desktop Computers, Bundled Units, and Monitors										
How many total computers (not laptops) are on display at the store (energy-efficient or not)?						<i>Desktops</i>	<i>Bundles</i>	<i>Monitors</i>		
Of those computers, how many are labeled as ENERGY STAR compliant?						<i>Desktops</i>	<i>Bundles</i>	<i>Monitors</i>		
Please fill out section below for each computer that is labeled as ENERGY STAR compliant or as energy-efficient. Circle applicable type/s of energy efficiency promotional materials for that computer.										
Computer Towers										
#	On Shelf or Display	Screen Size (inches)	Price	Type	Make/Brand	Model Number	Promoted as Energy Efficient?	Types of Promotional Material/s		
1	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	n/a		Tower	Acer	AX1700 U3700A	<input type="checkbox"/>	Energy Star Logo	ES+30% Logo	Shelf Tags/Talkers
								Sticker on the Shelf	Sticker on Computer Casing/Screen	Brochure
								Rebate Coupon	End Cap Display	EE Promotion on Box
2	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	n/a		Tower	Apple	MB138LL /A	<input type="checkbox"/>	Energy Star Logo	ES+30% Logo	Shelf Tags/Talkers
								Sticker on the Shelf	Sticker on Computer Casing/Screen	Brochure
								Rebate Coupon	End Cap Display	EE Promotion on Box

#	On Shelf or Display	Screen Size (inches)	Price	Type	Make/Brand	Model Number	Promoted as Energy Efficient?	Types of Promotional Material/s		
---	---------------------	----------------------	-------	------	------------	--------------	-------------------------------	---------------------------------	--	--

3	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	n/a		Tower	Apple	MA970-LL/A	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf	ES+30% Logo Sticker on Computer Casing/Screen	Shelf Tags/Talkers Brochure EE Promotion on Box
4	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	n/a		Tower	Apple	MB139LL/A	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf	ES+30% Logo Sticker on Computer Casing/Screen	Shelf Tags/Talkers Brochure EE Promotion on Box
5	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	n/a		Tower	Dell	I530S-108B	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf	ES+30% Logo Sticker on Computer Casing/Screen	Shelf Tags/Talkers Brochure EE Promotion on Box
6	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf	ES+30% Logo Sticker on Computer Casing/Screen	Shelf Tags/Talkers Brochure EE Promotion on Box
7	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf	ES+30% Logo Sticker on Computer Casing/Screen	Shelf Tags/Talkers Brochure EE Promotion on Box
8	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i>						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf	ES+30% Logo Sticker on Computer Casing/Screen	Shelf Tags/Talkers Brochure

#	On Shelf or Display	Screen Size (inches)	Price	Type	Make/Brand	Model Number	Promoted as Energy Efficient?	Types of Promotional Material/s		
---	---------------------	----------------------	-------	------	------------	--------------	-------------------------------	---------------------------------	--	--

	<input type="checkbox"/> NO							Rebate Coupon	End Cap Display	EE Promotion on Box
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Bundled and Combination Units

Please fill out section below for each computer that is labeled as ENERGY STAR compliant or as energy-efficient.
Circle applicable type/s of energy efficiency promotional materials for that computer.

#	On Shelf or Display	Screen Size (inches)	Price	Type	Make/Brand	Model Number	Promoted as Energy Efficient?	Types of Promotional Material/s		
1	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	20		Combo	Apple	MB324 LL/A	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
2	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	20		Combo	Apple	MB323 LL/A	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
3	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	24		Combo	Apple	MB325 LL/A	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
4	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
5	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
6	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box

Computer Monitors

Please fill out section below for each monitor that is labeled as ENERGY STAR compliant or as energy-efficient.
Circle applicable type/s of energy efficiency promotional materials for that monitor.

#	On Shelf or Display	Screen Size (inches)	Price	Type	Make/Brand	Model Number	Promoted as Energy Efficient?	Types of Promotional Material/s		
1	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	18.5		Monitor	Acer	X183Hb	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
2	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	19		Monitor	Acer	P191Wbd	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
3	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	19		Monitor	Acer	X193Wbd	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
4	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	19		Monitor	Acer	AL1916Cb	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
5	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	19		Monitor	Acer	AL1916WAB	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
6	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	19		Monitor	Acer	AL2216WBD	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box

7	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	20		Monitor	Acer	X203H	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
8	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO	22		Monitor	Acer	X223WB D	<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
9	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
10	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
11	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box
12	<input type="checkbox"/> YES <i>If Yes, please answer questions at right</i> <input type="checkbox"/> NO						<input type="checkbox"/>	Energy Star Logo Sticker on the Shelf Rebate Coupon	ES+30% Logo Sticker on Monitor Casing/Screen End Cap Display	Shelf Tags/Talkers Brochure EE Promotion on Box

BIBLIOGRAPHY

Energy Star. 2008. *Unit Shipment Data*.

<http://www.energystar.gov/usd> (accessed 20 October 2009).

The Nielsen Company. Universe Estimates of TV Ownership, Jan. 1, 2009.

G Northwest Energy Efficiency Alliance - Consumer Electronics Opportunity Prospectus

2/4/09

Background:

A few years ago, NEEA developed a retail and upstream infrastructure for energy efficient lighting and white goods. The infrastructure comprised of a network of relationships with retailers and manufacturers. By leveraging the buying power of the Northwest, initiating upstream programs and partnering with our utilities, NEEA was able to obtain CFLs and above Energy Star energy efficient clothes washers at retail, surpassing the availability of these products in other parts of the country. Working together with Northwest utilities and public benefit administrators, we were able to drive consumer demand for these products. As a result, the Northwest quickly achieved significant market share of energy efficient clothes washers and CFLs before the rest of the country, and continues to realize the savings from those programs.

Realizing the strategic importance of retail, NEEA is proposing to rebuild the consumer product platform and extend it to include any electric-powered product that affects load as a key part of the residential 2010-2014 business plan. The retail channel is where consumers shop, and we must influence what products are available and promoted if we are to change consumer purchase behavior and initiate real change in the market adoption of energy efficient products. Our overall strategy for 2010-2014 addresses big box, regional, independents, and online retailers. We will also work with manufacturers on energy efficiency initiatives (i.e., adjusting manufacturer defaults for brightness and standby settings on TVs) and buy-down programs.

A consumer products infrastructure can transform the Northwest market. By establishing relationships with retailers, we can change stocking and promotion practices; and therefore, change purchase behavior of consumers. By working with manufacturers, we can influence energy efficiency levels of their products. By being involved and actively changing the marketplace, we can have a greater voice and push even harder on specification development with Energy Star and CEE.

The initial area of focus in 2010 will be in the electronics sector. Plug load growth is the fastest growing end use in residential and of great concern to the region. As budget allows, we will expand into lighting, white goods, and other areas of opportunity.

A short-term opportunity has presented itself for 2009. California utilities, led by PG&E, are forming a consortium to administer an upstream program for electronics. The opportunity is on strategy and timely. Several Northwest utilities have expressed interest in either participating in this initiative or starting their own electronics program. NEEA was asked to review the program to see if it could work for the Northwest region by the Residential Expert Committee.

Description of the Consumer Electronics Initiative:

PG&E has contracted with QDI Strategies and Energy Solutions to develop a full-scale upstream program for electronics. PG&E piloted this program in 2008 and based on its success in the market, they are ready to expand. They are bringing on board other California utilities (SMUD, Edison and San Diego) and would like to partner with the rest of the West Coast up to BC Hydro and eventually have a national program. California's aggressive plug load savings goal for their utilities is driving this project. PG&E has a goal of achieving 15-25% market share by 2011 and project the savings opportunity for their territory to be more than 2,000 GWhr for 2009-2011.

This project is contracting directly with major manufacturers and retailers to deliver upstream/midstream incentives for energy-efficient consumer electronics.

The first phase for 2009 includes flat screen televisions exceeding Energy Star specifications by 15% (CEE Tier 2), Computer monitors exceeding Energy Star specifications by 25%, Energy Star 4.0 desktop computers. *For the Northwest, we recommend including the flat screen televisions only for 2009.*

Future products include: game consoles, all-in-one printers/faxes, smart strips, and laptops.

Retailers would be required to use in-store signage and other marketing vehicles and allow staff training to occur.

The "relationship consultant" (PG&E has hired QDI for this role) is responsible for negotiating retailer contracts and incentives, provide in-store signage from utilities, and collecting and aggregating sales data for utilities.

Energy Solutions will provide the data collection services. This company has worked with retailers to create an electronic data interface that draws information from participating retailers by ZIP and unique transaction codes. They will allocate product in utility service areas, provide sales data for incentive payments by utility, provide training and detailing services, and ensure in-store signage is displayed. In addition, we would be able to obtain sales data for non-qualifying units so we can obtain a baseline and begin to measure market share. No one in the industry has baseline numbers today, so this is a significant value for us.

A governing council comprised of participating utilities and efficiency organizations (NEEA would represent the Northwest utilities) would determine future product selection and product strategy. QDI would most likely help facilitate and administer the council. The "rules of engagement" have yet to be written. If NEEA participates, we would help draft the process of working together.

The major big box retailers are expected to be on board 1Q 2009. Best Buy, Wal-Mart, and Sam's Club are signed. Sears/Kmart and Costco are expected to sign on this quarter. In addition, National (the largest buying group that represents thousands of small independent stores) has signed; FRY's is reviewing the contract. Major online retailers have entered negotiations. Dell has signed, and negotiations are in processes with other OEMs.

Rationale:

Electronics/plug loads is the fastest growing end-use in the nation. Electronics load is growing at 6% per year, and is estimated to be 11-14% of consumer electric use (national statistics). Achieving potential energy savings is a challenge due to several factors: the dynamic nature of electronics technology, relatively low consumption of each unit, and the high volume sales.

We know from experience that an upstream model is very powerful in changing markets, especially when dollars are small per product. Justifying large consumer rebates can be challenging, especially for electronics. Small unit energy savings mean small consumer rebates, which aren't as effective on purchase behavior. The impact of channel actions is far more significant. Manufacturers and retailers' buying organizations decide what is stocked and sold. An incentive to the channel can impact product line profitability; therefore, an incentive can influence what products are stocked and sold.

An upstream strategy of this magnitude can best be accomplished by collaborating with a critical mass and achieving economies of scale. NEEA has had separate discussions with Best Buy. Best Buy is interested in pushing the envelope of energy efficiency, and would like to work with a progressive group to do this – not individual organizations. In addition, NEEA has talked to other organizations that are interested in developing electronic programs. This consumer electronics initiative is the most developed and would be the only program ready to go in 2009.

Launching a small-scale electronics program in 2009 would allow us to ramp up to a more robust platform in 2010 and into the next funding cycle. Our long-term strategy is to support a platform across the northwest capable of delivering key energy efficient consumer products for all major categories, including lighting and white goods. California utilities and NEEP are also interested in expanding to other product categories. By working together, we can accomplish our northwest goals and achieve a transformed market more effectively and efficiently and more quickly.

The savings opportunity in 2009 would be limited because product is already manufactured and being shipped. For example, participating retailers are bringing in CEE Tier 2 TVs. We have just learned that 80% of all ENERGY STAR TVs qualify for Tier 2. We cannot influence the product selection for 2009 because there is always a lag time in the product life cycle with manufacturers and retailers – generally 18-24 months. However, getting involved now allows us to influence incremental market share or in-store sales of the Tier 2 TVs for 2009. In addition, and most importantly, getting involved now allows us the opportunity to begin influencing 2010 and 2011 products. If we wait until 2010 to get involved, we have limited opportunity to influence the strategy of this consumer electronics program, or will be that much further behind if we wanted to start our own northwest program.

Implementation:

NEEA sees four main functions associated with this project:

- governance/coordination function - with partners, NW utilities, as well as CEE and ENERGY STAR

- local implementation function – POP, training, and detailing stores
- data collection/reporting
- strategy development/new product roadmap to layout a path for future years.

NEEA's role would be to administer these four functions, meet regularly with all partners, and coordinate efforts with all participating utilities in the Northwest. NEEA would represent the Northwest utilities on the Council and to ensure Northwest interests are incorporated into the initiative.

If we can get this initiative funded in February, and we can get started with the existing contractors on this program, we can launch in April 2009 (it takes 8 weeks from funding to launch).

2009 Objectives:

- To achieve 1aMW savings with TVs in 2009
- To establish a baseline in the northwest for market share and cost effectiveness for TVs and computer monitors
- To pilot a platform that influences product selection and stocking, and eventually the manufacture of energy efficient products
- To bring the Northwest together as a significant and influential “buying block”
- To gain learnings to inform the creation of a larger platform for key plug load products, including white goods and lighting, in the 2010-2014 funding cycle
- To launch by Second Quarter 2009.

***Preliminary Savings Calculations:**

Total NW Market	1,463,768 units/yr	Ecos forecast for 2009
Base Energy Usage	442 kWh/unit	Weighted average of all sizes and types based on Ecos model
Efficient Energy usage	309 kWh/unit	Assumes 30% savings for CEE Tier 2
Savings/unit	133 kWh/unit	PG&E is using 137; so this is close
Baseline Mkt Share	12%	From Ecos estimates, but we won't really know until we get some data
Utility Program Incremental Mkt Share	5%	A conservative estimate of incremental effect. It might be bigger but we won't know until we get baseline nailed down
Net Market Share	0%	Since this is an "opt-in" project all of the savings are presumed to be counted by funding utilities
Total Market Share	17%	PG&E was projecting 16.5% in 2008 Funding utilities may be able to count all these savings in 2009 but in 2010 we will probably have to adjust for baseline
Baseline Savings	2.58 aMW	
Program Savings	1.11 aMW	
Net Market Effect Savings	0	
Total 12 months	3.69 aMW	

<p>Total 9 months</p>	<p>2.77 aMW</p>	<p>Assumes start in Q2 2009.</p> <p>To be shared out in proportion to funding as in the 80 Plus Opt-in.</p> <p>Actual sales location data will be made available to funders.</p>
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* Calculations for TVs only.

Additional Resource Needs:

Below is a rough estimate we have received from California contractors this week for implementing this program in the Northwest region. The numbers assume 690 stores. We've not had a chance to fine tune the numbers, but do think they aren't that far off. Once we know who is interested, we can tighten these numbers. We can also look at an alternative plan like launching in a few areas vs. the whole region depending on interest. *The funds are not in the current Residential 2009 Operations Budget, so we will have to determine the funding strategy if there is interest in pursuing this initiative.*

Regional Budget:

Program Support (utility coordination, planning, performance tracking)	\$ 150,000
Account Management (all target channels)	\$ 250,000
Retail and field support	\$ 300,000
Retail Administration	\$ 80,000
Data collection and tracking	\$ 150,000
3 rd Party evaluation, baseline work	\$ 100,000
FTE	\$ 150,000
Sub Total	\$1,160,000
NEEA Administrative Processing 10% of above numbers (if opt-in)	\$ 116,000
Upstream manufacturer/retailer incentives	\$1,200,000
Total	\$2,496,000

Next Steps:

- Conference call with Board and their staff the week of February 9th.
- Commitments needed by February 20th.