Market Progress Evaluation Report

ENERGY STAR® Residential Lighting Program, NO. 1

prepared by

ECONorthwest

report # E02-101

June 20, 2002

NORTHWEST ENERGY EFFICIENCY ALLIANCE

www.nwalliance.org

529 SW Third Avenue, Suite 600

Portland, Oregon 97204

telephone: 503.827.8416 • 800.411.0834

fax: 503.827.8437

ENERGY STAR® Residential Lighting Program

Market Progress Evaluation Report

Final Report

A Report Prepared for

The Northwest Energy Efficiency Alliance

by

ECONorthwest
888 SW Fifth Ave, Suite 1460
Portland, OR 97204
(503) 222-6060

May 20, 2002

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EXECUTIVE SUMMARY

This report presents the first market progress evaluation report (MPER) of the Northwest Energy Efficiency Alliance's (the Alliance's) ENERGY STAR® Residential Lighting Program (Lighting Program). The Lighting Program promotes residential lighting products that meet ENERGY STAR® technical lighting specifications and are labeled with the ENERGY STAR® logo. The focus of the initial stages of the program has been on compact fluorescent lamps (CFLs). As most readers will be aware, CFLs were intricately connected to the Spring 2001 West Coast energy crisis, resulting in a radically altered marketplace and, ultimately, in regional sales twenty times greater than Alliance pre-program planning estimates.

From a program perspective, this change led the Alliance Board to authorize an additional $800,000, which was used to increase staffing to meet the drastically increased demand for program services. From an evaluation perspective, the main result was that establishing a market penetration baseline and tracking mechanism became paramount. The huge CFL sales engendered by the energy crisis invalidated the original planning assumptions that guided the Lighting Program. To allow the Alliance to make informed decisions about the future of the program the new state of the market therefore needed to be determined. Consequently, this MPER covers the development of a market tracking mechanism that estimates the degree to which the CFL market has already been penetrated and a consumer satisfaction survey that gives indications of the likelihood that the increased sales will be sustained. The market tracking mechanism will be updated quarterly and the customer satisfaction survey will be conducted again for the next MPER analysis cycle. Over the next six to twelve months the data gained from these efforts should provide valuable insights into the direction and magnitude of changes in the market. Unlike most other Alliance MPERs, this report is not intended to evaluate ECOS Consulting, the implementation contractor, or give guidance for program modifications. As background and reference for the reader, however, details on the program's development and activities are provided in Sections 1 and 2.

PROJECT BACKGROUND AND APPROACH

The Lighting Program is currently scheduled to run through December 2002. Implemented by ECOS Consulting, Inc. (ECOS) over the four-state Alliance territory, the theory behind the Lighting Program is that acceptance of high efficiency residential lighting products will be helped by increasing the visibility of the ENERGY STAR® brand in local retail outlets, where consumers can easily acquire information about these lighting technologies as well as the products themselves. The Lighting Program began by successfully addressing barriers relating to CFL availability from manufacturers; it now focuses on using an expanded retail presence to address customer barriers, including first cost, concerns about light quality, and issues regarding convenience and compatibility with existing household lights and light fixtures. In addition, the Lighting Program addresses retailer concerns about the marketability of CFLs by providing training, product information, and marketing support

With the shift from the original upstream, manufacturer incentives to the retail-based strategy, it was imperative to address the needs of a variety of retail players in the market.

A market analysis was therefore performed during the Lighting Program planning process and four primary channels were identified as most important for the program: Do-It-Yourself (e.g., Home Depot, Lowe's); Mass Merchandisers (e.g., Wal-Mart, Costco); Hardware (small regional chains such as Thurman's and Penguins and independents such as Ace and True Value); and Lighting Specialty (e.g., World Lighting, Lamps Plus). The Lighting Program addresses these market channels with five broad categories of activities:

- Field Support
- Cooperative Marketing Fund
- Promotions
- Coordination with National Programs
- Websites

Market Assessment Approach and Results

One of the primary goals of the evaluation is to develop a market tracking mechanism that provides an overall assessment of the CFL market over time. This assessment relies on available CFL sales and market data as well as information obtained from the consumer survey, interviews with program and market actors, and secondary data sources. The objectives of the market assessment are to:

- Develop a picture of overall CFL sales within the Lighting Program territory
- Determine the share of CFL sales that are flowing through program channels
- Incorporate information on key market events that influence CFL sales
- Combine the market assessment information with other data sources to evaluate the potential sustainability of observed CFL sales trends.

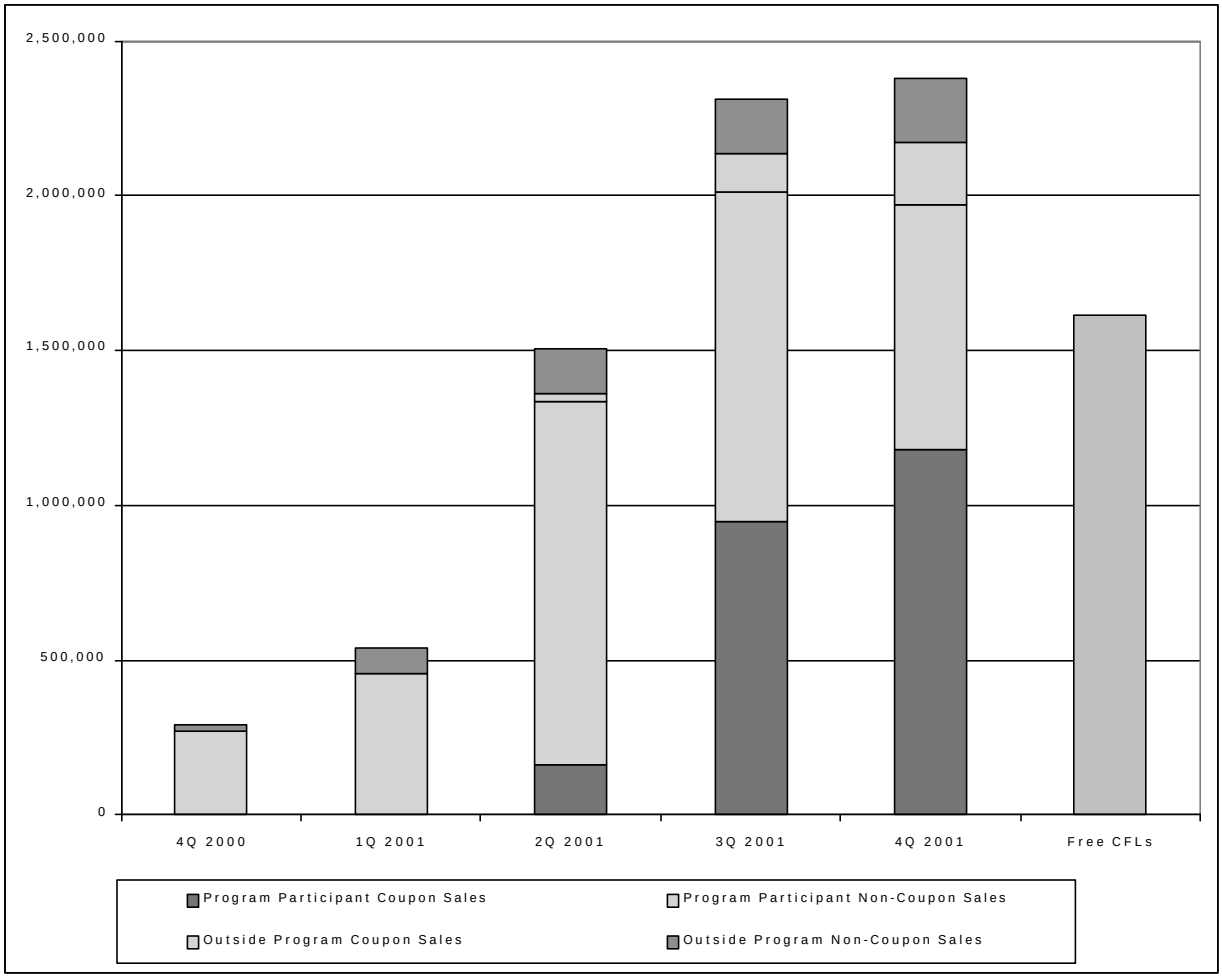
The first results of the market tracking mechanism are presented below. As much as possible, multiple data sources were used to confirm important analysis findings. Data from the consumer survey and other evaluation activities were incorporated into the market assessment to evaluate the sustainability of current sales levels. As the evaluation progresses and new information (such as data on redeemed coupons) becomes available, it will be incorporated into the market picture being developed in this evaluation. Participants are defined by ECOS as retailers that have a relationship with the program, either through participating in a cooperative marketing agreement or being visited by field reps.

Current Market Assessment of Regional CFL Sales and Free CFLs (Participating and Nonparticipating Retailers)

Category	4Q 2000	1Q 2001	2Q 2001	3Q 2001	4Q 2001	TOTAL 2001	TOTAL
Program Participant Coupon Sales	0	0	161,149	949,021	1,180,838	2,291,008	2,291,008
Program Participant Non-Coupon Sales	268,717	454,678	1,176,186	1,065,263	789,193	3,485,320	3,754,037
Outside Program Coupon Sales	0	0	25,137	122,336	201,089	348,562	348,562
Outside Program Non-Coupon Sales	25,046	85,259	144,696	174,225	206,795	610,975	636,021
Total CFL Sales	293,763	539,937	1,507,168	2,310,845	2,377,915	6,735,865	7,029,628
Free CFLs distributed by utilities						1,614,257	1,614,257
Total						**8,350,122**	**8,643,885**

For the last five quarters, total CFL sales are estimated at 7,029,628 for the Lighting Program territory. In addition to promoting CFL sales, some utilities within the Alliance Territory also had campaigns where free CFLs were mailed directly to customers over the same time period. Information on the total number of free CFLs bulbs distributed by the utilities was collected by ECOS. When these sales are combined with the 1,614,257 free CFLs distributed in the region by the utilities, the total number of CFLs reaching customers is 8,645,885 over the last five quarters.

CFL Sales and Free CFLs Distributed



The most striking result is the enormous growth in total CFL sales over this period, and particularly for retailers participating in the Lighting Program. Participant sales (both coupon and non-coupon sales) grew by 69 percent from the fourth quarter 2000 to the first quarter of 2001 and 194 percent from the first to the second quarter. This trend continued with a 54 percent increase to the third quarter before decreasing slightly (2 percent) in the fourth quarter. As shown above, total CFL sales over the five quarters analyzed was 7,029,628. These sales figures are particularly impressive when one considers that the Alliance pre-program planning estimate was CFL sales of 455,000 *for the entire year.*

As the sales figures indicate, CFL sales for stores participating in the Lighting Program comprised the vast majority of CFL sales. As shown in the graph above, as the Coupon Campaign gathered momentum beginning in the second quarter, coupon sales began increasing while non-coupon sales decreased over time. By the fourth quarter of 2001, coupon sales were almost twice as great as non-coupon sales among retailers participating in the Lighting Program.

Sales at stores not participating in the Lighting Program also increased over time, but did not increase at nearly the rate that participant store sales did. This is clear evidence that the program is effective in promoting CFL sales. Not surprisingly, as the Coupon

Campaign began in the second quarter of 2001, CFL coupon sales for nonparticipating retailers also began comprising a larger share of all non-participant CFL sales. Overall, non-participant CFL sales increased in response to the general increase in demand for CFLs over the period analyzed.

Customer Satisfaction Survey Approach and Results

During June 2001, a survey of residential lighting customers was fielded as part of the Lighting Program evaluation – the first of two or more surveys that will be fielded over the course of this evaluation. The goal of the surveys is to gather information on:

- Demographics of CFL purchasers
- Consumer awareness of CFLs
- CFL purchase drivers and barriers
- CFL installation/purchase rates
- Consumer satisfaction with CFL bulbs
- Future lighting purchase intentions

Results of the first survey are encouraging in terms of both CFL purchases and awareness. A large majority of the population (82 percent) is aware of CFLs, and a significant portion of those that had purchased light bulbs in the prior three months chose to purchase a CFL. Of those that had purchased CFLs, the vast majority was satisfied with their CFLs, with 46 percent being very satisfied.

It is obvious from both the survey results and from the sales data that there has been an enormous increase in CFL purchases. The question remains as to whether the current level of CFL sales is an indicator of sustainable market transformation, or if it is a short-term phenomenon that will end when the impact of the energy crisis fades away and the Coupon Campaign terminates. While it is too early to answer this question definitively, results from the first wave of consumer surveys are promising. Of those that recently purchased CFLs, 80 percent said they planned to purchase another CFL within the upcoming year. Even more encouraging, of those that recently purchased incandescent bulbs, 64 percent said that they would purchase a CFL within the upcoming year.

The vast majority of CFL purchasers (94 percent) indicated that they intend to purchase a CFL even if coupons are not available. For those that received a free CFL, only 62 percent indicated that they would purchase a CFL within the next year if coupons were not available. This suggests that those customers that have gone through the process of purchasing a CFL through a retailer (rather than receiving one free through the mail) are more likely to continue to purchase CFLs in the future, an excellent validation of the Residential Lighting Program's basic premise.

EVALUATION CONCLUSIONS

The initial results from the consumer survey and the market assessment are encouraging. There are several key indicators that suggest that at least some of the CFL sales seen in 2001 can be sustained:

- **Survey results indicate high intention levels for future CFL purchases.** The majority of 'intenders' said they still intend to purchase a CFL within the upcoming year *even if coupons were not available.* This includes over 90 percent of intenders among recent CFL purchasers and 53 percent of intenders that were recent incandescent purchasers.

  Similarly, the energy crisis raised people's awareness of CFLs and conservation as residents within the program territory were inundated with promotions and news stories about conservation. The energy crisis was mentioned 25 percent of the time by recent CFL purchasers as one of the reasons they purchased a CFL. Nevertheless, of those that intend to purchase in the next year and believe that the energy crisis is real, 64 percent said that they would purchase a CFL *even if the energy crisis were to end.*

- **Most CFL sales are not the result of a coupon.** Although coupons are obviously an important factor in the CFL market, coupon sales still comprised less than half of all CFLs sold during the five quarter covered by this evaluation. Over this period, coupons accounted for 39 percent of the almost 7 million CFLs sold in 2001.

In addition, anecdotal evidence from a small group of retailers indicates that they would continue to stock CFLs even if the coupon campaign ended. Equally important, prices for CFLs continue to drop around the region, mitigating one of the largest purchase barriers. These may be the most significant signs of market transformation and match the original program goal of directing resources to retailers to get them to begin selling CFLs. This topic will be explored more fully in future evaluations.

In conclusion, the West Coast energy crisis and ensuing Coupon Campaign altered the CFL market in the Northwest dramatically in 2001. Awareness of CFLs is now at levels that would have taken years to achieve in the absence of the publicity surrounding the energy crisis and this awareness could remain for at least several years. Sales reached truly phenomenal levels in 2001 but it is unrealistic to assume that such levels will be maintained in the absence of another critical energy situation. Even as of this writing in early 2002 there are signs that sales are beginning to slow. The important question now is whether they will return all the way to pre-crisis levels or remain significantly higher in the future.

The market tracking mechanism that has been developed will help answer this question over time. In the interim, in addition to the bulleted items above, it is interesting to consider a few statistics in assessing both the level and the sustainability of the change in the market. The market assessment described in this report estimates that 7,029,628 CFLs were sold in the Alliance territory over the last year five quarters. From the survey results described in this report, we know that on average each household purchased 4.33 bulbs. Dividing the estimated 7,029,628 CFLs by 4.33 bulbs per household results in 1,623,475

Northwest households purchasing CFLs in the past 15 months. From the 2000 U.S. Census, there are 4,433,433 households within the Alliance territory, indicating that 37 percent of these households purchased a CFL within this period. (Note that the total number of households that obtained CFLs in the region is somewhat higher because of the 1.6 million CFLs not included in this calculation because they were given away by utilities.)

Overall Market Assessment

While the number of CFLs sold in the past 15 months is extraordinary relative to the almost non-existent pre-crisis sales levels, in terms of the total lighting market the penetration is still minimal. A typical household has approximately 35 light sockets so even for the households that bought four CFLs a large number of potential applications remain. From another perspective, approximately 52 million incandescent bulbs are sold in the Northwest each year[1], or about 65 million over the five quarters covered in this evaluation. CFL sales comprised just 11 percent of these sales. Finally, 63% of households have still not purchased a CFL (though some of these received free bulbs from their utilities). It is clear, therefore, that while much progress has been made, sustained, high levels of CFL sales will be necessary to achieve penetration levels that could be reasonably equated with a transformation of the residential lighting market.

[1] Approximately 1.3 billion incandescent bulbs are sold in the U.S. each year, according to the *Residential Market Share Tracking Lamps* study prepared by RER for Southern California Edison (January 2001). Based on the share of the U.S. population in the Alliance service territory (4%), we estimate that incandescent lamp sales in the program area are 52,153,920 annually.

1. INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

This report presents the first market progress evaluation report (MPER) of the Northwest Energy Efficiency Alliance's (the Alliance's) ENERGY STAR® Residential Lighting Program (Lighting Program). The Lighting Program promotes residential lighting products that meet ENERGY STAR® technical lighting specifications and are labeled with the ENERGY STAR® logo. Targeted lighting technologies include screw-based compact fluorescent lamps (CFLs), indoor and outdoor fixtures and portable floor lamps (torchieres). The program is part of an ongoing effort to transform the residential lighting market in the Pacific Northwest. The program is currently scheduled to run through December 2002. It is implemented by ECOS Consulting, Inc. (ECOS) over the four-state Alliance territory

This initial MPER is the first of three anticipated for the program, and covers the period July 2000 through December 2001.

1.2 PROJECT BACKGROUND AND APPROACH

Originally, there were two separate residential lighting programs, Compact Fluorescent Fixtures and LightWise Bulbs, both approved by the Alliance Board of Directors in June 1997 and implemented through June 2000. These programs focused on manufacturers, encouraging them to increase the availability of high efficiency lighting products and to reduce their prices. Financial incentives were offered to manufacturers to help achieve these goals. This strategy was extremely successful in introducing efficient lighting products into the marketplace and in establishing a strong relationship between manufacturers, retailers, and the Alliance Program.

The two existing programs were combined into one in July of 2000 and a decision was made to support only ENERGY STAR® qualified or labeled products. The program's focus shifted to retailers, providing training, product information, and advertising and marketing support to salespeople. The program premise was that acceptance of high efficiency residential lighting products would be helped by the increasing visibility of the ENERGY STAR® brand in local retail outlets, where consumers could easily acquire both information and the products themselves. Direct advertising and rebates to consumers were explicitly excluded from the program both because of the cost and the Alliance Board's belief that it would be premature to appeal directly to consumers prior to having a strongly established presence among retailers.

Specific objectives of the project include:

- Encouraging consumers to purchase new generation ENERGY STAR® CFLs and CFL torchieres and fixtures
- Encouraging the development of and enhance market conditions for residential ENERGY STAR® lighting fixtures
- Encouraging local utility support for retail program efforts

- Protecting and improving ENERGY STAR® product quality.

1.3 MARKET PROGRESS INDICATORS

Progress indicators identified at the outset of the program reflect the consumer/retail focus of the current effort. They include:

- Increased consumer awareness of ENERGY STAR® products and benefits of purchasing energy efficient lighting products
- Increasing the number of manufacturers producing ENERGY STAR® qualified residential lighting products
- Increases in the number of retail stores in the Northwest that regularly stock ENERGY STAR® lighting products
- Increases in the variety of products (indoor, outdoor, torchieres) available to each market segment (homebuyers and volume builders) throughout the region
- Retailers showing a preference for program products through in-store promotions, shelf placement, or feedback to manufacturers
- Prices of ENERGY STAR®-qualified products dropping below pre-program levels
- Increase in the market penetration of ENERGY STAR® units shipped to retailers and purchased by consumers in the Northwest.

1.4 THE LIGHTING PROGRAM, THE WEST COAST ENERGY CRISIS AND THE ENERGY STAR â COUPON CAMPAIGN

The advent of the West Coast energy crisis in the spring of 2000 profoundly affected both the Lighting Program and the evaluation. Awareness and promotion of energy conservation, and CFLs in particular, reached unprecedented levels. From the program's perspective, there were two main consequences of the crisis. First was the heightened demand for program services from both retailers and utilities. This led to an Alliance Board decision in February 2001 to add $800,000 to the program budget to hire additional field representatives and administrative staff.

Second was the creation of the ENERGY STAR® Coupon Campaign (Coupon Campaign) by the Bonneville Power Administration with strong support from Eugene Water and Electric Board and Portland General Electric. The Campaign was based on a fulfillment house concept in which utilities wishing to participate ordered coupons through a central clearinghouse operated by ECOS Consulting, the same contractor that implements the Alliance's Lighting Program. Retailers sent redeemed coupons back to ECOS, which then paid the participating retailers for each coupon received.

In large part, the Coupon Campaign was designed to offer an alternative to utilities whose initial desire was to distribute CFLs directly to their customers. Massive mail-outs would have undermined the long-term market transformation strategy of the Alliance program

that was based on having consumers purchase quality-assured (i.e. ENERGY STAR®) bulbs from standard retail outlets at market prices. The Coupon Campaign maintained the underlying integrity of the Alliance program while satisfying the utilities' need to quickly react to their needs for energy conservation. Most important, coupons were redeemable only for ENERGY STAR® products sold at retail outlets. And though consumers paid only a fraction of the normal retail price, they at least saw what that price was so they would not suffer from "sticker shock" if they returned to purchase additional bulbs at a later date.

ECOS was selected as the implementation contractor because of the extensive network of retail relationships it had created for the Lighting Program and its depth of retail knowledge in general. It is important to note, however, that the Coupon Campaign was not a component of the Alliance Residential Lighting Program; it was funded separately by BPA and other utilities. The evaluation does, however, utilize sales data from the Coupon Campaign in the market tracking mechanism, as discussed later in this report.

ECOS' knowledge of the market allowed it to create a Coupon Campaign Toolkit of informational brochures, coupon templates, and utility kits that helped make the coupon campaign truly "turnkey." Because of the ease with which all Northwest utilities could participate, participation in the Coupon Campaign has far exceeded the original goal of 50 utilities over a 2-year period. Eighty-seven utilities have sponsored over 8 million coupons to date. ECOS' ability to successfully link this huge second implementation effort to its existing program without the entire administrative structure collapsing is a testament to the fundamental strength and efficiency of the original structure it created. A key factor in the success of this effort was the availability of the additional staff hired with the Alliance-approved $800,000 budget supplement.

Perhaps more important, it has been acknowledged by all parties (including BPA) that the coupon program could never have succeeded as it did without the market relationships and administrative infrastructure that were developed during the preceding three years of implementation of the Residential Lighting Program. In the regional dialogue that has followed the energy crisis, the success of piggybacking the short-term Coupon Campaign onto the structure and relationships established through the Lighting Program has been put forward as a strong example of the value of maintaining a constant level of conservation activity regardless of short-term variations in the supply and cost of energy.

1.5 PROGRAM ACTIVITIES

As noted above, this MPER focuses on general CFL market issues and does not evaluate the activities of the program itself. This section is provided as background for readers interested in a more detailed understanding of the structure and activities of the ENERGY STAR® Residential Lighting Program.

As the program shifted from upstream, manufacturer incentives to a retail-based strategy, it was imperative to address the needs of a variety of retail players in the market. A market analysis was therefore performed during the program planning process and four primary channels were identified: Do-It-Yourself (e.g., Home Depot, Lowe's); Mass Merchandisers (e.g., Wal-Mart, Costco); Hardware (small regional chains such as Thurman's and Penguins and independents such as Ace and True Value); and Lighting

Specialty (e.g., World Lighting, Lamps Plus). The Lighting Program addresses these market channels with five broad categories of activities:

- Field Support
- Cooperative Marketing Fund
- Promotions
- Websites
- Coordination with National Programs

Stores are defined as participating in the Lighting Program if they participated in a cooperative marketing agreement or are visited regularly by a field rep from the program. Table 1 shows the number of participating retailers in each channel through the end of 2001.[2]

Table 1: Number of Participating Stores by Channel Type

Channel	Lighting Program Participants 2000-2001
DIY / Home Improvement	138
Hardware	485
Lighting Specialty	57
Mass Merchandiser	380
Total	1,060

The Lighting Program has a variety of resources available to support these retailers. These are described in the remainder of this section.

1.5.1 Field Support

Field services are the heart of the Lighting Program. Field service representatives create and maintain the retailer and utility relationships that allow all program activities to function effectively. They help introduce the concept of energy-efficient lighting, and assist local lighting retailers and electric utilities in promoting the sale of ENERGY STAR® lighting products. The program has 10 trained field reps covering Idaho, Montana, Oregon, and Washington. ECOS has subcontracted with Applied Proactive Technologies, Inc. (APT) to provide field services in Eastern Washington, Idaho, and Montana. APT accounts for 5 of the 10 program field representatives.

Each of the field representatives is assigned a service territory so that he or she gets to know individual retailers and utility staff members and develop long-term relationships

[2] This refers to those retailers that are part of the Lighting Program as defined above. When stores participating only in the Coupon Campaign are included, this number increases to 2177.

with them. A typical retailer or utility visit takes between 15 and 60 minutes. The number of visits that can be made in a day varies greatly with the size and population density of the service territory. At small retailers, the field representative will typically try and speak with the owner. At larger retailers, the lighting or department manager will be contacted. If the owner or department manager is not available, the field representative may talk with a sales clerk. A higher priority is given to visiting retailers participating in cooperative marketing agreement. Specific field rep activities include:

- Enlistment of retailers to sign ENERGY STAR® Retail Agreements
- Retailer training
- On-going retailer support including point-of-purchase material placement and merchandising assistance
- Supporting special projects and other cooperative retail efforts
- Coordination of field activities with BPA representatives
- Labeling ENERGY STAR® products that require identification
- Consumer education through in-store demonstrations
- Data collection, including manufacturer, product, and price of ENERGY STAR® CFLs.

Activities related to utilities include:

- Regular visits to utility representatives when visiting retailers in their area
- Providing utility representatives with the opportunity to visit retailers and attend retailer training and in-store promotions led by field representatives
- Providing utility training for specific program-sponsored events and promotions
- Training utility staff that may be interested in performing fieldwork themselves
- Material support at utility outreach events such as fairs, home shows, and trade shows.

Field reps carry a Retailer Resource Kit that contains information on both the program and ENERGY STAR® and is highly valued by retailers and utility staff. There are seven main sections in the kit that cover all aspects of the program: Program Overview, ENERGY STAR®, Compact Fluorescent Bulbs, Hardwired Fixtures, Torchiere Floor Lamps, Cooperative Marketing Funds, Point-of-Purchase materials.

Finally, field representatives serve as the eyes and ears of the program, gathering as much qualitative and quantitative information on retailers and their products as possible. ECOS has been refining its data collection process in an effort to generate consistent data across retailers. Currently, some retailers are directly providing ECOS headquarters with detailed sales and inventory data that come from company databases. In other cases, retailers do not maintain these data or prefer not to distribute them. In these cases, field representatives have been actively collecting data on inventory levels during their store visits. Except when required as part of a co-op agreement, it is up to each retailer to decide

whether they provide sales data to ECOS. The extent that data are provided is determined largely by each retailer's interest in the Lighting Program.

1.5.2 Cooperative Marketing Agreements

Recognizing that each of the retail channels is driven by different needs and constraints, the Lighting Program established Cooperative Marketing Agreements as a means for supporting retailers in selling ENERGY STAR® CFLs. These agreements provide funds to individual teams of retailers and manufacturers that submit applications, and are awarded by ECOS based on the quality of the proposals submitted. Virtually all agreements use some combination of the following materials and activities:

- Header Boards
- Point-of Purchase materials
- CFL Sales Data Reporting
- Advertising
- End Caps
- Sweepstakes
- Displays

The amount of funding allocated to each agreement is determined by the specific needs outlined in a proposal, the amount of matching funds contributed by the proposers, and the market channel that the proposal team represents. When funds first became available, the Lighting Program mailed out an invitation to apply for funds to all participating retailers and manufacturers operating in each channel. The invitation included information on the amount of money available, eligibility criteria, definitions of qualifying activities, an application form, a funds reservation form, a participation guideline, and a reservation confirmation.

When the cooperative marketing agreements started in July 2000, the Lighting Program allocated $150,000 to the DIY and mass merchandising market channels to promote ENERGY STAR® qualified lights and fixtures. Since small markets have additional price barriers, $500,000 was allocated for small retail promotional packages in the hardware and lighting specialty market channels. For the 2001-02 program year, the program has allocated a total of $300,000 for cooperative agreements, with $150,000 going to DIY and mass merchandising and $150,000 to hardware and lighting specialty. Typically, the cooperative agreements last from 4 weeks to a full year; program funding has ranged from $4,800 to $108,000.

1.5.3 Promotions

In addition to coop and field activities, the Lighting Program is also involved in a variety of promotional activities. Program promotions are structured to stimulate consumer awareness for ENERGY STAR® while simultaneously reinforcing retail activity and/or

establishing new relationships with partners outside the traditional arena (e.g., real estate agencies, schools, charity programs, websites). Promotions are also designed to establish infrastructure to support future promotional activity, making them an effective tool for jump-starting regional program efforts or introducing new products. The Lighting Program implements two types of promotional models. In the first, the Lighting Program develops a promotion concept, pilots the promotion in a select territory, and creates a "tool kit" to enable widespread implementation. In the second, the Lighting Program works with the federal ENERGY STAR® program to implement national promotions in the Northwest. This strategy enables the Lighting Program to take advantage of national resources, link in with a national media push, and build upon relationships with retailers and manufacturers.

The New Home Owner promotion, piloted in spring 2001 with Puget Sound Energy, launched a new relationship with John L. Scott Real Estate and allowed ENERGY STAR® messaging to reach a broad and previously untapped audience. The promotion worked closely with real estate agents to promote energy efficiency and distribute ENERGY STAR® sample products and coupons through "Welcome Bags." The real estate partner provided positive feedback regarding the initiative and the majority of participating agents indicated interest in participating in future similar promotions. Through a media outreach effort and advertising campaign conducted by John L. Scott, promotional information was featured in nine industry newsletters, regional journals, and local daily newspapers exposing nearly 4.5 million consumers to ENERGY STAR® messaging. To empower utilities to replicate the pilot's success, the Program created a New Home Owner Promotion Guide, modeled after the successful Torchiere Turn-In Tool Kit.

The Change a Light, Change the World promotion was coordinated nationally by the US Environmental Protection Agency and spearheaded regionally by the Lighting Program in fall 2001. The promotion itself involved a national ENERGY STAR® sweepstakes and a media launch event, which took place in Portland, Oregon in late October. The Lighting Program created a co-op opportunity to encourage retail participation in the sweepstakes. Roughly one third of the Program's retailers placed ENERGY STAR® point-of-purchase material at key locations within their stores through the promotion.

The Lighting Program also continues to work with regional partners on Torchiere Turn-Ins. This highly successful event, developed by the Lighting Program, ultimately led to widespread program implementation. Utilities throughout the Northwest continue to request and rely upon the Program's Torchiere Turn-In Tool Kit as they conduct similar community outreach events.

1.5.4 Coordination with National Programs

The Lighting Program has provided assistance and resources for a variety of other national ENERGY STAR® efforts. The Lighting Program has been a regular participant in meetings of the Consortium of Energy Efficiency (CEE), which has the primary objective of coordinating comments from regional ENERGY STAR® partners on changes in the ENERGY STAR® specifications. Through its decision to lower the power factor requirements for program CFLs, the Lighting Program was highly influential in having the national ENERGY STAR® specification for power factor lowered. The Lighting Program has also assisted with the development of the Program for Evaluation and Analysis of Residential Lighting (PEARL), a national effort funded by regional ENERGY STAR® partners responsible for conducting

independent testing of CFLs to ensure compliance with ENERGY STAR® specifications. The Lighting Program has helped fund the PEARL initiative and the field reps in the Lighting Program have pulled CFL bulb samples off store shelves for testing as part of the PEARL effort.

1.5.5 Websites

There are two websites that help to promote the Lighting Program's goals.

Lightsite.net

The website lightsite.net is used in the Lighting Program both as a means of disseminating program information to retailers and utilities and as a tool for providing consumers with the location of participating stores. Utilities and retailers can subscribe to the lightsite.net listserv, which provides periodic updates on program activities. Utilities are also able to access CFL sales data for promotions within their territories.

BetterBulbsDirect.com

A somewhat independent component of the Lighting Program is BetterBulbsDirect.com, designed to provide a wholesale outlet for new and innovative sub-compact CFLs. Website development was directed by Battelle Pacific Northwest National Laboratory (PNNL), with assistance from ECOS staff. During 2001, an RFP was issued to solicit ENERGY STAR®-qualifying CFL products for distribution through the website.

2. EVALUATION APPROACH AND METHODOLOGY

2.1 MARKET ASSESSMENT APPROACH

One of the primary objectives of the evaluation was to develop a market tracking mechanism that provides an overall assessment of the CFL market over time. This assessment relies on available CFL sales and market data as well as information obtained from the consumer survey, interviews with program and market actors, and secondary data sources. The goals of this initial development of the tracking mechanism are to:

- Develop a picture of overall CFL sales within the program territory
- Determine the share of CFL sales that are flowing through program channels
- Combine the market assessment information with other data sources to evaluate the potential sustainability of observed CFL sales trends.

There are multiple benefits to developing a comprehensive market assessment:

- Determining the long-term effects of the Coupon Campaign
- Identifying market sectors that the program should consider targeting
- Determining the effect of other non-program events (such as the energy crisis) on overall CFL sales

As much as possible, multiple data sources are used to confirm important analysis findings from the market assessment. Data from the consumer survey and other evaluation activities are incorporated into the market assessment to evaluate the sustainability of current sales levels. As the evaluation progresses and new information becomes available (such as data on redeemed coupons) this information will be incorporated into the market picture being developed.

2.2 SURVEY APPROACH

During June 2001, a survey of residential lighting customers was fielded – the first of two or more surveys that will be fielded over the course of this evaluation. The goal of the consumer lighting surveys is to gather information on:

- Demographics of CFL purchasers
- Consumer awareness of CFLs
- CFL purchase drivers and barriers
- CFL installation/purchase rates
- Consumer satisfaction with CFL bulbs
- Future lighting purchase intentions

The survey instrument was developed by ECONorthwest and Quantum Consulting and fielded by Quantum Consulting. The survey happened to be fielded during the time when the energy crisis in the Pacific Northwest and the Coupon Campaign were both receiving extensive coverage in the news media, and results should be interpreted in that context.

The survey information is used in conjunction with other market information to help develop an overall picture of the residential CFL market within the Alliance territory. Future survey waves will be compared with these initial survey results to see how customer attitudes and behaviors change over the life of the program.

3. EVALUATION RESULTS -- MARKET ASSESSMENT

3.1 DATA SOURCES

Information was needed from a variety of sources to develop the market tracking mechanism. Data components included:

- A list of retailers participating in the Lighting Program
- Firmographic information on all stores in the retail population
- Participating retailer CFL sales data
- Coupon redemption data for both participating and nonparticipating retailers.

CFL Sales Data

CFL sales data were obtained from two different sources. First, ECOS has cultivated relationships with most of the large retailers in the territory and they have been supplying ECOS with quarterly sales information on CFLs. Second, ECOS has been collecting sales data from retailers participating in cooperative marketing agreements, although these sales data are typically available only for the duration of the cooperative agreement and not for the entire quarter. ECOS takes these sales data and produces their own estimates of participating retailers' sales for each quarter. The reports for the fourth quarter of 2000, and all four quarters of 2001 were available for use in the evaluation's market assessment.

ECOS has also been tracking coupon redemption information from the Coupon Campaign. ECONorthwest obtained a dataset of all coupon redemptions that had been entered into the database as of December 31, 2001. Each redeemed coupon represents one bulb sold and identifies the retailer who redeemed it and the utility service territory. This information was combined with the participant sales data and incorporated into the sales estimates for the entire market.

Retailer Information

The list of participating retailers was provided by ECOS and reflects participating retailers during 2001. Participants are defined by ECOS as retailers that have a relationship with the program, either through participating in a cooperative marketing agreement or being visited by field reps.

In order to develop a market tracking mechanism, nonparticipating retailers needed to be identified and characterized along with the participating retailers. To accomplish this, Dun and Bradstreet (D&B) data were purchased and used to determine the number of retailers in the overall CFL market and to characterize these retailers by store type and size. D&B is a company that tracks businesses within SIC (Standard Industrial Classifications) codes and provides information such as store location, contact information, annual revenues, and number of employees. For larger stores (those with at least 50 employees), D&B has close to 100 percent coverage of the market.

To develop the potential market of CFL retailers, the first step was to determine the appropriate SIC codes for ECOS' list of participating stores by matching store names and addresses to D&B data. Through this matching process it was determined that the 1,060 participating stores represent twelve SIC categories. As shown in Table 2, for these 12 SIC codes the D&B data contain over 27,000 stores in the program territory.

Table 2: Population of Stores in Potential CFL Market by SIC Code

SIC Code	SIC Description	Program Market Channel	Participants	Population	Participant Share of Population
5063	Elec. Apparatus & Equip	All	32	1,008	3%
5199	Wholesale Non-Durable Goods	Hardware / Mass Merchandisers	12	1,955	1%
5211	Lumber & Other Bldg Supplies	All	342	2,380	14%
5251	Hardware Stores	All	182	1,296	14%
5311	Department Stores	Hardware / Mass Merchandisers	55	709	8%
5331	Variety Stores	Hardware / Mass Merchandisers	35	571	6%
5399	Misc. General Merchandise	All	104	829	13%
5411	Grocery Stores	Hardware / Mass Merchandisers	68	6,730	1%
5719	Misc. Home Furnishings	All	10	1,340	1%
5722	Household Appliance	All	1	845	0%
5912	Drug Stores	Hardware / Mass Merchandisers	106	1,403	8%
5999	Misc. Retail Stores	All	113	8,024	1%
Total			1,060	27,090	4%

We know, however, that not all of these 27,090 stores sell light bulbs. To address this, the original list of stores from D&B was analyzed and stores that were considered unlikely to sell light bulbs (i.e., pet stores, clothing stores, gas station convenience stores) were removed from the dataset. For the SIC codes containing relatively few stores, this was done by hand. For the Wholesale Non-Durable Goods category (SIC 5199), only Costco was kept, as it is also a retail outlet and has had a very large amount of retail CFL sales. The other stores in this category were removed to prevent double counting of wholesale and retail CFL sales.

Additionally, the categories with the largest shares of non-participant stores (Grocery, Drug, Miscellaneous Retail) were reviewed. Based on interviews with Lighting Program staff at ECOS and at the Alliance, it appears that only the larger stores within each category are likely to be selling CFLs. For example, within the grocery store category, the larger grocery chains are more likely than the small convenience stores to sell CFLs outside the program. To account for this, only the top 10 percent of stores (in terms of revenue) for these segments were kept as part of the potential CFL market. This assumption will be revisited in the future and more stores added to the population as the situation warrants. The adjustments described in this and the preceding paragraph reduced the number of non-participant stores from 27,090 to 2,475. (Shown in Column d of Table 3 below.)

A final step was taken to determine with more certainty how many of the non-participant retailers within all of the categories were actually selling CFLs. To address this, a small sample (10–20) of nonparticipating stores within each SIC code were called and asked if they sold CFLs. A total of 188 stores were called in this exercise. The percentage of nonparticipating stores within each SIC code that did sell CFLs is shown in Table 3. This percentage was multiplied by the number of non-participants described above to determine a final non-participant population for each category.

Table 3: Determination of Non-participant Stores Selling CFLs

(a) SIC Code	(b) SIC Description	(c) # of Stores Called	(d) Percent of Nonpart Called Selling CFLs	(e) Preliminary Nonpart Population	(d)x(e) Final Nonpart Population
5063	Elec. Apparatus & Equip	19	68%	185	126
5199	Wholesale Non-Durable Goods	--	0%	0	0
5211	Lumber & Other Bldg Supplies	44	27%	145	39
5251	Hardware Stores	16	80%	321	257
5311	Department Stores	9	56%	254	142
5331	Variety Stores	15	60%	24	14
5399	Misc. General Merchandise	16	75%	27	20
5411	Grocery Stores	13	69%	1011	698
5719	Misc. Home Furnishings	18	56%	28	16
5722	Household Appliance	6	50%	19	10
5912	Drug Stores	12	50%	369	185
5999	Misc. Retail Stores	16	6%	92	6
TOTAL		184	61%	2,475	1,513

Based on the results in Table 3, the entire population of stores selling CFLs (participants plus non-participants) is 2,573 as shown in Table 4. This population serves as the starting point for the CFL sales estimates discussed below.

Table 4: Population of Stores Selling CFLs

SIC Code	SIC Description	Participating Retailers	Population of Retailers Selling CFLs	Participant Share of Population
5063	Elec. Apparatus & Equip	36	157	20%
5199	Wholesale Non-Durable Goods	12	12	100%
5211	Lumber & Other Bldg Supplies	343	381	90%
5251	Hardware Stores	183	439	41%
5311	Department Stores	193	198	28%
5331	Variety Stores	39	49	71%
5399	Misc. General Merchandise	115	124	84%
5411	Grocery Stores	74	766	9%
5719	Misc. Home Furnishings	13	26	38%
5722	Household Appliance	1	11	9%
5912	Drug Stores	118	291	36%
5999	Misc. Retail Stores	115	119	95%
Total		1,242	2,573	41%

3.2 CFL SALES ESTIMATION

CFL Sales Data

With the retailer population established, it is possible to estimate total market sales using sales data for defined segments within the population. Two types of sales data are available for this exercise: (1) those collected directly from stores or corporate headquarters by ECOS staff and (2) redeemed coupons from the Coupon Campaign. (For clarity's sake, these will be referred to as *retailer sales data* and *coupon data*, respectively.) Table 5 shows how these data sources are used to categorize the retailers for this analysis. Participants in the Lighting Program, as defined previously are those retailers who participate in a cooperative marketing agreement or are visited by program field reps. Participants in the Coupon Campaign are all retailers who sent coupons to ECOS for reimbursement. Using these definitions, CFL sales can be placed in one of four mutually exclusive retailer categories:

Table 5: Retailer CFL Sales Categories

Retailer Sales Category	Definition
Program Participant Coupon Sales	CFL coupon sales for retailers participating in the Lighting Program
Program Participant Non-Coupon Sales	CFL sales by participating retailers that are not the result of a coupon from the Coupon Campaign.
Outside Program Coupon Sales	CFL coupon sales for retailers not participating in the Lighting Program.
Outside Program Non-Coupon Sales	CFL sales by nonparticipating retailers that are not the result of a coupon from the Coupon Campaign.

As part of its implementation of both the Lighting Program and Coupon Campaign[3], ECOS was routinely collecting data for the first three categories shown in Table 5. This information is shown by quarter in Table 6.

Table 6: CFL Coupon and Retailer Sales Data Collected by ECOS

Category	4Q 2000	1Q 2001	2Q 2001	3Q 2001	4Q 2001
Program Participant Coupon Sales	0	0	161,149	949,021	1,180,838
Program Participant Non-Coupon Sales	268,717	454,678	1,176,186	1,065,263	789,193
Outside Program Coupon Sales	0	0	25,137	122,336	201,089
Outside Program Non-Coupon Sales	None	None	None	None	None
Total	268,717	454,378	1,362,475	2,136,620	2,171,120

To develop a complete picture of the CFL market, CFL sales need to be estimated for the "Outside Program Non-Coupon Sales" category in which no data were available.[4] These estimates were calculated from the available sales information using the following

[3] Coupon data represents redeemed coupons that were received by ECOS from retailers. It is assumed in this analysis that each redeemed coupon represents a single CFL sale. Because most retailers only sent in coupons periodically, there may be a time lag of as long as three months between when retailers accepted a coupon at the register and when it was received by ECOS.

[4] Some of the data that ECOS collected were for stores that were not included as participants in the market assessment, where participant is defined as a store that was visited by a field rep or participated in a cooperative marketing agreement. Only a few stores fell in this category and were generally stores that were part of a larger chain for which chain-wide sales data were obtained by ECOS.

approach. First, a common firmographic variable was needed to extrapolate sales figures from the existing sales data. The D&B data provides both annual revenues and employees for individual stores, either of which could be used for this purpose. Revenue data, however, are often missing for stores or are included only as an aggregate number for the corporate headquarters if the store is part of a chain. Employee information, in contrast, is available for almost all stores[5]. Further, the number of store employees serves as a proxy for revenue, as stores within an SIC code with higher sales will tend to be larger and therefore have more employees. Given these advantages, number of employees was selected as the extrapolation variable.

The next step was to calculate the average CFL sales per employee per quarter for retailers with available retailer sales data. The CFL sales excluded those purchased with coupons as the purpose was to extrapolate to stores where coupons were not accepted. In order to make the estimate as accurate as possible, separate averages were calculated for each unique state/region type/SIC combination.[6] These averages were then multiplied by the number of employees at the nonparticipating stores to estimate retailer sales.[7]

One drawback of this approach is that it implicitly assumes that there is no difference between participating and nonparticipating stores; this implies that the program is having no effect on CFL sales even though the results presented in this section provide strong evidence that the program is having a positive impact on CFL sales in the region above and beyond the effects of the Coupon Campaign. To adjust for the fact that nonparticipating stores are less likely to promote CFLs as aggressively as the participating stores, the final CFL sales estimates were calculated assuming that nonparticipating retailers were only 25 percent as successful in selling CFLs as their participant counterparts. The implications of this assumption are tested in the sensitivity analysis presented later in this section.

Table 7 shows how this calculation was completed for one of the 12 SIC groups (5251, Hardware Stores) in rural Washington. As shown in Table 7, there are 23 Lighting Program participants and 13 non-participants for a total of 36 retailers in this category. Using the 23 participants, the average non-coupon sales per employee is calculated to be 10.15 for rural Washington Hardware stores. This average is then adjusted to account for the fact that only 80 percent of the nonparticipating retailers within this sector sell CFLs (see Table 3). It is also assumed that nonparticipating CFLs will only sell CFLs at 25 percent of the rate of participating retailers due to less promotional materials and other resources available to Lighting Program participants. With these adjustments, the average sales per employee that is assigned to nonparticipating retailers is 2.03, as shown in column c of Table 7.

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[5] In those cases where information on the number of employees was not available in the D&B data, the average number of employees was assigned for stores within the same State/Geography/SIC Code.

[6] The specific definitions for the urban, rural, and suburban categories are presented in the *Consumer Survey* section of this report.

[7] In those instances where there were no participating retailers within a particular State/Geography/SIC Code segment, it was assumed that nonparticipant non-coupon CFL sales were zero. This is based on the assumption that the lack of participating retailers is a good indication that there are no CFLs being sold through that particular channel except possibly through the Coupon Campaign, which is accounted for in the assessment.

Each individual non-participating retailer is assigned CFL sales by multiplying that retailer's employees by the participant's average sales per employee. For example, Store 6 in Table 7 has 5 employees. Thus, 2.03 (the non-participants average sales per employee) is multiplied by 5 (Store 6's number of employees), resulting in an estimate of 10 CFL sales per month for that particular store. For all the non-participant retailers, there are a total of 64 employees in this category, which results in estimated CFL sales totaling 129 for this segment.

Table 7: Sample Calculations for Quarterly CFL Sales for Nonparticipating Retailers Within an SIC Code

WA	Rural	Number of Participating Retailers	Average Sales Per Employee	Adjusted Average Sales Per Employee	Non-Participating Retailer	Employees	Estimated CFL Sales
		(a)	(b)	(c)	(d)	(e)	(c)*(e)
		23	10.15	2.03	Store 1	2	4
					Store 2	2	4
					Store 3	2	4
					Store 4	3	6
					Store 5	3	6
					Store 6	5	10
					Store 7	5	10
					Store 8	5	10
					Store 9	5	10
					Store 10	6	12
					Store 11	8	16
					Store 12	18	37
Total		23	2.03			64	129

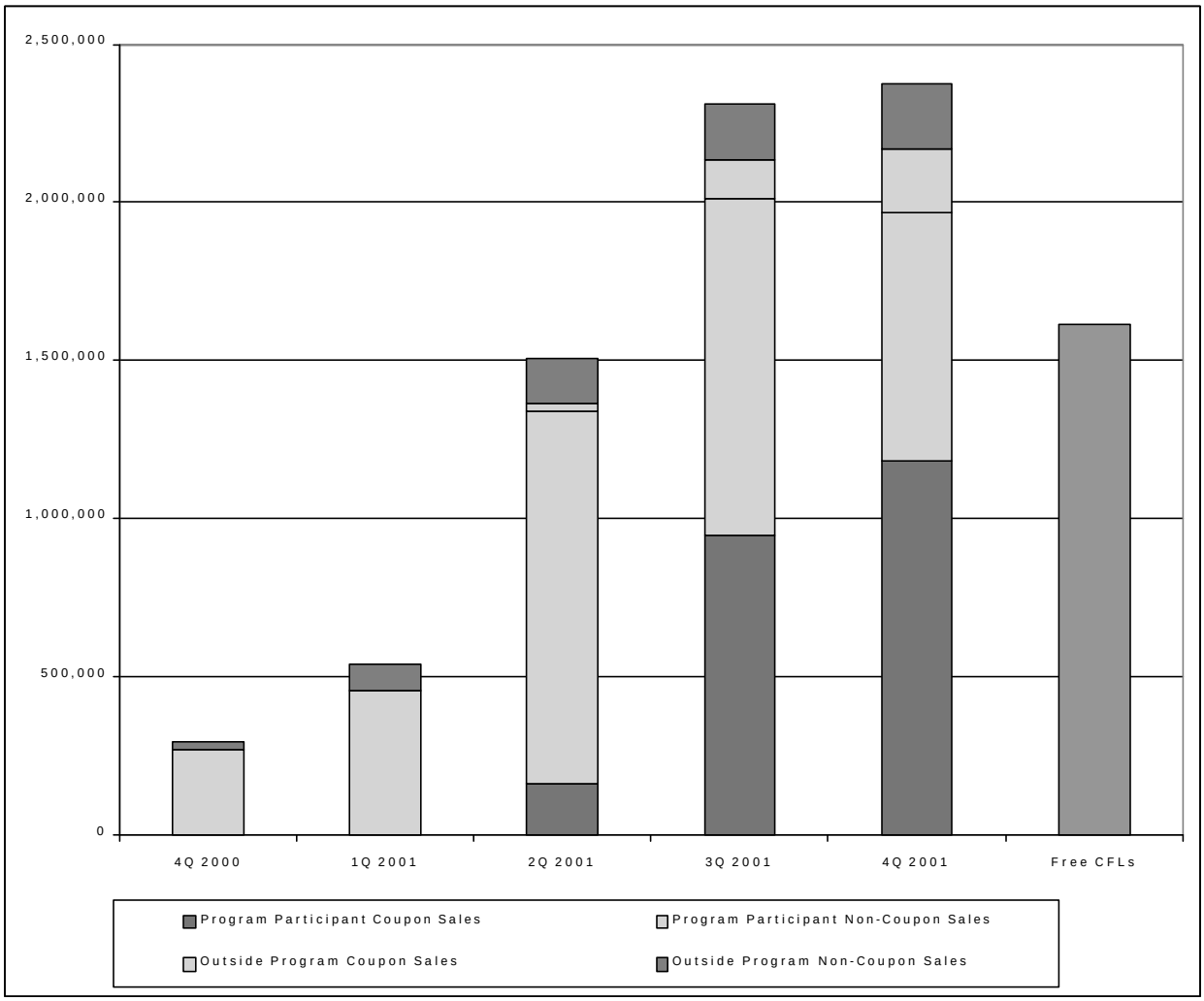
Using this estimation method, total CFL sales (both inside and outside the Lighting Program) were calculated for each quarter covered in this analysis. These estimates are shown below in Table 8 and graphically in Figure 1.

Table 8: Current Market Assessment of Regional CFL Sales and Free CFLs

Category	4Q 2000	1Q 2001	2Q 2001	3Q 2001	4Q 2001	TOTAL 2001	TOTAL
Program Participant Coupon Sales	0	0	161,149	949,021	1,180,838	2,291,008	2,291,008
Program Participant Non-Coupon Sales	268,717	454,678	1,176,186	1,065,263	789,193	3,485,320	3,754,037
Outside Program Coupon Sales	0	0	25,137	122,336	201,089	348,562	348,562
Outside Program Non-Coupon Sales	25,046	85,259	144,696	174,225	206,795	610,975	636,021
Total CFL Sales	293,763	539,937	1,507,168	2,310,845	2,377,915	6,735,865	7,029,628
Free CFLs distributed by utilities						1,614,257	1,614,257
Total						**8,350,122**	**8,643,885**

For the last five quarters, total CFL sales are estimated at 7,029,628 for the Lighting Program territory. In addition to promoting CFL sales, some utilities within the Alliance Territory also had campaigns where free CFLs were mailed directly to customers over the same time period. Information on the total number of free CFLs bulbs distributed by the utilities was collected by ECOS. When these sales are combined with the 1,614,257 free CFLs distributed in the region by the utilities, the total number of CFLs reaching customers is 8,643,885 over the last five quarters.

Figure 1: CFL Sales by Quarter and Free CFLs Distributed



The most striking result is the enormous growth in total CFL sales over this period, particularly for retailers participating in the Lighting Program. Participant sales (both coupon and non-coupon sales) grew by 69 percent from the fourth quarter 2000 to the first quarter of 2001 and 194 percent from the first to the second quarter. This trend continued with a 54 percent increase to the third quarter before decreasing slightly (2 percent) in the fourth quarter. As shown above, total CFL sales for both participating and nonparticipating retailers over the five quarters analyzed for was 7,029,628. These sales figures are particularly impressive when one considers that the Alliance pre-program planning estimate was CFL sales of 455,000 *for the entire year.*

As the sales figures indicate, CFL sales for stores participating in the Lighting Program comprised the vast majority of CFL sales. As shown in Figure 1, as the Coupon Campaign gathered momentum beginning in the second quarter, coupon sales began increasing while non-coupon sales decreased over time. By the fourth quarter, coupon sales were fifty percent greater than non-coupon sales among retailers participating in the Lighting Program.

Sales at stores not participating in the Lighting Program also increased over time, but did not increase at nearly the rate that participant store sales did. This is clear evidence that the program is effective in promoting CFL sales. Not surprisingly, as the Coupon Campaign began in the second quarter of 2001, CFL sales for nonparticipating retailers also began comprising a larger share of all non-participant CFL sales. Overall, non-participant CFL sales increased in response to the general increase in demand for CFLs over the period analyzed.

Given the inherent uncertainty of extrapolating between stores it is important to look at how sensitive the results are to the underlying assumptions used in the estimation. To address this, we conducted a sensitivity analysis to determine how much the overall CFL sales estimates varied with changes in the assumption that non-participant sales are 25 percent those of participants on a per employee basis. We tested this by running the model assuming a 50 percent change in sales intensity, which results in the original 25 percent sales factor ranging from 12 percent to 37 percent of participant sales rates. These results are shown in Table 9 as an aggregate for the five-quarter period covered in this analysis. For the whole period, the results vary by 5 percent under different assumptions regarding non-participant non-coupon CFL sales.[8] Given the magnitude of total CFL sales and the large portion of coupon sales (for which we have very good data), the sensitivity analysis shows that the overall assessment is not particularly dependent on the assumptions used to estimate sales outside the Lighting Program and Coupon Campaign.

Table 9: Sensitivity Analysis

Sales Percentage Assumption	Change From Base Case	Total CFL Sales 5 quarters	Percent Change
12 %	+ 50 %	6,711,618	+5%
25 %	--	7,029,628	--
37 %	- 50 %	7,347,639	-5%

3.4 SUMMARY

As this market analysis has shown, there has been a tremendous increase in CFL sales within the Alliance territory. While the increase is due to a variety of factors, the majority of these sales are flowing through retailers that participate in the Lighting Program, showing it has been effective in promoting and expanding CFL sales. At the same time, it is important to remember that, in terms of the overall lighting market, CFLs have achieved only a small measure of success. Consider that approximately 52 million incandescent bulbs are sold in the Northwest each year, or about 65 million over the five quarters covered in this evaluation. CFL sales comprised just 11 percent of these sales.

[8] Sensitivity analysis conducted for individual quarters did not show much fluctuation over time, with estimates only changing from 4 to 8 percent across individual quarters.

The next section presents results of the consumer survey, which includes information on consumer attitudes. In particular, survey questions regarding future lighting purchase intentions provide insights on the likely sustainability of current CFL sales trends.

4. EVALUATION RESULTS -- CONSUMER SURVEY

In June of 2001, a consumer survey was conducted to gather information on attitudes and purchase activities among residential lighting customers within the Lighting Program territory. This is the first of two or more surveys that will be conducted to track these variables over time.

4.1 SAMPLE DESIGN

The sample was designed to be proportional to the overall Northwest population. To ensure demographic representation within the sample, it was stratified by state and then by demographic zone within each state[9]. Table 10 shows the distribution of the program territory population by these strata. The 'Survey Quota' column gives the target number of completes in each of the sample stratum based on the goal of 600 completed surveys; the 'Survey Completes' column gives the number actually completed. A further stratification based on those who owned CFLs (either by purchasing or receiving them free) and those who did not to ensure a full range of respondent experiences within each stratum. The goal was a minimum of one CFL owner to every two non-owners; in some strata a 50 percent split was achieved. The 'CFL Owner' column shows this percentage.

[9] For the demographic zones, 'urban' is defined at the county level as an area where population is greater than 200 people per square mile. Similarly, 'rural' is a county with less than 20 people per square mile, and 0 people per square mile at the county level. A few of these assignments based on this formula were re-categorized by hand to better reflect the population density of individual counties.

Table 10: Survey Sample Strata and Quotas

State	Demographic Zone	Percent of Program Area Population	Survey Quota	Survey Completes	CFL Owner
WA	Urban	37%	222	221	50%
WA	Rural	2%	14	15	53%
WA	Suburban	12%	72	72	50%
OR	Urban	15%	89	90	50%
OR	Rural	2%	14	14	50%
OR	Suburban	13%	75	76	51%
ID	Urban	3%	15	14	64%
ID	Rural	3%	18	18	67%
ID	Suburban	6%	34	33	67%
MT	Urban	0%	0	0	0
MT	Rural	4%	23	23	52%
MT	Suburban	4%	24	24	67%
Total			**600**	**600**	

4.2 RESPONDENT CATEGORIES

To better understand and analyze the responses, screening questions were used to sort the 600 respondents into one of five mutually exclusive categories. Recent and old purchasers of CFLs were separated to determine if any difference existed in attitudes, perceptions, and satisfaction between purchasers of older CFL technologies and current ones. The following categories are used throughout the tables in this chapter:

Recent CFL Purchasers Only. Purchased a CFL in the 3 months preceding the survey but had never purchased one prior to that.

Old CFL Purchaser Only. Purchased a CFL over 12 months ago but not more recently.

Recent and Old CFL Purchaser. Purchased a CFL both in the 3 months preceding the survey and over 12 months ago.

Free CFL Recipient Only. Received a free CFL but did not purchase one in the 3 months preceding the survey. (Free CFLs were mailed to residential customers by several utilities.)

Incandescent Purchaser. Purchased incandescent bulbs but not CFLs in the 3 months preceding the survey.

CFL Aware Respondents. Aware of CFLs regardless of purchase behavior.

These more aggregated groups were used whenever appropriate. For example, for questions regarding satisfaction with CFLs, the respondent group “Recent CFL Consumers” was used to report satisfaction levels for both recent CFL purchasers combined with those that received a free CFL.

During the survey calls, an additional 821 people who did not fit into one of these categories but were aware of CFLs were asked questions about only their awareness and demographics. Table 11 shows the distribution of responses within the five categories plus these additional 821.

Table 11: Survey Respondents by Category

Complete Category	Surveys Completed
Recent CFL Purchaser Only	124
Old CFL Purchaser Only	66
Recent and Old CFL Purchaser	56
Free CFL Recipient Only	38
Incandescent Purchaser Only	316
TOTAL	600
Awareness and Demographic Information Only	821
Total Surveys Completed	1,421

4.2 SURVEY RESULTS

This section presents survey results for key analysis issues, including consumer awareness of CFLs, satisfaction with CFLs, and future CFL purchase intentions. These issues are addressed in the main part of this report as they address directly the goals and objectives of the Lighting Program and also support the market assessment analysis presented in the next chapter. Additional survey details as well as the survey instrument are included in Appendix A of this report.

Note that this survey was conducted in June of 2001, after a long winter and spring that included much news on energy shortages and rolling blackouts in California. Consumers' perceptions of the region's future energy outlook are a key factor that affects the level of CFL sales. Many consumers were apt to purchase CFLs to reduce the likelihood of a Northwest energy crisis. As of the writing of this report six months later, the energy crisis has faded considerably from the public memory so future survey results may differ significantly.

Consumer Awareness of CFLs

One of the goals of the consumer survey is to assess consumer awareness of CFLs for different population groups within the Alliance territory. The survey results indicate that awareness is very high in each state—approximately 82 percent of the 1421 individuals surveyed stated that they were aware of CFLs. Oregon has the highest awareness level, with approximately 88 percent of Oregonians aware of CFLs. Consumer awareness in Idaho and Montana was lower than the other areas, but still relatively high, ranging from

62 to 75 percent. Table 12 shows a breakdown of awareness levels by state and demographic zone.

Table 12: Population Awareness of CFLs, by State and Demographic Zone (All Respondents, N=1421)

State	Demographic Zone	Percent of Population
WA	Urban	82%
WA	Rural	80%
WA	Suburban	87%
OR	Urban	88%
OR	Rural	89%
OR	Suburban	87%
ID	Urban	70%
ID	Rural	68%
ID	Suburban	62%
MT	Rural	75%
MT	Suburban	72%
Total		82%

Table 13 shows the source of CFL awareness for both CFL and incandescent bulb purchasers. The two most significant sources of consumer awareness of CFLs are advertising and in-store point-of-purchase materials, both of which have been promoted heavily by the Lighting Program. Awareness is substantially lower among those who received free CFLs and therefore may not have seen in-store advertising.

Table 13: Sources of CFL Awareness

Initial Sources of CFL Awareness	All CFL Purchasers (N = 246)	Free CFL Recipient Only (N = 38)	Incandescent Purchasers (N = 316)
Advertising	35%	19%	31%
In-store Point-of-Purchase	26%	11%	29%
Utility (bill stuffer or other)	17%	21%	12%
Friends or family	26%	11%	13%
Got bulb for free	5%	3%	2%
At work	3%	0%	5%
Governor Announcement	2%	3%	0%
Other	2%	13%	5%

Note: Respondents could give more than one source for awareness

Purchase Location

The consumer survey also provided an opportunity to gather information on where customers buy CFLs. If consumers are purchasing CFLs in stores that are different from where they normally purchase light bulbs, this may represent a new marketing opportunity for the Lighting Program.

Information on the types of stores where respondents purchased CFLs and where they normally shop for light bulbs is presented in Table 14. The survey indicates that recent CFL purchasers bought their CFLs mostly at discount retail stores or home improvement stores. When asked where they normally purchased their light bulbs, all lighting customers indicated that discount retail stores were the most common outlets. Grocery stores were also cited often (35 percent) yet only 5 percent of recent CFL purchasers purchased their CFLs at a grocery store. This purchasing pattern suggests that grocery stores could be an important retail target for CFL increasing market penetration.

Table 14: Distribution of Light Bulb Purchases by Store Type

Store Type	Recent CFL Purchasers (N = 180)	Normally Purchase Light bulbs All Lighting Customers (N=600)
Hardware Store	21%	17%
Discount Retail Store	38%	47%
Home Improvement Store	31%	21%
Grocery Store	5%	35%
Other	12%	0%

Reasons for Purchasing CFLs

One of the key issues in assessing the degree of market transformation is determining the purchase drivers for CFLs. If consumers are relying entirely on coupons, for example, the prospects of a long-term market transformation are lower than if consumers are motivated by other reasons such as reducing their electricity bill or concern for the environment.

Survey responses regarding the reasons for purchasing CFLs are shown in Table 15. Reducing electricity bill is the primary reason cited by those who purchased CFLs both recently and over one year ago. Given the increase in electricity rates throughout the region this is likely to be a stable, long-term motivation. The energy crisis also received prominent mention among recent purchasers. Given the already-fading memories of the crisis this is unlikely to provide long-term sustainability. About one quarter of recent and old purchasers mentioned longer life as a reason for purchasing CFLs.

One important result is that only 6 percent of CFL purchasers mentioned that redeeming the coupon was their primary reason for purchasing a CFL, and only 12 percent listed it among any of the reasons why they purchased their CFL. This indicates that CFL purchases will continue even after the Coupon Campaign has ceased.

Table 15: Reasons for CFL Purchases

Reason for CFL Purchase	Recent CFL Purchasers (N = 179)		Old CFL Purchasers (N = 129)	
	First Mention	Any Mention	First Mention	Any Mention
Reduce Electricity Bill	32%	48%	25%	31%
Response to Energy Crisis	13%	25%	0%	0%
Savings Worth Higher Price	13%	19%	11%	25%
Energy Efficient	9%	10%	9%	15%
Wanted to Try CFL	8%	10%	12%	18%
Felt it was 'Right Thing To Do'	7%	15%	3%	8%
Redeemed Coupon	6%	12%	0%	0%
Wanted Longer Lasting Bulb	6%	23%	13%	26%

Incandescent Purchasers Only respondents were asked why they did not purchase CFLs. The range of responses to this question is shown in Table 16. As these responses show, cost, awareness, and availability factors outweigh concerns about product quality and performance among incandescent purchasers. It will be interesting to see how the combination of increased utility rates and descending CFL prices affect these barriers.

Table 16: Barriers to CFL Purchases Among Incandescent Purchasers (N = 316)

Reasons	First Mention	Any Mention
Cost	31%	38%
Not aware of CFLs*	15%	19%
Can't find correct type / style / size	11%	15%
Did not think about energy efficiency	8%	11%
Not enough information	8%	11%
Not available at store where purchase made	5%	7%
Do not like the light / color	4%	6%
Incandescent bulbs work better	2%	4%

Note: *Although all respondents were aware of CFLs at the time of the survey, some were unaware of CFLs at the time they were shopping for light bulbs.

Customer Satisfaction with CFL purchases

Customer satisfaction will ultimately determine the rate at which CFLs will be adopted in the future. Table 17 below shows customer satisfaction among both recent and old CFL purchasers. Only 3 percent of recent purchasers and 4 percent of old CFL purchasers were dissatisfied with their CFL purchases. Nearly half of these people indicated that they are very satisfied with their CFL purchases.

Table 17: Satisfaction with CFLs

Satisfaction	Recent CFL Purchasers (N = 167)	Free CFL Recipients (N = 32)	Old CFL Purchasers (N = 167)
Not Satisfied	3%	3%	4%
Somewhat Satisfied	37%	43%	18%
Satisfied	14%	20%	33%
Very Satisfied	46%	34%	45%

An important role of the evaluation is to identify why customers were satisfied or dissatisfied with CFLs. This provides information on what messages the Lighting Program should continue to promote and may identify areas where program resources should be directed to limit customer dissatisfaction. The responses on CFL satisfaction are presented in Table 18 for those that purchased CFLs and indicated that they were more satisfied with CFLs than they were with incandescent bulbs. Note that the largest reason for satisfaction among CFL purchasers relative to incandescents is longer lasting bulbs.

Table 18: Reasons for Satisfaction with CFLs Over Incandescent Bulbs Among Recent CFL Consumers (N = 108)

Reason	Percent of Responses
Lasts Longer	54 %
Energy Efficiency	36 %
Better Light Quality	31 %
Electricity Bill Savings	19 %

Respondents in Table 17 who were not satisfied with their CFLs were asked why. Table 19 shows that the most common reason for dissatisfaction was that they were not as bright as incandescent bulbs. The PEARL testing initiative described above has found that lumen output has been mis-stated on some ENERGY STAR® products. The testing results should lead to more accurate labeling which will help address this issue for consumers. This may also suggest the need for continued customer education in determining wattage choices and selecting the appropriate bulb type for various applications.

Table 19: Reasons for Dissatisfaction with CFLs Among Recent CFL Consumers (N = 51)

Reason	Percent of Responses
Not as Bright	39%
Does Not Fit Fixtures	10%
Too Long to Light Up	2%
Light Quality	2%
Too Expensive	2%

Future Purchasing Intentions

To provide insight into the sustainability of the current CFL market, questions were asked regarding consumers' future purchasing intentions. Particular emphasis was placed on consumer intentions to purchase CFLs in the absence of coupons or the energy crisis. Table 20 breaks down future purchasing intentions by type of purchase. When asked whether or not they intend to purchase CFLs in the future, 80 percent of CFL purchasers and 79 percent of free CFL recipients said that they intended to purchase a CFL within the next year. More surprisingly, 64 percent of incandescent buyers indicated that they intend to purchase a CFL in the next year. This is a strong potential indication of the sustainability of future CFL sales.

Table 20: Future CFL Purchases Intentions

Intend to Purchase CFL Within the Next Year	CFL Purchasers (N = 276)	Free CFL Recipients (N = 38)	Incandescent Purchasers (N = 316)	Overall
Yes	80%	79%	64%	72%
No	14%	16%	15%	15%
Don't Know	5%	6%	21%	13%

It is interesting to note that even among CFL purchasers who indicated some level of dissatisfaction with their CFLs, future purchase intentions remain high. Table 21 shows the relationship between satisfaction and future purchase intentions. Not surprisingly, those that are satisfied with their CFLs intend to purchase more in the future. Of those that are dissatisfied with their CFLs, however, 78 percent still said that they are likely to purchase a CFL in the upcoming year. This suggests that the level of dissatisfaction is not great enough to discourage customers from continuing to try CFLs in the future.

Table 21: Future CFL Purchases Intentions By Satisfaction Levels Among Dissatisfied CFL Owners (N = 259)

Intend to Purchase CFL Within the Next Year	Dissatisfied with CFLs	
	Yes (N = 111)	No (N = 148)
Yes	78%	92%
No	22%	8%

All respondents were asked how a lack of coupons would affect their future lighting purchases. These results are presented in Table 22. The vast majority of CFL purchasers (94 percent) indicated that they intend to purchase a CFL even if coupons are not available. For those that received a free CFL, only 62 percent indicated that they would purchase a CFL within the next year if coupons were not available. This suggests that those customers that have gone through the process of purchasing a CFL through a retailer (rather than receiving one free through the mail) are more likely to continue to purchase CFLs in the future. This is an excellent validation of the Residential Lighting Program's basic premise and the critical role the Coupon Campaign played in reducing utilities' mail-out efforts.

Overall, these results are a good indication that at least some of the recent increases in CFL sales can be sustained. Even though coupons have been responsible for a large part of the recent increases in CFL sales, it appears that most respondents are willing to stick with CFLs even if coupons are not available in the future. This result will be tested in the second wave of the survey when these respondents are called back to determine their actual purchase decisions.

Table 22: Future CFL Purchase Intentions by Availability of Coupons

Likely to Purchase If Coupons Not Available	Recent CFL Purchasers (N = 276)	Free CFL Recipient (N = 38)	Incandescent Purchaser (N = 316)
Yes	94%	62%	53%
No	6%	32%	21%
Don't Know	0%	6%	26%

A final influence on future purchase intentions was the 2001 West Coast energy crisis, which increased consumer awareness of ENERGY STAR® products and stimulated CFL purchases in the region. At the time of the survey, seventy-seven percent of respondents believed there was an energy crisis, with 44% believing that it would last over three years.

Table 23 shows how the energy crisis affected future CFL purchase intentions. Despite widespread belief about a long-lasting crisis, 64 percent of respondents stated they would be willing to buy a CFL in the absence of the crisis. As of this writing in early 2002, energy has largely disappeared as a media story and the energy supply situation appears stable. Follow-up surveys with these respondents will show whether they acted on their intentions in the absence of an immediate crisis situation.

Table 23: Purchase Intentions in Absence of Energy Crisis Among Intenders That Perceive Current Energy Crisis (N=459)

Intend to Purchase CFL In Absence of Energy Crisis	Percent
Yes	64%
No	29%
Don't Know	7%

4.3 SUMMARY OF SURVEY RESULTS

The results of the first phase of the consumer survey are encouraging. A majority of the population (82 percent) is aware of CFLs, and almost thirty percent of those that had purchased light bulbs in the three months prior to the survey chose to purchase a CFL. Of those that had purchased CFLs, the vast majority was satisfied, with 46 percent indicating that they were very satisfied.

There are several indications that price and energy savings are important purchase drivers for CFLs. The most often cited reason for purchasing CFLs was to save energy (48 percent). Conversely, purchasers of incandescent bulbs listed price as the number one reason why they chose not to buy a CFL. Given that a significant portion of recent CFL purchasers

surveyed made their purchase using a coupon from the Coupon Campaign, these will be important questions to watch during the second survey wave.

Given the enormous increase in CFL purchases the question remains as to whether the current level of CFL sales is an indicator of sustainable market transformation or a short-term phenomena that will end with the energy crisis and the Coupon Campaign. While it is too early to answer this question definitively, responses regarding future purchase intentions are encouraging. Of those that recently purchased CFLs, 80 percent said they planned to purchase another CFL within the upcoming year. Even more encouraging, of those that had not recently purchased CFLs, 64 percent said that they would purchase one within the upcoming year.

These preliminary results are consistent with the best hopes for the Lighting Program and the Coupon Campaign. Ideally, short-term market policies such as the Coupon Campaign will get people to try CFLs. Once they have tried them, it appears that customers appreciate the long-term benefits and are willing to continue purchasing CFLs, even if the short-term influences such as coupons and the energy crisis disappear.

As discussed, these results are the first of two survey waves, with the next survey scheduled for spring of 2002. Future evaluation reports will compare any changes in attitudes and purchase behavior relative to these initial survey results. In addition, respondents who purchased CFLs will be called back during this evaluation to determine if the CFL is still installed and to record any changes in satisfaction levels.

5. REVIEW OF COST-EFFECTIVENESS ASSUMPTIONS

As part of the Lighting Program evaluation, ECONorthwest reviewed the assumptions underlying the Alliance's cost-effectiveness calculations for this program. In light of the huge increase in CFL sales, the Alliance should consider adjusting the following parameter:

- Current cost-effectiveness calculations use estimates of CFLs sold of 355,000 for 2000 and 455,000 for 2001, with moderate increases in sales for subsequent years. The number for 2001 in particular will increase substantially, and it is likely that estimates for future years should also be increased given the inroads made this year by the Lighting Program in getting retailers to stock CFLs.

In the current calculations, first costs for CFLs are set at $12.50 per bulb in 1997 and decrease to $8.00 by 2004. Prices have generally fallen for CFLs throughout the region. The Alliance should consider lowering the first cost assumption. Future evaluation work should help to establish a new cost level.

6. CONCLUSION

The events of the last year brought about unprecedented changes in the CFL market. The Residential ENERGY STAR® Lighting Program's retail network and administrative infrastructure and the Coupon Campaign's retail purchase requirement introduced hundreds of retailers and hundreds of thousands of consumers to CFLs. While it is still too early to assess the degree to which this momentum will be sustained, the initial results from the consumer survey and the market assessment are encouraging.

Several key evaluation results suggest that at least some of the CFL sales observed in 2001 can be sustained:

- **Survey results indicate high intention levels for future CFL purchases.** The majority of 'intenders' said they still intend to purchase a CFL within the upcoming year *even if coupons were not available.* This includes over 90 percent of intenders among recent CFL purchasers and 53 percent of intenders that were recent incandescent purchasers.

  Similarly, the energy crisis raised people's awareness of CFLs and conservation as residents within the program territory were inundated with promotions and news stories about conservation. The energy crisis was mentioned 25 percent of the time by recent CFL purchasers as one of the reasons they purchased a CFL. Nevertheless, of those that intend to purchase in the next year and believe that the energy crisis is real, 64 percent said that they would purchase a CFL *even if the energy crisis were to end.*

- **Most CFL sales are not the result of a coupon.** Although coupons are obviously an important factor in the CFL market, coupon sales still comprised less than half of all CFLs sold during the five quarter covered by this evaluation. Over this period, coupons accounted for 39 percent of the almost 7 million CFLs sold in 2001.

In addition, anecdotal evidence from a small group of retailers indicates that they would continue to stock CFLs even if the coupon campaign ended. Equally important, prices for CFLs continue to drop around the region, mitigating one of the largest purchase barriers. These may be the most significant signs of market transformation and match the original program goal of directing resources to retailers to get them to begin selling CFLs. This topic will be explored more fully in future evaluations.

In conclusion, the West Coast energy crisis and ensuing Coupon Campaign altered the CFL market dramatically in 2001. Awareness of CFLs is now at levels that would have taken years to achieve in the absence of the publicity surrounding the energy crisis and this awareness will remain for at least several years. Sales reached truly phenomenal levels in 2001 but it is unrealistic to assume that such levels will be maintained in the absence of another critical energy situation. Even as of this writing in early 2002 there are signs that sales are decreasing. The important question now is whether they will return all the way to pre-crisis levels or remain significantly higher in the future.

The market tracking mechanism that has been developed will help answer this question over time. In the interim, in addition to the bulleted items above, it is interesting to

consider a few statistics in assessing both the level and the sustainability of the change in the market. The market assessment described in this report estimates that 7,029,628 CFLs were sold in the Alliance territory over the last year five quarters. From the survey results described in this report, we know that on average each household purchased 4.33 bulbs. Dividing the estimated 7,029,628 CFLs by 4.33 bulbs per household results in 1,623,475 Northwest households purchasing CFLs in the past 15 months. From the 2000 U.S. Census, there are 4,433,433 households within the Alliance territory, indicating that 37 percent of these households purchased a CFL within this period. (Note that the total number of households that obtained CFLs in the region is somewhat higher because of the 1.6 million CFLs not included in this calculation because they were given away by utilities.)

Overall Market Assessment

While the number of CFLs sold in the past 15 months is extraordinary relative to the almost non-existent pre-crisis sales levels, in terms of the total lighting market the penetration is still minimal. A typical household has approximately 35 light sockets so even for the households that bought four CFLs a large number of potential applications remain. From another perspective, approximately 52 million incandescent bulbs are sold in the Northwest each year[1], or about 65 million over the five quarters covered in this evaluation. CFL sales comprised just 11 percent of these sales. Finally, 63% of households have still not purchased a CFL (though some of these received free bulbs from their utilities). It is clear, therefore, that while much progress has been made, sustained, high levels of CFL sales will be necessary to achieve penetration levels that could be reasonably equated with a transformation of the residential lighting market.

[1] Approximately 1.3 billion incandescent bulbs are sold in the U.S. each year, according to the *Residential Market Share Tracking Lamps* study prepared by RER for Southern California Edison (January 2001). Based on the share of the U.S. population in the Alliance service territory (4%), we estimate that incandescent lamp sales in the program area are 52,153,920 annually.

APPENDIX A: CONSUMER SURVEY RESULTS AND INSTRUMENT

This section presents the detailed results of interviews conducted with residents of the Pacific Northwest – Washington, Oregon, Idaho and Montana – from June 5 to June 25, 2001. The study objectives were to learn about the CFL purchasing behavior of customers in this region by examining awareness and installation rates, purchase experience (role of coupons, advertising, salespeople), satisfaction and future purchase intentions.

Topline results are encouraging for the CFL market in the Northwest. First, consumer awareness of CFLs is very high – 82 percent of respondents in the Pacific Northwest are aware of them. Second, twenty percent of these respondents purchased a CFL in the last three months. We found that coupons played a bigger role in CFL adoption than advertising or salespeople – nearly half of all CFL purchasers either used a coupon or received a bulb for free. Last, seventy-two percent of survey completes intend to purchase a CFL, suggesting that CFLs will secure an even bigger share of the marketplace in the future.

SAMPLE DESIGN AND RESPONDENT DISTRIBUTION

Customer data were collected through telephone interviews with residents in the Pacific Northwest. This section presents the sample design, data collection and respondent segment statistics. The sample of 600 completed surveys matches the sample design for each of the desired strata.

Sample Design

The sample was designed to be proportional to population. The goal was 600 completes with customers that were aware of CFLs and had purchased light bulbs in the last three month. Table A-1 shows the distribution of the population by state and geographic area. We adjusted the number of completes in each state and geographic area based on the approximate distribution of population in each stratum. Survey Complete Quota, the rightmost column of Table A-1, shows the target number of completes in each of the stratum. For example, the sample design called for the 222 interviews in urban Washington, the most heavily populated strata.

Table A-1: Sample Design

State	Geographic Area	Population Percent	Survey Complete Quota
WA	Urban	37%	222
WA	Rural	2%	14
WA	Other	12%	72
OR	Urban	15%	89
OR	Rural	2%	14
OR	Other	13%	75
ID	Urban	3%	15
ID	Rural	3%	18
ID	Other	6%	33
MT	Urban	0%	0
MT	Rural	4%	23
MT	Other	4%	24
Total		1.00	600

The sample was further segmented by customers that purchased CFLs and those that did not. At this level of segmentation, the goal was a minimum of one CFL purchaser to every two non-purchasers. A 50/50 target was set in areas where sufficient installations existed.

Population Counts

The population of completes closely follows the sample design, as presented in Table A-2, 1421 respondents were needed to obtain a sample of 600 aware and recent lighting purchasers at the desired levels of segmentation – CFL versus incandescent purchasers in four states and three different geographic areas (urban, rural and other).

Table A-2: Number of Responses for Different Samples of Respondents

	N
All respondents	1421
Distribution of all respondents	
Partial Completes	821
Completes	600
Distribution of Completes	
Incandescent Purchasers	382
CFL purchasers	284
*Distribution of CFL purchasers**	
Recent CFL purchasers	218
Old CFL purchasers	132
Recent and OLD CFL purchasers	66

*CFL purchasers (284) = Recent CFL purchasers (218) +
Old CFL purchasers (132) - Recent & old purchasers (66)

The resulting population counts can be classified in one of a number of categories. These completes comprise several subsets of populations:

All Respondents: 1421 customers were interviewed.

Partial Completes: 821 of the 1421 customers interviewed were either unaware of CFLs or did not purchase lighting in the last three months. These 821 customers were screened out of the survey. These 821 interviews are treated as partial completes and are used to calculate awareness and installation rates. Furthermore, some aware and recent purchases were screened out due to strata meeting their quota.

Completes: The remaining 600 interviews are completes – the aware population that purchased lighting in the last three months.

Incandescent Purchasers: 382 of the completes reported that they purchased incandescent bulbs and had not purchased a CFL either in the last three months or over a year ago.

CFL Purchasers: 284 of the 600 completes, or 47 percent, purchased CFLs either in the last three months or over one year ago.

Recent CFL Purchasers: 218 of the 284 CFL purchasers purchased CFLs in the last three months.

Old CFL Purchasers: 132 of the 284 CFL purchasers purchased CFLs over a year ago.

Recent and Old Purchasers: 66 CFL purchasers reported that they purchased CFLs both in the last three months and over one year ago.

These populations – the seven subsets of respondents – are used for most of this analysis. Results are presented at one or many of these levels. These population counts, or counts close to these, are presented throughout the analysis. This terminology – recent versus old – is used throughout the report as well.

Respondent Distribution

This section presents respondent segment statistics. We conducted 600 interviews that were distributed very similarly to the sample design. Table A-3 shows the actual allocation of interviews by stratum for completes and partial completes.

Table A-3: Number of Respondents by State and Geographic Area

State	Geographic Area	Survey Completes	Partial Completes*
WA	Urban	221	211
WA	Rural	15	15
WA	Other	72	68
OR	Urban	90	106
OR	Rural	14	22
OR	Other	76	123
ID	Urban	14	36
ID	Rural	18	41
ID	Other	33	58
MT	Rural	23	66
MT	Other	24	75
Total		600	821

*Only Awareness and Purchase information obtained.

Table A-4 shows completed interviews distributed by purchaser type – CFL versus incandescent purchasers. The actual allocation of customer interviews by purchaser type conforms to the goal set in the sample design section – a minimum of two CFL purchasers to every three non-purchasers. In some strata, 50 CFL/50 incandescent distribution was achieved.

Table 4: Number of Complete by Purchase Type, State, and Geographic Area

State	Geo Type	CFL purchase	Free CFL recipient	Incandescent purchase
WA	Urban	87	24	110
WA	Rural	7	0	8
WA	Other	36	0	36
OR	Urban	34	11	45
OR	Rural	5	2	7
OR	Other	36	1	39
ID	Urban	5	0	9
ID	Rural	6	0	12
ID	Other	11	0	22
MT	Rural	11	0	12
MT	Other	8	0	16
Total		246	38	316

Weighting Scheme

The results in this report were weighted in two ways. First, the 1421 interviews were weighted to the population presented in Tale A-1. Second, the 600 completes were weighted to correspond to the recent aware purchaser population. Table A-5 presents this weighting scheme by state, geographic area and group (CFL versus incandescent purchaser).

Table A-5: Weights for Population of Completes by State and Geographic Area

State	Geographic Area	Group	Complete Percent
WA	Urban	CFL	21%
WA	Urban	INC	19%
WA	Rural	CFL	1%
WA	Rural	INC	1%
WA	Other	CFL	6%
WA	Other	INC	6%
OR	Urban	CFL	9%
OR	Urban	INC	7%
OR	Rural	CFL	2%
OR	Rural	INC	1%
OR	Other	CFL	8%
OR	Other	INC	5%
ID	Urban	CFL	1%
ID	Urban	INC	1%
ID	Rural	CFL	1%
ID	Rural	INC	1%
ID	Other	CFL	1%
ID	Other	INC	3%
MT	Rural	CFL	1%
MT	Rural	INC	2%
MT	Other	CFL	1%
MT	Other	INC	2%

RESPONDENT DEMOGRAPHICS

This section summarizes the characteristics of customers with respect to customer demographics – housing type, home ownership, household size, fuel type, education, age and income.

Purchaser Type Distributions Across Demographic Factors

able A-6 shows the distribution of the number of completes by housing type. The distribution is similar among CFL and incandescent purchasers as well as those who received a free CFL. Single-family premises dominate all groups, comprising over 60 percent of respondents.

Table 6: Distribution of Completes by Purchase Type and Housing Type

Housing Type	CFL purchasers (%)	Free CFL recipient (%)	Incandescent purchasers (%)
Single-Family	84%	68%	80%
Apartment	8%	20%	12%
Condo	3%	3%	3%
Mobile Home	4%	6%	4%
Other	1%	3%	2%
# of respondents	246	38	316

Table A-7 shows that the distribution of home ownership is not dramatically different between CFL and incandescent purchasers. CFL purchasers tend to own their residences. Thirteen percent of CFL purchasers are renters, compared with 27 percent of incandescent buyers and 31 percent of recipients of free CFLs.

Table A-7: Distribution of Completes by Purchase Type and Home Ownership

Own or Rent	CFL purchase (%)	Free CFL recipient (%)	Incandescent purchase (%)
Own	87%	69%	73%
Rent	13%	31%	27%
# of respondents	246	38	316

Table A-8 shows the distribution of completes by size of household. Almost half of CFL purchasers live in a household of two people. Fifty-nine percent of CFL purchasers live in smaller households of two people or less, compared with 47 percent of incandescent purchasers. Sixty-nine percent of those who received free CFLs live in households of two people or less.

Table A-8: Distribution of Completes by Purchase Type and Household Size

Household size	CFL purchase (%)	Free CFL recipient (%)	Incandescent purchase (%)
1	13%	24%	18%
2	46%	45%	29%
3	17%	5%	17%
4	14%	24%	22%
5	5%	3%	11%
6	3%	0%	2%
Seven or more	1%	0%	1%
# of respondents	246	38	316

Table A-9 displays the distribution of completes by fuel type. Gas and electricity are the two major fuel type among customers.

Table A-9: Distribution of Completes by Purchase Type and Fuel Type

Fuel Type	CFL purchase (%)	Free CFL recipient (%)	Incandescent purchase (%)
Electricity	37%	52%	40%
Fuel Oil	8%	5%	6%
Gas	48%	32%	46%
Wood	4%	5%	6%
Propane	1%	0%	1%
Other	2%	5%	1%
# of respondents	246	38	316

Table A-10 presents the distribution of completes by level of education. The data do not suggest different educational patterns between CFL and incandescent purchasers. The biggest difference is among college graduates, who make up 28 percent of CFL purchasers versus 21 percent of incandescent purchasers. Forty-seven percent of free CFL recipients are college graduates.

Table A-11: Distribution of Completes by Purchase Type and Age

Education	CFL purchase (%)	Free CFL recipient (%)	Incandescent purchase (%)
Some high school	2%	6%	2%
High school graduate	15%	8%	19%
Trade or technical school	7%	3%	10%
Some college	34%	16%	30%
College graduate	24%	47%	21%
Some graduate school	4%	5%	4%
Graduate degree	15%	15%	13%
# of respondents	246	38	316

Table A-11 shows the age distribution across purchase types. Customers over 45 constitute 26 percent of CFL purchaser, 14 percent of incandescent purchasers, and 18 percent of free CFL recipients.

Table A-11: Distribution of Completes by Purchase Type and Income

Age	CFL purchase (%)	Free CFL recipient (%)	Incandescent purchase (%)
18 - 24	2%	8%	6%
25 - 34	11%	20%	21%
35 - 44	20%	32%	25%
45 - 54	26%	18%	20%
55 - 64	23%	9%	14%
65 and older	17%	14%	14%
# of respondents	246	38	316

Table A-12 shows that the income distribution does not vary greatly between CFL and incandescent purchasers. The biggest difference lies in the $20,000-50,000 bracket, which comprises 49 percent of incandescent versus 35 percent of CFL purchasers and 25 percent of free CFL recipients.

Table A-12: Distribution of Completes by Purchase Type and Income

Income	CFL purchase (%)	Free CFL recipient (%)	Incandescent purchase (%)
Less than $20,000 per year	7%	12%	9%
$20,000 - 49,999	35%	24%	49%
$50,000 - 74,999	30%	33%	27%
$75,000 - 99,999	15%	11%	8%
$100,000 or more	13%	20%	7%
# of respondents	246	38	316

AWARENESS

This section assesses customer awareness of CFLs at various levels of segmentation – by purchaser type and strata and initial sources of awareness. Awareness was very high in each state. Customers report that advertising was their biggest source of awareness.

Awareness by Purchaser Type

Table A-13 shows distribution of unaided and aided awareness by purchaser type. There is a significant difference between aided and unaided awareness levels. Sixty percent were aware, 22 percent needed to be prompted, and only 18 percent were unaware of CFLs. Aided awareness levels are over 70 percent for both incandescent purchasers and those who did not purchase light bulbs.

Table A-13: Population Level Awareness of CFLs Aided and Unaided by Purchase Type

Purchaser Type	Percent Aware	
	Unaided	Aided
CFL purchase	85%	100%
free CFL recipient	70%	100%
Incandescent purchas	51%	79%
No lighting purchase	57%	75%
Total	60%	82%
# Respondents		1421

Awareness Across Respondent Segments

Table A-14 shows differences in awareness across states. Oregonians top the list – urban, rural and other areas of Oregon report nearly 90 percent awareness of CFLs. Washington residents are also very aware of CFLs, while awareness in Idaho lags behind the other three states. Only in Idaho are urban dwellers more aware of CFLs than rural customers, indicating that awareness does not tend to be higher in population centers. The mean

awareness level across all respondent segments is 82 percent, a very high awareness rate.

Table A-14: Population Level Awareness of CFLs By State and Geographic Area

State	Geography Type	Percent Aware
WA	Urban	82%
WA	Rural	80%
WA	Other	87%
OR	Urban	88%
OR	Rural	89%
OR	Other	87%
ID	Urban	70%
ID	Rural	68%
ID	Other	62%
MT	Rural	75%
MT	Other	72%
# Respondents		1421

Initial Source of Awareness

Table A-15 presents initial sources of CFL awareness by purchasers among the 600 survey completes. The two major sources of awareness are advertising and in-store point of purchase materials, confirming the importance of these type of marketing efforts. Utility bill stuffers or other materials are also a significant course for CFL purchasers. Other refers to coupons, consumer reports, sales people and the ENERGY STAR® label.

Table A-15: Initial source of CFL Awareness by Purchase Type

Initial Source of Awareness	CFL purchasers (%)	Free CFL recipient (%)	Incandescent purchasers (%)
Advertising	35%	19%	31%
In store point of purchase	26%	11%	29%
Utility (bill stuffer or other)	17%	21%	12%
Friends or family	26%	11%	29%
Got one for free	2%	3%	0%
At work	2%	0%	5%
# of respondents	246	38	316

INSTALLATION

This section presents data on CFL installations at various segmentation levels – by CFL awareness, purchaser type and household location. Twenty percent of the aware population recently purchased a CFL. More CFLs were installed in living rooms than any other location.

Installation Rates by Purchaser Type

Table A-16 shows installation rates by lamp type and awareness. Overall, 20 percent of the aware population purchased a CFL, 38 percent bought incandescents, and 42 percent made no lighting purchase in the last three months. Twenty percent of people that were aware of CFLs purchased one.

Table A-16: Population Level Installation Rates By Lamp Type

Installation Rate	Aware	Unaware	Total
CFL purchaser	20%	0%	17%
Free CFL recipient	3%	0%	3%
Incandescent purchase	37%	45%	38%
No lighting purchase	40%	55%	42%
# Respondents			1421

Installation Rates by Respondent Segment

Table A-17 shows that CFL installation rates, like awareness, vary significantly by state. Oregon and Washington again have the highest installation rates, while Montana and Idaho bring up the rear. Oregon's awareness rate, higher than any other state, may be driving high installation rates in its rural and urban segments. Only in Washington does a noteworthy gap exist between urban and rural CFL installations.

Table A-17: Population Level Installation Rates By Purchase Type, State, and Geographic Area

State	Geog	CFL Purchaser	Free CFL Recipient	Incandescent	No Lighting Purchase
WA	Urban	18%	6%	39%	37%
WA	Rural	13%	0%	43%	43%
WA	Other	18%	0%	40%	42%
OR	Urban	21%	6%	33%	40%
OR	Rural	22%	6%	33%	39%
OR	Other	23%	1%	32%	45%
ID	Urban	10%	0%	52%	38%
ID	Rural	8%	0%	32%	59%
ID	Other	5%	0%	49%	45%
MT	Rural	8%	0%	38%	54%
MT	Other	3%	0%	47%	49%
# of respondents					1421

Installation by Location

CFL purchasers tended to install their bulbs in high usage areas – living rooms (46 percent), bedrooms (37 percent), and kitchens (24 percent). Outdoor lighting was also a popular CFL application. Relatively few CFLs were used in utility rooms, basements and closets. Seven percent did not install their bulbs.

Table A-18: Percent of CFL Purchasers That Installed in Specific Locations – Among Recent and Old CFL Purchasers --

Location	Percent
Living Room	46%
Kitchen	24%
Outdoor lighting	22%
Other Bedrooms	19%
Master Bedroom	18%
Hall	14%
Family Room	13%
Bathrooms	13%
Garage	8%
Dining oom	8%
Office	5%
Utility room	4%
Basement	4%
Closets	2%
Did Not Install	1%

Number of CFLs Bought

Table A-19 indicates that customers tend to buy more than one CFL. The modal number of CFLs purchased is 3. The mean purchase is nearly 4 compact fluorescent bulbs.

Table A-19: Distribution of CFLs Purchased

Number of CFLs	Percent
1	11%
2	29%
3	11%
4	18%
5	4%
6	10%
7 or more	17%
Mean	4.33

PURCHASE EXPERIENCE

Customers' purchase experience is central to this analysis. We found that incandescent purchasers tend to buy bulbs at grocery stores, while CFL purchasers patronize discount retail stores more than any other type of store. Retail venues also differ by region. Survey results suggest that free bulbs and coupons had a significant effect on CFL purchasers – almost half of all CFL purchasers either received a bulb for free or used a coupon. CFL

purchasers cited reducing electricity bill as the main reason for buying the bulbs.

Where Customers Buy Light Bulbs

Nearly half of CFL purchasers report they buy CFLs at discount retail stores and home improvement stores. 21 percent of CFLs are purchased at hardware stores. By contrast, customers normally buy light bulbs at grocery stores (35 percent) and discount retail stores (30 percent). Fred Meyer also received prominent mention. We hypothesize that customers purchase bulbs at the grocery store, which is a convenient place to go to replace a bulb that has burned out. This purchasing pattern suggests that grocery stores are an important retail target for CFL penetration, because only 5 percent of CFLs are purchased at grocery stores.

Table A-20: Where Bulbs Are Bought by Purchase Type

Store type	CFLs purchase	Normally buy lightbulbs
Hardware Store	21%	17%
Discount retail store	28%	30%
Home improvement store	31%	21%
Grocery store	5%	35%
Fred Meyer	10%	17%
Other	12%	0%
# of respondents	180	600

Table A-21 reveals significant regional differences in bulb purchase locations. Bulbs in Montana – both CFL and incandescent – are mainly purchased in discount retail stores. Fred Meyer has a noteworthy presence in Oregon, accounting for 17 percent of CFL purchases there. Home improvement stores have significant purchase share in all states but Montana. Grocery stores are a major purchase venue in every state. These data suggest that distribution strategies could be tailored to the retail landscape in different states – discount retail stores in Montana, Fred Meyer in Oregon.

Table A-21: Where Bulbs Are Bought by Purchase Type and State

	CFLs purchase				Normally buy lightbulbs			
Store type	ID	MT	OR	WA	ID	MT	OR	WA
Hardware Store	14%	20%	7%	30%	14%	12%	8%	23%
Discount retail store	44%	60%	23%	28%	29%	70%	32%	24%
Home improvement store	22%	9%	38%	28%	21%	6%	24%	21%
Grocery store	14%	0%	4%	6%	54%	26%	33%	34%
Fred Meyer	6%	0%	17%	6%	4%	0%	29%	13%
Other	0%	10%	14%	11%	5%	9%	6%	14%
# of respondents		180				600		

Table A-22 shows the distribution of bulb purchase locations by geographic area. 51 percent of CFLs were purchased at discount retail stores in rural areas, while discount retail stores and home improvement stores together accounted for 48 percent of urban CFL purchases. Home improvement stores like Home Depot account for 36 percent of CFL purchases in other areas, mainly suburban. Discount retail stores account for nearly 60 percent of regular light bulb purchases in rural areas, underscoring the importance of this retail channel.

Table A-22: Where Bulbs Are Bought by Purchase Type and Geographic Area

	CFLs purchase			Normally buy lightbulbs		
Store type	Rural	Urban	Other	Rural	Urban	Other
Hardware Store	34%	21%	17%	16%	19%	14%
Discount retail store	51%	27%	24%	59%	26%	27%
Home improvement store	4%	32%	36%	11%	20%	26%
Grocery store	4%	6%	5%	35%	36%	33%
Fred Meyer	4%	11%	9%	2%	18%	18%
Other	20%	11%	11%	5%	12%	8%
# of respondents		180			600	

Reasons for Purchase

This section details the reasons consumers bought compact fluorescent light bulbs. Free bulbs and coupons had a significant effect on CFL purchasers.

Table A-23 reports the distribution of reasons why customers bought CFLs. Reducing electricity bill is the primary reason cited by those who purchased both recently and over one year ago. The energy crisis received prominent mention among recent purchasers. About one quarter of recent and old purchasers mentioned longer life as a reason for purchase. "Trying them out" was cited by 10 percent of recent purchasers and 18 percent of old purchasers.

Table A-23: Reasons Customers Purchased CFLs By Purchase Type – Among Recent Versus Old Purchasers --

	Recent Purchasers		Old Purchasers	
Reasons for Purchasing CFL	First mention	Any Mention	First Mention	Any Mention
Reduce electricity bill	32%	48%	25%	31%
Responding to energy crisis	13%	25%	0%	0%
Energy savings worth the extra up-front cost	13%	19%	11%	25%
Energy Efficient	9%	10%	9%	15%
To try them out	8%	10%	12%	18%
It is the 'right thing to do'	7%	15%	3%	8%
To redeem a coupon	6%	12%	0%	0%
Lasts longer	6%	23%	13%	26%
# of respondents	179		129	

Data was also collected on why incandescent buyers did not purchase CFLs; this data is presented in Table A-24. Cost was uppermost on the mind of incandescent purchasers. Lack of product awareness and product availability also received prominent mention. These cost, awareness and availability factors far outstripped concerns about product quality and performance.

Table A-24: Reasons Why Consumers Did Not Purchase CFLs

Reasons for Not Purchasing CFL	First Mention	Any Mention
Costs too much to purchase	31%	38%
Have Never heard of Compact Fluorescent	15%	19%
Can't find the type/style/size	11%	15%
Did not think about energy efficiency	8%	11%
Didn't have enough information to make	8%	11%
Not available at store/didn't see any	5%	7%
Force of habit	4%	6%
Don't like the light/color	4%	6%
Didn't need them	2%	4%
Standard product works better	2%	4%
Don't know the brand/product well enough	2%	6%
Other - Specify	5%	7%
# of respondents		316

Table A-25 summarizes the concerns mentioned by recent CFL purchasers when deciding to buy their bulbs. CFL purchaser concerns are similar to incandescent purchasers in that cost and product availability top the list. 13 percent mentioned a concern about light quality. Few purchasers cited reservations about energy and cost savings.

Table A-25: Customer Concerns When Purchasing CFLs

Concerns about CFL purchase	First Mention	Any Mention
Encountered no difficulties	37%	40%
Energy efficient bulb was more expensive	14%	16%
Hard to find type/style/size	12%	19%
Poor light quality	11%	13%
How long they would actually last	5%	7%
Energy efficient bulb would not save enough	3%	4%
Uncertain that the savings would occur	2%	6%
# of respondents		164

Role of Coupons

This section examines the role of coupons in the CFL markets of the Pacific Northwest. Nearly half of all CFL purchasers either received a bulb for free or used a coupon. Table A-26 shows that 8 percent of completes and 19 percent of recent CFL users received free bulbs.

Table A-26: Percent of Customers Receiving a Free Bulb

Received Free CFL	All Completes	Recent CFL Users
Yes	8%	19%
No	92%	81%
# of respondents	600	218

Table A-27 shows the distribution of coupons by state. Coverage was best in Washington (62 percent), followed by Oregon (32 percent). This coupon coverage may help drive higher installation rates in Oregon and Washington, shown earlier in Table A-16: Population Level Installation Rates By Lamp Type.

Table A-27: Percent of Recent CFL Purchasers Receiving a Coupon By State and Geographic Area

State	Percent	*N*
WA	62%	119
OR	32%	71
MT	30%	10
ID	25%	12
# of respondents		212

Table A-28 indicates a high coupon redemption rate. Sixty-nine percent of the people who bought a CFL that received a coupon report that they redeemed the coupon for a CFL.

Table A-28: Percent of Recent CFL Purchasers that Redeemed a Coupon

Used Coupon	Percent
Yes	69%
No	31%
# of respondents	74

Table A-29 reports the distribution of redeemed coupon amounts among recent CFL purchasers. Seventy-nine percent of these coupons fell in the $3-6 dollar range.

Table A-29: Distribution of Redeemed Coupon Values

Amount of Coupon	Percent
$0-3	10%
$3-6	79%
$6 or more	10%
# of respondents	50

Table A-30 summarizes coupon use among recent purchasers. Fifty-six percent of CFL purchasers received a coupon. Of that group, 31 percent used a coupon, or 17 percent of the population.

Table A-30: Summary of Coupon Use

Coupon Use	Percent
Received Coupon	56%
Redeemed Coupon	31%
% People Using Coupon	17%
# of respondents	177

Table A-31 shows the distribution of CFL prices (before coupon). 64 percent of recent CFL purchasers reported paying between $6-10.

Table A-31: Distribution of CFL Cost (Cost Before Any Coupon)

Price	Percent
$0-6	16%
$6-10	64%
$11-15	19%
$15 or more	1%
# of respondents	148

Table A-32 shows the likelihood of CFL purchase without a coupon. Seventy-one percent of people that used a coupon reported that they would purchase without a coupon – this despite concern about cost reported in Table A-25.

Table A-31: Likelihood of CFL Purchase Without A Coupon

Would you purchase without coupon?	Percent
Yes	71%
No	29%
# of respondents	49

While over 70 percent of recent CFL purchasers indicated they would buy a CFL without a coupon, purchasers also gave coupons a mean ranking of 6.84 on a 10-point scale in its influence on their decision to purchase a CFL. Moreover, one quarter of recent CFL

purchasers rated the coupon a 10 – very influential – in their purchase decision.

Table A-33: Influence of Coupon on Decision to Purchase a CFL

Influence of Coupon	Percent
1 NOT at all influential	9%
2	2%
3	2%
4	2%
5	16%
6	12%
7	6%
8	22%
9	4%
10 VERY Influential	25%
Mean	6.84
# of respondents	50

Table A-34 summarizes the distribution of recent CFL acquisitions among recent CFL users. Nineteen percent received a free bulb, 17 percent used a coupon, and 56 percent paid full price.

Table A-34: Percent of Recent CFL Purchasers Obtaining Free CFL or Using a Coupon

CFL Acquisition Type	Percent
Received Free	19%
Used Coupon	17%
Full Purchase	64%
# of respondents	218

Role of Advertising

This section examines in-store advertising in the Pacific Northwest CFL market. Survey data suggest that in-store advertising plays a minor role in consumers' purchase decisions. Table A-35 shows that far more CFL purchasers noticed in-store advertising than incandescent purchasers – 37 compared to 14 percent. This difference may be due to the fact that incandescent purchasers tend to shop for bulbs in grocery stores where there is no CFL advertising.

Table A-35: Percent of Recent CFL and incandescent Purchasers the Noticed In-Store CFL Related Advertising

Advertising	CFL purchasers	Incandescent Purchasers	Overall
Yes	37%	14%	23%
No	63%	86%	77%
# of respondents	172	303	

Table A-36 shows end caps are the type of advertising that customers reported seeing most frequently. 49 percent observed end caps, 45 percent saw advertising material in the aisle and 29 percent of customers report that they noticed lighting displays with working lights.

Table A-36: Type of In-Store Advertising Noticed

Type of Advertising	Percent
Lighting display with working lights	29%
Display/materials at end of aisle	49%
Ads and/or material in aisle	45%
# of Respondents	91

For both CFL and incandescent customers that noticed advertising, the two most prominent advertising messages were reducing the energy bill and energy savings over the life of the bulb. Table A-37 suggests that cost savings is a more common advertising theme than resource conservation. Forty-three percent of CFL customers first mentioned advertising messages about bill reduction, lower operating cost and bulb life – all value-oriented advertising messages. Nearly as many mention longer life as bill reductions, but energy savings is more top of mind – customers tend to first mention bill reductions. Overall, 83 percent of CFL customers mentioned these factors, suggesting that advertisers are correctly offering messages that address consumers' concerns about cost.

Table A-37: Customer Perception of Advertising Messages

	CFL Purchasers		Incandescent Purchasers	
Advertising Message	First Mention	Any Mention	First Mention	Any Mention
Reducing energy bills	34%	39%	20%	35%
Energy savings over the life of the equipment	20%	34%	24%	32%
Energy efficiency is good for the environment	15%	16%	11%	25%
Conserve Energy/Energy Efficient	8%	8%	9%	19%
Understanding energy efficiency in general	8%	11%	10%	23%
Operating costs over the life of the equipment	5%	8%	3%	16%
Longer lasting	4%	36%	4%	26%
Availability of coupon	2%	7%	0%	0%
Availability of store rebate	2%	2%	0%	0%
# of respondents	56		23	

Table A-38 indicates that a third of recent CFL purchasers that noticed advertising rated the information fairly influential, with a score of 7-10. The mean influence of advertising rating is 4.7.

Table A-38: Influence of Advertising on Decision to Purchase a CFL

Influence of Advertising Materials	Percent
1 NOT at all influential	29%
2	9%
3	4%
4	9%
5	11%
6	6%
7	9%
8	5%
10 VERY Influential	18%
Mean	4.70
# of respondents	60

Table A-39 examines the influence of types of advertising among the 37 percent of recent CFL purchasers that noticed advertising. While only 29 percent of these customers reported seeing lighting displays with working lights, this type of advertising had the biggest impact among consumers – recent CFL purchasers who noticed this type of advertising gave it a mean influence rating of 5.25 on a 10-point scale. End caps were rated, on average, slightly below 5. Ads in the lighting aisle were least influential; customers ranked them 3.7.

Table A-39: Influence of Advertising on Decision to Purchase a CFL by Type of Advertising Material

Type of Advertising	Mean	*N*
Lighting display with working lights	5.25	15
Display/m atreials at endof the aisle	4.97	17
ads and/or othe material in the lighting aisle	3.70	21

Recent CFL purchasers also rated the influence of the in-store advertising message that they recalled seeing. Table A-40 indicates that the influence of different advertising messages varied greatly. It is difficult to draw conclusions from some of these small sample sizes. Reducing energy bills scored a mean rating of only 4.05, surprising in light of earlier results in Table A-23, which shows that reducing energy bills was a primary reason for buying a CFL.

Table A-40: Influence of Advertising on Decision to Purchase a CFL by Advertising Message

Type of Advertising	Mean	*N*
Reducing energy bills	4.05	19
Energy savings over the life of the bulb	5.15	9
Energy efficiency is good for the environment	5.52	8
Conserve Energy	7.22	5
Understanding energy efficiency in general	3.73	4
Operating costs over the life of the bulb	2.62	3
Longer lasting	6.46	2
Availability of coupon	10.00	1
Availability of store rebate	1.00	1

Role of Salesperson

Salespeople play a minor role in the CFL market. Table A-41 shows that only 11 percent of recent CFL customers talked with a salesperson.

Table A-41: Percent That Spoke With a Salesperson

Talk with Salesperson	Percent
Yes	11%
No	89%
# of respondents	176

Table A-42 shows the distribution of responses about salesperson communications with recent CFL purchasers. Cost savings was a significant theme; 19 percent of customers that elaborated on the sales message they received mentioned electricity bill reduction or energy efficiency. Longer bulb life was mentioned by 15 percent of those who spoke with a sales person. Salesperson discussion of light quality and wattage received some mention. The other category – 45 percent of responses – involved discussions with sales staff about intended use, assurance about product quality and heat discharge.

Table A-42: Distribution of Responses About Sales Messages

Salesperson Message	Percent
Reduce electricity bill/Energy efficient	19%
Long life	15%
Light quality	12%
Wattage	8%
Other	45%
# of respondents	14

Of those customers that spoke with a salesperson, only 13 percent believed the salesperson was very influential. Table A-43 shows that salespeople were given a mean influence rating of 5.12 – about the same as advertising materials, but lower than the mean influence of coupons.

Table A-43: Influence of Salesperson on Decision to Purchase CFL

Influence of Salesperson	Percent
1 NOT at all influential	22%
2	18%
3	4%
4	0%
5	12%
6	0%
7	7%
8	12%
9	12%
10 VERY influential	13%
Mean	5.12
# of respondents	17

SATISFACTION

This section examines customer satisfaction, an important element of this study, in several ways. Most CFL purchasers are more satisfied or as satisfied with their CFLs than incandescent bulbs. The overwhelming reason for this satisfaction is longer lasting CFLs. However, there was little difference in satisfaction between CFLs purchased recently and those bought over a year ago, although those that purchased CFLs recently and also purchased them a year ago prefer the newer CFL. Satisfaction was higher among those that used coupons, but price data suggest that satisfaction is not correlated with the price of the bulb.

Satisfaction in Different Customer Segments

Table A-44 shows that mean satisfaction of recent CFL purchasers is slightly higher than the mean satisfaction of customers that purchased a CFL over a year ago. Forty-six percent of both recent CFL purchasers and free CFL recipients and 35% of old CFL purchasers reported that they are very satisfied with their purchase

Table A-44: Satisfaction With CFL

Satisfaction	Recent CFL Purchasers	Old CFL purchasers	Free CFL Recipients
Not Satisfied	3%	3%	3%
Satisfied	37%	43%	31%
Somewhat Satisfied	14%	20%	20%
Very Satisfied	46%	34%	46%
Mean	7.83	7.46	7.67
# of respondents	167	65	32

Table A-45 indicates there is not great variation in satisfaction by where the bulb is installed in the household. Nine of the fourteen locations have mean ratings greater than 8. Not surprisingly, customers that did not install their CFLs rated them lowest.

Table A-45: Satisfaction by Household Location

Location	Mean Satisfaction	*N*
Dining Room	8.71	21
Closets	8.56	5
Master Bedroom	8.42	47
Other Bedroom	8.41	49
Garage	8.35	20
Living Room	8.29	118
Kitchen	8.26	62
Bathrooms	8.14	37
Utility Room	8.04	10
Family Room	7.86	34
Office	7.74	14
Hall	7.71	36
Outdoor Lighting	7.64	57
Basement	7.22	9
Did Not Install	4.60	9

A greater percentage of bulbs are in use among recent purchasers and free CFL recipients than old purchasers, as shown in Table A-46.

Table A-46: Bulb Disposition

Bulb Still in Use	Recent Purchaser	Old Purchaser	Free CFL Recipient
Yes	97%	73%	91%
No	3%	27%	9%
# of respondents	173	61	33

Table A-47 shows a big difference in satisfaction between customers who continue to use their CFLs and those that do not.

Table A-47: Satisfaction by Bulb Disposition

Bulb Still in Use	Mean Satisfaction	*N*
Yes	8.03	332
No	4.69	26

Table A-48 shows that 46 percent of recent CFL customers no longer use their CFL because it burned out. CFLs that did not fit the fixture accounted for 23 percent of customers that no longer used their CFLs, while poor light quality was cited by another 13 percent.

Table A-48: Reasons That CFL is Not in Use

Reasons that CFL is not in use	Percent
Burned out	46%
Didn't fit fixture	23%
Poor light quality	13%
Other	18%
# of Respondents	34

Table A-49 shows that 43 percent of recent and old CFL purchasers are dissatisfied with some aspect of their bulbs while 50 percent of free CFL recipients are dissatisfied.

Table A-49: Percent That Are Dissatisfied With Some Aspect of CFL

Dissatisfied with Bulbs	Recent Purchasers	Old Purchasers	Free CFL Recipients
Yes	43%	43%	50%
No	57%	57%	50%
# of respondents	175	63	36

Table A-50 shows that most of these dissatisfied customers were unhappy with indoor bulbs. Very few indicated dissatisfaction with the fixture. This is consistent with the fact that most CFLs were installed indoors.

Table A-50: Distribution of Bulb Type Among Dissatisfied Purchasers

Dissatisfied with type of bulb	Recent Purchasers	Old Purchasers	Free CFL Recipients
Indoor	78%	86%	76%
Outdoor	10%	9%	8%
Fixture	12%	5%	17%
# of respondents	43	23	41

Table A-51 presents mean satisfaction scores by reason for purchase. While the counts are too low to support meaningful conclusions about some categories, the data do suggest that customers that purchased in order to reduce their electricity bills and redeem coupons are very satisfied with their bulbs.

Table A-51: Mean Satisfaction by Reason for CFL Purchase

Reason for Purchase	Mean Satisfaction	*N*
Cost savings worth the extra up-front cost	10.00	1
Product works better/is higher quality	9.05	2
Like to have new, high-tech products	9.00	1
To redeem a coupon	8.30	10
Reduce electricity bill	8.28	53
It is the 'right thing to do'	7.95	11
Energy Efficient	7.86	15
Energy savings worth the extra up-front cost	7.91	21
Responding to energy crisis	7.66	21
Extra cost for compact fluorescent bulb	7.00	1
Lasts longer	6.61	12
To try them out	5.97	12
I don't like to change light bulbs	5.57	12
Other - Specify	8.00	4

Satisfaction was also higher among those that used coupons, with a mean satisfaction of 8.42 among those that used coupons versus 7.56 for those that did not. This finding is not surprising, given that coupons substantially reduce the price of CFLs, thus mitigating customers' cost concerns.

Table A-52: Mean Satisfaction By Coupon Use

Used Coupon	Mean Satisfaction	*N*
Yes	8.42	48
No	7.55	120

Table A-53 indicates that satisfaction is not correlated with price. Aside from the single customer paying more than $15, customers that paid the most – $11 to 15 – are the most satisfied.

Table A-53: Mean Satisfaction by Price of Bulb

Price	Mean Satisfaction	*N*
$0-6	8.14	24
$6-10	7.81	90
$11-15	8.39	26
$15 or more	5.00	1

Table A-54 shows satisfaction with CFLs versus standard bulbs. Overall, 42 percent of

recent and old CFL purchasers report being more satisfied with CFLs than incandescent bulbs. Another 38 percent indicated they are as satisfied, and only 20 percent report being less satisfied with CFLs than standard bulbs. As expected, customers that were less satisfied had a significantly lower mean satisfaction rating – only 4.82.

Table A-54: Percent and Mean Satisfaction by Satisfaction With CFLs Relative to Standard Bulbs

	Purchaser Type			Total		
Relative satisfaction	Recent Percent	Old Percent	Free CFL Percent	Percent	Mean	*N*
More Satisfied	41%	35%	32%	42%	8.95	99
As satisfied	41%	45%	38%	38%	7.78	108
Less Satisfied	18%	20%	30%	20%	4.82	51

Table A-55 shows the distribution of customers' open-ended responses about their satisfaction with CFLs relative to standard bulbs. Recent and old customers that are more satisfied with their bulbs primarily cite bulb life (54 percent) and energy efficiency as reasons for satisfaction. 38 percent of those that are as satisfied report the CFL works the same as standard bulbs. A significant portion cites longer life (17 percent) and energy efficiency (21 percent). Less satisfied customers (39 percent) indicate their dissatisfaction stems from bulbs that are not as bright as they want.

It is interesting to note that the overwhelming reason for satisfaction among CFL purchasers relative to incandescents is longer lasting bulbs. Yet, bulb life does not appear to be a primary focus of what customers first remember about advertising. Only 4 percent of recent CFL purchasers first mentioned the advertising message focused on bulb life (however, 32 percent did mention long life second or third).

Table A-55: Distribution of Responses About Satisfaction with CFLs Relative to Standard Bulbs

Response	More Satisfied	As Satisfied	Less Satisfied
Lasts longer	54%	17%	2%
Energy Efficiency	36%	21%	5%
Better light quality	31%	6%	4%
Saves on electric bill	19%	6%	0%
Works the same/no difference	3%	38%	0%
Too soon to tell	1%	6%	2%
Not as bright	1%	8%	39%
Doesn't fit fixtures	1%	6%	10%
Took too long to light up	1%	0%	2%
Don't like lighting	0%	3%	2%
Too expensive	0%	5%	2%
# of respondents	108	99	51

A total of 66 customers bought CFLs both recently and a year ago. Table A-56 shows that 52 percent of these customers are more satisfied with their new CFLs. Yet those same

customers' mean satisfaction is 7.89, which is lower than the mean satisfaction scores of those who report being as satisfied or less satisfied with CFLs purchased recently.

Table A-56: Mean Satisfaction With New CFLs Relative to Old CFLs

Satisfaction with new CFLs relative to old CFLs	Percent	Mean Satisfaction with new CFL	*N*
More Satisfied	52%	7.89	26
As Satisfied	44%	8.40	21
Less Satisfied	4%	8.00	2
# of respondents			49

Table A-57 shows the distribution of responses among recent and old CFL purchasers that are more satisfied with their CFLs versus standard bulbs. Thirty-five percent of these customers pointed to better light quality, 34 percent said that they were more compact, another 10 percent noted that CFLs light up faster than standard bulbs. Ten percent pointed to longer life, and only 2 percent pointed to energy savings. The two customers that were less satisfied with their new CFL stated that it provided less light.

Table A-57: Distribution of Responses About Satisfaction With CFLs Relative to Standard Bulbs

Response	Percent
Better Light Quality	35%
More Compact	34%
Lights up Faster	10%
Last Longer	10%
Saves Energy	2%
# of respondents	26

Table A-58 shows that 55 percent of customers who purchased both recently and over a year ago report being affected by their early CFL purchase, a significant but not overwhelming percentage.

Table A-58: Distribution of Effects of Earlier Purchase

Affected by earlier purchase?	Percent
Yes	55%
No	45%
# of respondents	53

Table A-59 shows the distribution of customers' open-ended responses about the effect of old CFLs on recent purchase. 45 percent reported that older CFLs met their expectations – they bought again because they were satisfied with the early performance. Another 28 percent pointed to longer life. 16 percent reported that cost savings from the earlier bulbs persuaded them to buy again. Only 8 percent reported performance savings, and 2

customers felt the CFL cost too much.

Table A-59: Distribution of Responses About the Effect of Earlier Purchases

Salesperson Message	Percent
Old CFL performed well/satisfied with previous experience	45%
Long Life	28%
Cost savings/Energy efficient	16%
Had Performance Problems	8%
Cost too Much	4%
# of respondents	26

INTENTIONS

Seventy-two percent of customers intend to purchase CFLs in the future. Satisfaction affects purchase intentions; only 32 percent of the CFL purchasers who are not satisfied with their bulbs expect to buy them again. Most believe there is an energy crisis; a significant portion believes it will last over three years. Survey data suggests that the energy crisis has made people more likely to purchase CFLs.

Table A-60 indicates that 80 percent of CFL purchasers intend to purchase additional CFLs in the next year, while 64 percent of incandescent purchasers intend to buy a CFL in the next year. 79% of free CFL recipients intend to purchase CFLs in the future. Also, incandescent purchasers were less certain about their future purchase intentions – 21 versus 5 percent of CFL purchasers and 6 percent of free recipients – suggesting that their CFL experience does influence purchase intentions. Overall, 72 percent of recent and incandescent purchasers stated a willingness to purchase CFLs in the next 12 months.

Table A-60: Purchase Intentions by Purchase Type

Intend to Purchase in the next year	CFL purchase (%)	Incandescent purchase (%)	Free CFL Recipient	Overall
Yes	80%	64%	79%	72%
No	14%	15%	16%	15%
Don't Know	5%	21%	6%	13%
# of respondents	276	316	38	

Table A-61 shows the distribution of responses by purchase intention. Table A-61 drills down on reasons for purchase intention, showing the distribution of responses for customers that intend to purchase and those that do not. Thirty-nine percent of customers that intend to purchase pointed to the benefits of energy efficiency and cost savings. Longer life accounted for 15 percent of future purchasers' responses. Those who do not intend to purchase pointed to cost (12 percent) and poor light quality (11 percent).

Table A-61: Distribution of Responses About Reasons for Purchase intentions

Reason	Intend to Purchase	Do Not Intend to Purchase
Energy efficient	39%	1%
Lasts longer	15%	9%
Saves Money	10%	1%
To try them	9%	1%
I have a coupon	5%	0%
Brighter Light	2%	0%
Bulbs too expensive	1%	12%
Doesn't give sufficient light/poor quality	0%	11%
# of respondents	428	88

Table A-62 shows that 89 percent of very satisfied recent purchasers intend to purchase in the next year and 90 percent of satisfied recent purchasers intend to purchase again while 100 percent of very satisfied free recipients intend to purchase again and 79 percent of satisfied free recipients intend to purchase again in the next year. Seventy-nine percent of recent customers who report that they are somewhat satisfied intend to purchase, while only 31 percent of customers who are not satisfied intend to purchase CFLs. Eighty percent of the somewhat satisfied free recipients intend to purchase CFLs again and 100 percent of the free recipients who are not satisfied intend to purchase CFLs in the next year.

Table A-62: Purchase Intentions by Satisfaction

Satisfaction with Recent CFL Purchase	Intend to Purchase in the next year			
	CFL purchaser	*N*	Free CFL Recipients	*N*
Very satisfied	89%	96	100%	14
Satisfied	90%	85	79%	10
Somewhat satisfied	79%	33	80%	5
Not satisfied	32%	6	100%	1

Table A-63 shows that 78 percent of recent purchasers that are dissatisfied with some aspect of their CFL intend to purchase again, whereas 92 percent of satisfied customers intend to purchase in the future.

Table A-63: Future Intentions by Dissatisfaction With Some Aspect of CFLs

	Dissatisfied with CFL	
Intend to Purchase in the next year	Yes	No
Yes	78%	92%
No	22%	8%
# of respondents	259	

Table A-64 shows that among those that are likely to purchase, 94 percent of CFL purchasers, 97 percent of free recipients, and 92 percent of incandescent purchasers are likely to use a coupon to purchase the CFL.

Table A-64: Recent CFL Purchase Intention By Likely Coupon Use

	Likely to use a coupon		
	CFL Purchaser	Free CFL Recipient	Incandescent Purchaser
Yes	94%	97%	92%
No	6%	3%	6%
Don't Know	0%	0%	2%
# of respondents	420		

Table A-65 shows that if coupons were not available, then only 62 percent of free recipients and 53 percent of incandescent purchasers say they are likely to purchase a CFL. However, 94 percent of CFL purchasers indicate they would be likely to purchase a CFL if no coupon is available.

Table A-65: Future Purchase Intentions By Likelihood Of Coupon Use

	Likely to purchase given no coupon available		
	CFL Purchaser	Free CFL Recipient	Incandescent Purchaser
Yes	94%	62%	53%
No	6%	32%	21%
Don't Know	0%	6%	26%
# of respondents	599		

We also investigated the role of the energy crisis on purchase intentions. Table A-66 indicates that 77 percent of respondents believe there is an energy crisis.

Table A-66: Percent of Customers That Perceive There is an Energy Crisis

Energy Crisis	Percent
Yes	77%
No	18%
Don't know	5%
# of respondents	599

Table A-67 shows that there is widespread belief in an energy crisis in the Pacific Northwest. Over eighty percent of respondents in Washington, Oregon and Idaho believe there is an energy crisis, compared to 70 percent in Montana.

Table A-67: Distribution of Respondents That Believe There is an Energy Crisis By State

State	Percent
WA	82%
OR	82%
ID	81%
MT	70%
# of respondents	572

Table A-68 shows that 44 percent of respondents believe the energy crisis will last over 3 years, 28 percent expect the crisis will last one to three years, and only 18 percent expect the crisis to last less than a year. That the largest percentage of respondents believes the crisis will last over three years attests to the gravity of the crisis in the mind of the public, and also suggests a sustained opportunity for increased CFL market share in the future.

Table A-68: Distribution of Customers By Length of Crisis

Length of Energy Crisis	Percent
Less than 3 months	1%
3 to 12 months	17%
1 to 3 years	28%
Over 3 years	44%
Don't Know	10%
# of respondents	460

Despite widespread belief about a long-lasting crisis, 64 percent of respondents stated they are willing to buy a CFL in the absence of the crisis, as reported in Table A-69.

Table A-69: Future Purchase Intentions by Existence of Energy Crisis

Intend to buy CFL if no energy crisis	Percent
Yes	64%
No	29%
Don't Know	7%
# of respondents	459

The following are the objectives of the survey instrument:

1. Characterization of CFL purchasers and non-CFL purchasers

2. Recent CFL purchase experiences (purchase drivers, barriers, market and product perceptions)

3. Satisfaction with CFLs – both recent and past CFL purchases

4. Future CFL purchase intentions

NOTE
1) A code of system missing (.) means the question was not applicable.
2) Response categories with an asterisk are coded responses to open-end questions or codes added during coding.
3) –8 indicates respondent does not know and -9 indicates other missing data (e.g., refused).
4) Every question is a "Do Not Read" unless noted otherwise

RESPNUM Unique respondent number (QCID) _____

Zip Code: _____

Hello, my name is _____ calling on behalf of the Northwest Energy Efficiency Alliance. We're conducting a study among households on home lighting preferences.

REASSURE: 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 5-10 minutes of your time.

If asked about the Northwest Energy Efficiency Alliance, say:

The 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.

May I please speak to the person who makes lighting purchase decisions in your household?

[CONTINUE OR ARRANGE FOR CALLBACK]

Screener Questions

S1 In the past three months, have you purchased any light bulbs or received free bulbs for your household?

1 Yes

2 No

99 Don't Know

S2 Have you ever heard of compact fluorescent light bulbs?

1 Yes [SKIP TO S3]

2 No

99 Don't Know

S2a Compact fluorescent bulbs are small fluorescent bulbs that fit in regular light bulb sockets. Compact fluorescent bulbs look different than standard bulbs. They are often made out of thin tubes of glass bent into loops. Have you ever heard of compact fluorescent light bulbs?

1 Yes

2 No

99 Don't Know

INSTRUCTIONS: IF S1 = 1 and S2=2 and (S2a=2 or S1=1) THEN T&T

["Since we are interested in people who have purchased light bulbs in the last three months and are familiar with compact fluorescent light bulbs, your input won't be

S3 How did you first learn about compact fluorescent light bulbs? [DO NOT READ] [Accept multiples]

1 In store point of purchase materials
2 Friends or family

3 Advertising on television, on the Internet, in newspapers, in magazines

4 Sales person
5 Consumer reports

7 Energy Star Label

8 Utility (bill stuffer or other advertising/announcement)

9 Announcement by governor or other government official

10 Got one for free

77 Other – Specify

88 Refused

99 Don't know

S4 ***Prior to the last 12 months, had you ever purchased a compact fluorescent light bulb?***

1 Yes

2 No

99 Don't Know

S5 Have you purchased compact fluorescent light bulbs or received one in the mail for your household in the last three months?

1 Yes [CONTINUE]

2 No [SKIP TO S7]

99 Don't Know [SKIP TO S7]

S5a. How may compact fluorescent light bulbs have you purchased or received in the mail over the last three months?

_____

S6 For those compact fluorescents you bought, where did you buy them? (ACCEPT MULTIPLES)

STORE CODES

1 Hardware store

2 Department store (e.g., Sears)

3 Discount retail store (Walmart, Target, Costco)

4 Home improvement (e.g., Home Depot, HomeBase)

5 Appliance, electronics (e.g., Circuit City, Fry's)

6 Grocery store

7 Drug store

8 Lighting store

9 Fred Meyer

10 Did not purchase, received all for free and/or in the mail

77 Other (Please specify: _____)

88 Refused

99 Don't Know

S7 Where do you normally buy light bulbs?

STORE CODES

1 Hardware store

2 Department store (e.g., Sears)

3 Discount retail store (Walmart, Target, Costco)

4 Home improvement (e.g., Home Depot, HomeBase)

5 Appliance, electronics (e.g., Circuit City, Fry's)

6 Grocery store

7 Drug store

11 Lighting store

12 Fred Meyer

77 Other (Please specify: _____)

88 Refused

99 Don't Know

INSTRUCTIONS:

IF S5 = 1 THEN GO TO RECENT CFL PURCHASER QUESTIONS (FL1)

IF S5 = 2 OR 98 AND S4 =1, GO TO OLD CFL PURCHASER QUESTIONS (FL19)

IF S1 = 1 AND S4 = 2 OR 98 AND S5 = 2 OR 98, THEN GO TO NON-CFL PURCHASER QUESTIONS (FL28)

Recent CFL Purchasers

FL1 Thinking about your most recent purchase, why did you purchase compact fluorescent light bulbs?

1 Reduce electricity bill

2 Responding to energy crisis

3 Extra cost for compact fluorescent bulb was minimal

4 Energy savings worth the extra up-front cost, acceptable payback

5 Cost savings worth the extra up-front cost, acceptable payback

5 It is the "right thing to do" (environmental/resource conservation benefits)

6 Other benefits make purchase worthwhile (specify other benefits in # 13 below)

7 Product works better/is higher quality

8 like to have new, high-tech products

9 Salesperson convinced me it was the best choice

10 To redeem a coupon

11 Friends/family suggested I purchase compact fluorescent

12 To try them out

79 Received free in the mail

77 Other (specify)_____

88 Refused

99 Don't Know

FL1_1 First mention

FL1_2 Second mention

FL1_3 Third mention

FL2 Did you receive any coupons to assist in purchasing compact fluorescent bulbs?

1 Yes [CONTINUE]

2 No [SKIP TO FL3A]

88 Refused [SKIP TO FL3A]

99 Don't Know

FL3 Did you use a coupon when you purchased your compact fluorescent bulb(s)?

(this is a price per bulb in dollars)

1 Yes [SKIP TO FL3B]

2 No [SKIP TO FL3A]

88 Refused [SKIP TO FL3A]

99 Don't Know

If S6 ne 10

FL3a Thinking of your most recent purchase, how much did you pay for your compact fluorescent bulbs?

_____(dollar amount) [SKIP TO FL8]

-8 Don't know [SKIP TO FL8]

-9 Refused [SKIP TO FL8]

If S6 ne 10

FL3b Of the bulbs you recently purchased, how many coupons did you redeem?

_____(number)

-8 Don't know [SKIP TO FL8]

-9 Refused [SKIP TO FL8]

If S6 ne 10

FL4 Thinking about the most recently purchased compact fluorescent light bulb(s), what was the price of the bulb(s) before any discounts?

_____ *(dollars) [SKIP TO FL5]*

-8 Don't know [SKIP TO FL4a]

-9 Refused [SKIP TO FL4a]

FL4a Would you say it was

1 less than $6

2 $6 - 10

3 $11 - 15

4 more than $15

If S6 ne 10

FL5 What was the value of the coupon you used?

_____ (dollars) [SKIP TO FL6]

-8 Don't know [SKIP TO FL5a]

-9 Refused [SKIP TO FL6]

FL5a Would you say it was

1 less than $3

2 $3 - 6

5 greater than $6

If S6 ne 10

FL6 On a scale of 1 to 10, where a 1 is "Not at all influential" and a 10 is "Very influential", how influential was the coupon in your decision to purchase a compact fluorescent bulb?

Not At All Influential									Very Influential	Don't Know	Refused
1	2	3	4	5	6	7	8	9	10	88	99

If FL2 = 1

If S6 ne 10

FL7 Would you have purchased the bulb(s) without a coupon?

1 Yes

2 No

-8 Don't know

-9 Refused

FL8 Where did you install your compact fluorescent light bulb?

(Accept multiples)

1 Kitchen
2 Dining Room
3 Living Room
4 Family Room
5 Master Bedroom
6 Other Bedrooms
7 Bathrooms
8 Closets
9 Hall
10 Utility Room
11 Garage
12 Outdoor Lighting
13 Did not install
77 Other
88 Refused
99 Don't Know

IF FL8 ne 13

FL9 Is the compact fluorescent bulb that you installed most recently still in use?

1 Yes [CONTINUE]

2 No **FL9a. If not, why not? _____**

88 Refused
99 Don't Know

If S6 ne 10

FL10 When you were shopping for compact fluorescent light bulbs, did you notice any lighting-related advertising or information materials displayed in the store?

1 Yes [CONTINUE]

2 No [SKIP TO FL14]

-8 Don't know [SKIP TO FL14]

-9 Refused [SKIP TO FL14]

If S6 ne 10

FL11 What type of compact fluorescent light bulb advertising or information materials did you notice?

(CHECK ALL THAT APPLY)

1 Lighting display with working lights

2 Display/materials at the end of the aisle

3 ads and/or other material in the lighting aisle

4 Other (Please Specify:_____

88 Refused
99 Don't Know

If S6 ne 10

FL12 What would you say were the main messages of the advertising/information materials?

1 Reducing energy bills

2 Energy efficiency is good for the environment

3 Energy Star

4 Understanding energy efficiency in general
5 Understanding the Energy Guide label

6 Operating costs over the life of the equipment

7 Energy savings over the life of the equipment

8 Availability of coupon

9 Availability of store rebate

10 Availability of manufacturer rebate

11 Appropriate size of the equipment

88 Refused
99 Don't Know

FL12_1 First mention

FL12_2 Second mention

FL12_3 Third mention

If S6 ne 10

FL13 On a scale of 1 to 10, where a 1 is "Not at all influential" and a 10 is "Very influential", how influential were advertising materials in your decision to purchase a compact fluorescent bulb?

Not At All Influential									Very Influential	Don't Know	Refused

1 2 3 4 5 6 7 8 9 10 88 99

If S6 ne 10

FL14 When shopping for your compact fluorescent light bulbs, did you talk with a sales person?

1 Yes [CONTINUE]

2 No [SKIP TO FL15]

88 Refused [SKIP TO FL15]
99 Don't Know [SKIP TO FL15]

If S6 ne 10

FL14a In general, what did the sales person say to you about compact fluorescent light bulbs? _____

_____

_____

If S6 ne 10

FL14b On a scale of 1 to 10, where a 1 is "Not at all influential" and a 10 is "Very ow influential was the sales person in your decision to purchase a compact fluorescent bulb?

Not At All Influential										Very Influential	Don't Know	Refused
1	2	3	4	5	6	7	8	9	10		88	99

FL15 Thinking about all of the compact fluorescent light bulbs you recently purchased, on a scale of 1 to 10, where a 1 is "Not at all satisfied" and a 10 is "Very satisfied", how satisfied were you with your compact fluorescent bulb?

Not At All Satisfied										Very Satisfied	Don't Know	Refused
1	2	3	4	5	6	7	8	9	10		88	99

FL16 Are you dissatisfied with any of the CFLs for any reason?

1 Yes [CONTINUE]

2 No [SKIP TO FL17]

88 Refused [SKIP TO FL17]
99 Don't Know [SKIP TO FL17]

FL16a Which bulbs are you dissatisfied with?

1 Indoor

2 Outdoor

3 Fixture

77 Other (specify) _____

88 Refused
99 Don't Know

FL16b What is the reason for your dissatisfaction?

1 Buzzing/loud

2 Didn't like color of the light

3 Took too long to light up

4 Wouldn't work with a dimmer

5 Wouldn't work with a three-way switch

6 Wouldn't work with outdoors/in cold temperatures

77 Other (specify)_____

88 Refused
99 Don't Know

FL17 Relative to standard bulbs, are you more, less satisfied or as satisfied with your compact fluorescent bulb?

1 as satisfied

2 more satisfied

3 less satisfied

88 Refused
99 Don't Know

FL17a Why do you say that? (PROBE)

_____

_____

If S6 ne 10

FL18 Did you have any concerns about compact fluorescent light bulbs when you were deciding to make your purchase?

1 Encountered no difficulties

2 I was concerned that the energy efficient bulb was more expensive than the standard unit

3 I was concerned that the energy efficient bulb would not save enough energy to make it worthwhile

4 I was concerned about poor light quality

5 It was hard to find the *type/style/size* I wanted in compact fluorescent bulbs

6 It was hard to find the *brand* I wanted in compact fluorescent bulbs

7 I was concerned because I normally don't like to try new high-tech lighting equipment until they have been on the market for awhile

8 I was concerned that I didn't know the product well enough to decide

9 I had to spend a lot of time comparing costs/brands

10 I was worried that the energy efficient unit would not work as well as the standard unit

11 There were other competing priorities

12 I was uncertain that the savings would occur

13 I was worried that I did not have enough information to make an informed decision

14 I was not fully confident that I could trust the sales person or the sales pitch promoting the compact fluorescent bulbs

15 Other priorities more important

16 Wouldn't work with a dimmer

17 Wouldn't work with a three-way switch

18 Wouldn't work with outdoors/in cold temperatures

77 Other – specify

88 Refused

99 Don't know

FL18_1 First mention

FL18_2 Second mention

FL18_3 Third mention

INSTRUCTIONS:

IF S4 = 1, THEN GO TO OLD CFL PURCHASERS QUESTIONS (FL19)
IF S4 = 2 OR 98, THEN GO TO FUTURE PURCHASE INTENTION QUESTIONS (FI1)

Old CFL Purchasers

FL19 Thinking about the compact fluorescent bulb or bulbs that you purchased a year or so ago, where did you install them?

1 Kitchen
2 Dining Room
3 Living Room
4 Family Room
5 Master Bedroom
6 Other Bedrooms
7 Bathrooms

8 Closets
9 Hall
10 Utility Room
11 Garage
12 Outdoor Lighting
77 Other
88 Refused

99 Don't know

FL20 Are the compact fluorescent bulbs that you purchased a year or more ago still in use?

1 Yes [CONTINUE]

2 No **FL20a. If not, why not? _____**

88 Refused

99 Don't know

FL21 Thinking about the compact fluorescent light bulb you purchased a year or more ago, why did you decide to purchase the compact fluorescent light bulbs at that time?

1 Reduce energy bill

2 Extra cost for compact fluorescent bulb was minimal

3 Energy savings worth the extra up-front cost, acceptable payback

4 Cost savings worth the extra up-front cost, acceptable payback

5 It is the "right thing to do" (environmental/resource conservation benefits)

6 Product works better/is higher quality

7 like to have new, high-tech products

8 Salesperson convinced me it was the best choice

9 To redeem a coupon

10 Friends/family suggested I purchase compact fluorescent

11 To try them out

77 Other (specify)_____

88 Refused

99 Don't know

FL21_1 First mention

FL21_2 Second mention

FL21_3 Third mention

FL22 Thinking about the compact fluorescent light bulbs you purchased a year or so ago, on a scale of 1 to 10, where a 1 is "Not at all satisfied" and a 10 is "Very satisfied", how satisfied were you with your compact fluorescent bulbs?

Not At All Satisfied									Very Satisfied	Don't Know	Refused
1	2	3	4	5	6	7	8	9	10	88	99

FL23 Were you dissatisfied with the compact fluorescent light bulbs you bought a year ago for any reason?

1 Yes [CONTINUE]

2 No [SKIP TO FL25]

88 Refused [SKIP TO FL25]

99 Don't know [SKIP TO FL25]

FL24a Which bulbs are you dissatisfied with?

1 Indoor

2 Outdoor

3 Fixture

77 Other (specify) _____

88 Refused

100 Don't know

FL24b What is the reason for your dissatisfaction?

1 Buzzing/loud

2 Didn't like color of the light

3 Took too long to light up

4 Wouldn't work with a dimmer

5 Wouldn't work with a three-way switch

6 Wouldn't work with outdoors/in cold temperatures

7 Burned out

77 Other (specify)_____

88 Refused

99 Don't know

FL25 Relative to standard bulbs, are you more or less satisfied with your compact fluorescent bulb?

1 as satisfied

2 more satisfied

3 less satisfied

88 Refused

99 Don't know

FL25a Why do you say that? (PROBE)

_____

_____

_____

INSTRUCTIONS:
IF S5 = 1, THEN CONTINUE TO FL26

IF S5 = 2 OR 98, THEN GO TO FUTURE INTENTION QUESTIONS (FI1)

Recent and Old CFL Purchasers

FL26 Relative to the older compact fluorescent bulbs that you purchased a year or so ago, are you more or less satisfied with the newer compact fluorescent bulbs you purchased?

1 as satisfied

2 more satisfied

3 less satisfied

88 Refused

99 Don't know

FL26a Why do you say that? (Probe)

_____

_____

_____

FL27 Did your earlier compact fluorescent bulb purchase affect your more recent bulb purchasing decisions?

1 Yes **FL27a** How? _____

2 No

88 Refused

99 Don't know

Non CFL-Purchaser

FL28 When you recently purchased your new light bulbs, why didn't you purchase a compact fluorescent light bulb?

1 Have never heard of CFLs

2 Costs too much to purchase

3 Won't save enough energy to make it worthwhile

4 Can't find the *type/style/size* I want in compact fluorescent bulbs

5 Can't find the *brand* I want in compact fluorescent bulbs

6 Don't like to try new high-tech products until they have been on the market for awhile

7 Moving/selling my home, thus won't accrue operating savings

8 Don't know the product well enough to decide

9 Would have to compare costs/brands

10 Standard product works better/is higher quality

11 Uncertain that savings will occur

12 Didn't have enough information to make an informed decision

13 Didn't trust salesperson or sales pitch promoting compact fluorescent bulbs

14 Did not think about energy efficiency when choosing

15 Was not aware that there was such a thing as an energy efficient light bulb

76 Other

77 Other

88 Refused

99 Don't know

FL28_1 First mention

FL28_2 Second mention

FL28_3 Third mention

FL29 Thinking about when you recently purchased light bulbs, did you notice any lighting-related advertising or information materials displayed in the store for compact fluorescent light bulbs?

1 Yes [CONTINUE]

2 No [SKIP TO FI1]

88 Refused [SKIP TO FI1]

99 Don't know [SKIP TO FI1]

FL30 What type of compact fluorescent light bulb advertising or information materials did you notice?

(CHECK ALL THAT APPLY)

1 Lighting display with working lights

2 Display/materials at the end of the aisle

3 ads and/or other material in the lighting aisle

4 Other (Please Specify:_____

77 Other

88 Refused

99 Don't know

FL31 What would you say were the main messages of the advertising/information materials?

1 Reducing energy bills

2 Energy efficiency is good for the environment

3 Energy Star

4 Understanding energy efficiency in general
5 Understanding the Energy Guide label

6 Operating costs over the life of the equipment

7 Energy savings over the life of the equipment

8 Availability of coupon

9 Availability of store rebate

10 Availability of manufacturer rebate

11 Appropriate size of the equipment

77 Other

88 Refused

99 Don't know

FL31_1 First mention

FL31_2 Second mention

FL31_3 Third mention

Future Purchase Intentions

FI1 Do you think that you will purchase a compact fluorescent bulb in the next year?

1 Yes

2 No

88 Refused

99 Don't know

FI1a Why or why not?

_____

_____

_____

FI_COUP Would you be likely to use a coupon to purchase the CFL?

1 Yes

2 No

88 Refused

99 Don't know

FI1b Would you be likely to purchase a compact fluorescent bulb in the future if no coupon is offered?

1 Yes

2 No

88 Refused

99 Don't know

FI2 Do you believe there is an energy crisis?

1 Yes

2 No [SKIP to D1]

88 Refused [SKIP to D1]

99 Don't know [SKIP to D1]

FI3 How long do you believe the energy crisis will last?

1 less than 3 months

2 3 to 12 months

3 one to three years

4 over three years

88 Refused

99 Don't know

FI4 If there was no energy crisis, would you be likely to purchase a compact fluorescent bulb?

1 Yes

2 No

88 Refused

99 Don't know

Demographics

Before we finish, I have just a few more questions about your household to make sure we're getting a representative sample of residents.

D1 What type of home do you live in?

1 Single-family (attached or detached)

2 Apartment

3 Condo

4 Mobile home

77 Other

88 Refused

99 Don't know

D2 Do you own your home or rent?

1 Own

2 Rent

88 Refused

99 Don't know

D3 Including yourself, how many people live in your home? Please include children.

1 one

2 two

3 three

4 four

5 five

6 six

7 seven or more

88 Refused

99 Don't know

D4 What type of fuel does your home's heating system primarily use?

1 Electricity

2 Fuel Oil

3 Gas

4 Wood

77 Other

88 Refused

99 Don't know

D5 Which of the following describes your educational background?

1 Some high school

2 High school graduate

3 Trade or technical school

4 Some college

5 College graduate

6 Some graduate school

7 Graduate degree

88 Refused

99 Don't know

D6 Please tell me which of the following categories best describes your age. Are you … ?

1 18-24

2 25-34

3 35-44

4 45-54

5 55-64

6 65 and older

88 Refused

99 Don't Know

D7 Which of the following best represents your annual household income *(from all sources in 2000, before taxes)*?

1 Less than $20,000 per year

2 $20,000-49,999

3 $50,000-74,999

4 $75,000-99,999

5 $100,000 or more

88 Refused

99 Don't know

APPENDIX B: INTERVIEW GUIDES

CFL PROGRAM FIELD REP INTERVIEW GUIDE

Rep Name:
Rep Phone:
Date:

INTRODUCTION

This interview is being conducted as part of the overall program evaluation for the ENERGY STAR® Residential CFL program. Part of the evaluation involves examining the coordination between different parties involved with implementing the program. It is hoped that these interviews will highlight those areas of the program that are functioning smoothly and also provide an opportunity for field reps to give input on how the program might be improved, particularly with respect to coordinating field rep activities.

INTERVIEW QUESTIONS

On average, how many times a week do you talk on the phone to get program directions and/or program information?

On average, how many times a week do you receive or send emails to get program directions?

On average, how many times a week do you meet in person with someone to get program directions?

Of these, which do you think is the best method for coordinating field activities?

How often each week do you communicate with utilities, either by phone, email, or in person?

Of these, which do you think is most effective for dealing with the utilities?

On average, how often do you visit each retailer?

How are these visits scheduled?

What percentage of your time is spent with retailers in urban areas versus rural areas?

What percentage of your time is spent with large retailers versus small retailers?

What percentage of your time is spent traveling versus time within the store?

How many hours per day do you spend traveling?

How many over night trips do you have per month?

On average, how long do you stay at each retailer?

Who do you usually talk to at the retailers? (Retail staff title/position)

Have you been receiving an adequate supply of promotional materials to give to retailers and utilities?

[Ask Westside reps only, not APT reps]

Are you aware of the ENERGY STAR® Home Products Program?

Have you interacted with anyone involved with the Home Products Program?

[Ask all reps remaining questions]

What suggestions do you have for improving communication and coordination with the retailers?

What suggestions do you have for improving communication and coordination with the utilities?

What suggestions do you have for improving communication and coordination with ECOS?

Do you have any suggestions on how your job responsibilities should be changed to improve the effectiveness of the program?

If you could change one thing about your job that you think would help the program, what would it be?

RETAILER INTERVIEW GUIDE

Name:
Store:
Phone:
Date:

Hi, my name is _____ and I am calling from ECONorthwest and I have been working with ECOS consulting on the Residential ENERGY STAR® Lighting Program. I believe that (Kathleen Koberstein/Sarah Johnson) told you that I would be calling you?

Part of my job as an evaluator of this program is to talk to program participants such as yourself and get feedback on how well the program is working and how it might be improved. Do you have a few minutes to talk about the program?

INTERVIEW QUESTIONS

IF PARTICIPATED IN A COOP AGREEMENT, ASK:

Our records show that you participated in a cooperative marketing agreement and that this involved (read items from coop agreement) is this correct? Did all of these things get done?

Are there promotional materials from the coop (such as endcaps, banner, displays, buildouts) that you still use in your store?

Were you satisfied with the coop agreement and the support you received from the program?

Was there anything about the coop that you thought could have been improved?

Are you planning on participating in any other coop agreements?

ASK EVERYONE:

In general, how often are you or someone at the store in touch with someone from the lighting program?

How are often are you in contact with the field reps that have been helping with the program by visiting the individual stores?

Have you been happy with the field reps performance? (Record any comments, both good or bad)

(**Note:** If you are talking to an upper management person, ask for any feedback they may have received from the individual store managers on the field reps)

Would you like to see the field reps visit the stores more or less often?

Have you been in touch with anyone else from ECOS? (Give name of ECOS contact person if necessary. Record both good and bad comments.)

Have you been happy with your interactions with ECOS staff? (record both good and bad comments)

Would you like to have more or less contact with ECOS program staff?

Are there are other ways that you would to get additional support from program staff?

Have you noticed any changes in consumer knowledge and awareness of CFLs since the program began?

Do you intend to keep stocking and promoting ENERGY STAR® compact fluorescents in the next year?

Will you continue to stock ENERGY STAR® CFLs when the coupon program goes away?

If not, why not?

IF THEY PLAN TO CONTINUE STOCKING, ASK:

How will you promote ENERGY STAR® CFLs once the coupons go away?

ASK EVERYONE:

Since the coupon campaign began, have you seen a change in prices charged by your suppliers?

Have you changed your retail prices since the coupon campaign started? (Find out if higher or lower, try to get a dollar or percentage change)

Since you have been involved with the program, have you noticed any change in the sales of incandescent bulbs?

Aside from coupons, what do you think is the best thing that the program can do to help you promote ENERGY STAR® CFLs?

Are you familiar with lightsite.net?

If so, how do you use this website?

Do you feel that the website is effective?

Are there improvements that should be made to the site?

Are you familiar with the betterbulbsdirect.com website?

Have you ordered bulbs from the site?

Do you anticipate using the site in the upcoming year?

Do you have any suggestions for improving the site?

Do you have any other suggestions for how we might improve the program?

THANK YOU VERY MUCH FOR YOU TIME, YOUR ANSWERS HAVE BEEN VERY HELPFUL!

DISTRIBUTOR INTERVIEW GUIDE

Name:
Distributor:
Phone:
Date:

Hi, my name is _____ and I am calling from ECONorthwest on behalf of the Northwest Energy Efficiency Alliance to talk about the Residential ENERGY STAR® Lighting Program. I believe that Kathleen Koberstein from ECOS mentioned that I would call? Part of my job as an evaluator of this program is to talk program participants such as yourself and get feedback on how well the program is working and how it might be improved. Do you have a few minutes to talk about the program?

INTERVIEW QUESTIONS

What do you think are the biggest challenges for small stores in selling ENERGY STAR® CFLs?

How do you think the program should address these issues?

Based on the experience of your customers, what types of promotions work best for selling ENERGY STAR® CFLs and fixtures?

Coop Agreements

Our records show that you participated in a cooperative marketing agreement through the program and that this agreement involved (read items from coop agreement) is this correct? Did all of these things get done?

Were you satisfied with the coop agreement and the support you received from the program?

Was there anything about the coop that you thought could have been improved?

Are you planning on participating in any other coop agreements?

Interactions with Program Staff

In general, how often are you or someone at the store in touch with someone from the lighting program?

How often are you in contact with the program field reps?

Have you been happy with the field reps performance? (Record any comments, both good or bad)

Would you like to see the field reps visit you more or less often?

Have you been in touch with anyone else from ECOS? (Give name of ECOS contact person if necessary. Record both good and bad comments.)

Have you been happy with your interactions with ECOS staff? (Record comments, good and bad.)

Would you like to have more or less contact with ECOS program staff?

Are there are other ways that you would like to get additional support from program staff?

Future Intentions

Do you intend to keep stocking and promoting ENERGY STAR® compact fluorescents in the next year?

Will you continue to stock ENERGY STAR® CFLs when the coupon program goes away?

If not, why not?

Do you intend to keep promoting ENERGY STAR® CFLs and fixtures in the next year?

Will you continue to actively promote them when the coupon program goes away?

Do you think your retail customers will continue to purchase CFLs if the coupons go away?

Price Changes

Since the coupon campaign began, have you seen a change in prices charged by manufactures?

Have you changed your CFL prices since the coupon campaign began? (Find out if higher or lower, try to get a dollar or percentage change)

Have the retailers you ship to changed their retail CFL prices due to the coupon campaign?

In general, have you noticed a change in attitude of your retail customers toward ENERGY STAR® CFLs since the start of the program?

Since you have been involved with the program, have you noticed any change in sales of incandescent bulbs?

Aside from coupons, what do you think is the best thing that the program can do to help you promote ENERGY STAR® CFLs and fixtures?

Are you familiar with lightsite.net?

If so, how do you use this website?

Do you feel that the website is effective?

Are there improvements that should be made to the site?

Note: Ask BBD questions of Horizon **only**, not Jensen.

Are you familiar with the betterbulbsdirect.com website?

Have you ordered bulbs from the site?

Do you anticipate using the site in the upcoming year?

Do you have any suggestions for improving the site?

Do you have any other suggestions for how we might improve the program?

THANK YOU VERY MUCH FOR YOU TIME, YOUR ANSWERS HAVE BEEN VERY HELPFUL!

UTILITY INTERVIEW GUIDE

Name:
Utility:
Phone:
Date:

Hi, my name is _____ and I am calling from ECONorthwest on behalf of the Northwest Energy Efficiency Alliance to talk to you about the Northwest ENERGY STAR® Lighting Program. Part of my job as an evaluator of this program is to talk to some of the participating utilities to get feedback on how well the program is working and how it might be improved. Do you have a few minutes to talk about the program?

INTERVIEW QUESTIONS

Did you work with ECOS and the Lighting Program to do any special events promoting ENERGY STAR® CFLs or CFL fixtures? (if not sure, suggest torchiere turn-in event)

Were you satisfied with the support you received from ECOS for this event?

Was there anything about the event that you thought could have been improved?

Are you planning on doing other promotions for ENERGY STAR® lighting in the upcoming year?

How often are you in contact with the program field reps that have been helping with the program by visiting the individual stores?

Have you been happy with the field reps performance? (Record any comments, both good or bad)

Would you like to be visited more often or less often by the field reps?

Have you been in touch with anyone else from ECOS? (Give name of ECOS contact person if necessary. Record both good and bad comments.)

Have you been happy with your interactions with ECOS staff? (Record comments, good and bad.)

Would you like to have more or less contact with ECOS program staff?

Are there are other ways that you would like to get additional support from program staff?

Do you think it was valuable to have the Alliance and ECOS implement the coupon program? Why or Why not?

Do you have any sense of how much time or money your utility saved by having the program implemented this way?

Do you intend to keep promoting ENERGY STAR® CFLs and fixtures in the next year?

What type of promotions will you be doing?

Will you continue to promote ENERGY STAR® CFLs when the coupon program goes away?

Aside from coupons, what do you think is the best thing that the program can do to help you promote ENERGY STAR® CFLs?

Are you familiar with lightsite.net?

If so, how do you use this website?

Do you subscribe to the data center? (Data center = part of website where you enter a password and then can access market info within the utility area)

Have you used the data center?

Was the data center useful to you?

Do you have any suggestions for improving the data center?

In general, do you feel that the lightsite.net website is effective?

Are there any other improvements that should be made to the site?

Do you subscribe to the listserv (email newsletter) from litesite.net?

Has this been helpful?

How should the listserv be changed to make it more useful to you?

Overall, do you have any other suggestions for how we might improve the Northwest ENERGY STAR® Lighting Program?

THANK YOU VERY MUCH FOR YOU TIME, YOUR ANSWERS HAVE BEEN VERY HELPFUL!

APPENDIX C: BETTERBULBSDIRECT.COM BETA TEST RESULTS

DATE: July 18, 2001

TO: David Cohan

FROM: Steve Grover

SUBJECT: BetterBulbsDirect.com Review with Retailers

INTRODUCTION

This memo provides a summary of the comments that we received during the Beta test of the BetterBulbDirect.com (BBD) website. We interviewed 8 retailers and had them go through the website. In general, retailers seemed to like the website and found were able to understand the ordering process.

Based on these comments, I have come up with several recommendations for things on the site that I believe should definitely be changed. I have also enclosed other comments that should at least be considered by the BBD design team and do provide useful information. I will leave it to the BBD design team to decide whether these secondary comments warrant changing the website.

RECOMMENDATIONS

The following are changes that should be addressed before the website is formally launched:

1. **Group CFLs by bulb type, rather than by manufacturer**. This comment was made by several retailers and appears to be how they are used to comparing across products.

2. **More information is needed with bulb specs**. Retailers would like to see information on where bulbs can be used (outdoors, within fixtures, with dimmers, upside down, etc.) also include model numbers and temperature limitations.

3. **Include prices on spec sheets**.

4. **Pop-up window does not fit the screen.** This occurred with several retailers with who had smaller screens. Leslie says that this can be fixed by redesigning the site to fit a 640x480 screen, currently it appears to be designed at 800x 600.

5. **Retailers do not know what a sub**-CFL is. Either we should include a definition, or else just change it to the more generic CFL.

6. **Provide information on warranties and return policies**.

SECONDARY ISSUES

Below are more general comments summarized directly from the completed Beta. These comments reflect items that should be at least considered for changes. For example, some retailers said that Jensen should be listed as the supplier, while others would not use the site if they knew it was Jensen filling the orders. The issue that the ordering process was somewhat confusing also came up with some of the retailers. In addition to issues and concerns, positive comments have also been included below.

- Carol believes the ordering process was not clear and should be made clearer for first time users.
- She would like to know from whom she is ordering if she uses the site. If Jensen's is the source, as she was led to believe from the order form, she would like that to be made apparent when she first logs onto the site.
- She was not clear on how invoicing would occur and what the terms of payments would be.
- The link titled "Sub-CFL Product, Packaging, and Ordering Information" should be broken up into separate links: a Product link, a packaging link, and an ordering link. Russ found the link to get to the initial ordering page difficult to find.
- He thought the link NW Retailers under retail support was confusing. He was expecting a list of NW retailers and not suggestions on how to sell ENERGY STAR® bulbs.
- He was confused by the links on the left. When he clicked on one, he could not tell by looking at the name of the link that he had clicked it.
- When he clicked on one of the links on the left, he said he would have liked the links to then disappear off the side.
- Chris was not sure how to checkout. He thinks the instructions should be clearer: "on Amazon.com, they walk you through the ordering process."
- It is important to know why the bulbs are better and what makes them better so that he can easily tell the customers.
- The website is easy to get around in.
- It is pretty easy to use and to move around in.
- The information was useful and presented well.
- She was impressed with the speed of the download. The site for their normal retailer takes a lot longer to download.
- The POP information was good, especially since it was free.

- He was very happy to see that Policy A was explicitly online.

- When he clicked on both the retail hang tags and outreach brochure links he was a little surprised they were pdf files. This was not indicated on the page, but would be helpful if it was. Also, there should be a link to Adobe so users can download Acrobat reader if they do not already have it.

- It was not obvious that the computer accepted the order. There should be some kind of message that describes what was just ordered.

- He would like information on the life expectancy of the bulb, maybe as a comparison chart between CFL products.

- Comparisons should be available on the specs page

- The number of skews offered per bulb should be on the specs page.

- The links page is not a retail-friendly list of links, but a consumer-friendly list of links. There should be retailers geared more towards retailers or have two sets of links: one for consumers, one for retailers.

- The sidebars did not seem useful from a retailer point of view except as a resource for the salespeople when they are unable to answer customers' questions.

- The retailer would like to see an online order form like the Jensen form where he could complete an online order in about 20 seconds, he does not need to see every bulb and he does not want to use the back button over and over to find the next bulb to order.

- The links to the online ordering page are not easy to find.

APPENDIX D: JOHN L. SCOTT REALTOR SURVEY RESULTS

DATE: August 28, 2001

TO: Stephen Grover, ECONorthwest

FROM: Katherine Neebe, ECOS Consulting

SUBJECT: Results from the John L. Scott Realtor Survey

This memo discusses the results of a short survey given to realtors that participated in the recent Energy Efficiency New Home Buyer Welcome Bag promotion sponsored by Puget Sound Energy. The survey was distributed to individual realtors at branch offices of John L. Scott Realty. The purpose of this survey was to collect information on realtor attitudes on the usefulness of the welcome bags and the likelihood that they would continue to distribute welcome bags and promote energy efficiency in the future to new home buyers. A total of 37 surveys were returned and the major findings from these surveys are summarized below. All of the survey questions and responses are included at the end of this memo.

In general, realtors felt that the program was easy to participate in and that participation was good for business. Similarly, customers enjoyed receiving the welcome bags, although it was too early to tell if they used the coupons. Most of the realtors also said that they felt comfortable discussing energy efficiency benefits with their customers.

Specific results from the survey included the following:

- On average, 2.5 welcome bags were given out by each realtor that responded to the survey. Realtors distributed these bags either to the first customers they could, or else to those customers that were likely to benefit most from the welcome bags.

- Seventy six percent of survey respondents reported that customers were pleased to receive the welcome bag. Similarly, 68 percent of respondents believed that customers thought the welcome bags were useful.

- As the preceding suggests, most of the realtors felt that the welcome bags were good for business. Thirty eight percent agreed that the welcome bags were somewhat helpful for business while 32 percent said that they were very helpful.

- Only 6 out of the 37 retailers (16 percent) indicated that they did not feel comfortable talking about the benefits of energy efficiency when selling a home. The vast majority of respondents—approximately 84 percent-- felt comfortable talking about the benefits of energy conservation when selling a home.

- Fourteen percent of the respondents would like to see more coupons in the welcome bag, while 8 percent would like to see the bags contain more energy savings tips and other conservation information.

- Eleven percent of respondents suggested that, in the future, the water bottle should not be included in the welcome bag. Respondents also suggested that the expiration date of the coupons provided in the bags should be extended.

- In general, it appears that realtors would continue to participate in the program if it were offered. Seventy eight percent of respondents said that they would continue to hand out the welcome bags if they were available. Ninety two percent of respondents indicated that the program was easy to participate in.

Responses to Key Questions

Question:

How many welcome bags have you given out?

Response:

Average Response	Standard Deviation	Minimum	Maximum
2.5	1.9	0	10

Question:

Approximately when did you give the bags out?

Response:

Summer	Spring	Winter	Other or N/A
14	14	1	8

Question:

Did customers seem pleased to receive the welcome bag?

Response:

Yes	No	Indifferent	Other or N/A
27	0	7	3

Question:

Did customers think the items in the welcome bag were useful?

Response:

Yes	No	Could Not Tell	Other or N/A
25	0	9	3

Question:

Did your customers use the coupons?

Response:

Think Yes	Think No	Don't Know	Other or N/A
5	0	29	3

Question:

If customers do not already have appliances, when do they purchase them?

Response:

Don't Know	After Purchasing, Before Closing	1 Week After Closing	Other or N/A
10	15	8	4

Question:

Are these welcome bags good for business?

Response:

Not Helpful	No Impact	Somewhat Helpful	Very Helpful	Other or N/A
4	6	14	12	1

Question:

Which customers did you give the bags to?

Response:

Customers that I thought would benefit most from coupons.	My best customers.	The first customers I could.	Other or N/A
11	3	18	5

Question:

Are you comfortable with talking about the benefits of energy efficiency when selling a home?

Response:

Yes	No	Other or N/A
31	4	2

Question:

When selling a home, how important is it to emphasize energy effiency & energy efficient appliances?

Response:

Average Rank (1 to 10)	Standard Deviation
4.9	2.7

Question:

Do you plan to hand out the welcome bags if the program continues?

Response:

Yes	No	Other or N/A
29	4	4

Question:

Are there other items relating to home energy efficiency that we should include in these bags?

Response:

Tips	Coupons	Other or N/A
3	5	29

Question:

Are there items that shouldn't be included in the bags?

Response:

Coupons with Short Expiration Dates	Water Bottle	Other or N/A
3	4	30

Question:

Do you have any other suggestions for improving these welcome bags?

Response:

Various Answers Include:

- Longer Coupon Expiration Dates
- Remove Bottled Water
- More Light Bulb Coupons
- Add Batteries for Smoke Detector
- Add a Greeting Card

Question:

Was the welcome bag easy to participate in?

Response:

Yes	No	Other or N/A
34	3	0

Question:

Did you attend the promotional presentation held at your office, explaining energy effciency & welcome bag procedure?

Response:

Yes	No	Other or N/A
31	4	2

Question:

Would you be interested in attending a 1-day seminar explaining the potential benefits of an energy efficient home?

Response:

Yes	No	Other or N/A
11	20	6

APPENDIX E: REVIEW OF COST-EFFECTIVENESS ASSUMPTIONS

As part of the Lighting Program evaluation, ECONorthwest reviewed the assumptions underlying the Alliance's cost-effectiveness calculations for this program. In light of the huge increase in CFL sales, the Alliance should consider adjusting the following parameters:

- Current cost-effectiveness calculations use estimates of CFLs sold of 355,000 for 2000 and 455,000 for 2001, with moderate increases in sales for subsequent years. The number for 2001 in particular will increase substantially, and it is likely that estimates for future years should also be increased given the inroads made this year by the Lighting Program in getting retailers to stock CFLs.

- Baseline CFL sales numbers do not account for the increase in CFL sales that would have resulted from the energy crisis and the Coupon Campaign, both of which encouraged sales independent of the Lighting Program. The numbers from the evaluation market assessment for Coupon Sales and nonparticipating retailer sales could be used to revise the baseline sales estimates.

In the current calculations, first costs for CFLs are set at $12.50 per bulb in 1997 and decrease to $8.00 by 2004. Prices have generally fallen for CFLs, even in absence of the Coupon Campaign and Lighting Program buydown funds. The Alliance should consider lowering the first cost assumption to $8.00 beginning in 2001.