

*Market Progress Evaluation Report* **Executive Summary**  
**LightWise, No. 2**

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# **Northwest Energy Efficiency Alliance**

## *LightWise Program*

**Market Progress Evaluation Report  
No. 2**

**– Update on Activity through May 1999 –**

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## EXECUTIVE SUMMARY

### Introduction

This report is the second in a series of Market Progress Evaluation Reports (MPER) documenting the progress of, and recommending any changes for, the Northwest Energy Efficiency Alliance (Alliance) LightWise program. It assesses LightWise operations from September 1998 through May 1999, a nine month period, and draws from the following evaluation activities:

- A November 1998 in-store audit
- March 1999 in-depth interviews with manufacturers
- An April 1999 survey of 500 consumers about light bulbs
- Review of program data and interviews with program contractors and staff
- Review of other CFL experience in California and in the Northeast

The goal of LightWise is to accelerate the awareness and use – among residential consumers – of high efficiency compact fluorescent light bulbs (CFLs) that meet Alliance standards. Greater consumer acceptance of CFLs matches the Alliance's desire to spur greater efficiency in lighting products and to transform the residential lighting market to one where high efficiency lights are more regularly used. LightWise provides lighting manufacturers with financial incentives to:

- Stimulate the production of qualified CFLs; and
- Lower the sales prices of the CFLs, making them more affordable to consumers.

Based upon results from MPER #1 and program staff analysis, the Alliance adopted four notable changes for LightWise in 1999:

1. **Including normal power factor bulbs.** Until 1999, only high power factor and low total harmonic dissonance (THD) CFLs were allowed in the program, which deterred several major manufacturers from participating, limited bulb types, and kept prices high. Allowing normal power factor CFLs and eliminating the THD requirement is expected to mitigate these problems.
2. **Lowering the manufacturer's incentive from \$4.50 to \$3.00.** This change is designed to decrease market subsidies and encourage market independence.
3. **Devoting greater marketing and distribution resources to rural and small markets.** LightWise has not yet adequately reached these markets.
4. **Developing new marketing materials to help consumers select the best and most appropriate CFL models.** The buy-down has leveraged manufacturers' cooperation but consumers need more information and encouragement.

Through January 1999 LightWise continued to operate much as it had throughout 1998, with the same incentive levels, marketing, and outreach approaches.

Although manufacturers selected to participate in the new program year were given a "Notice to Proceed" in February 1999, most had to gear up for participation. No bulbs were shipped in February, and only Lights of America, the most consistent past participant, shipped bulbs in March. Other factors, such as hiring and putting in place a circuit rider team for small markets and a new marketing firm, along with some internal administrative issues, also delayed the start of the revamped 1999 LightWise program until April/May 1999.

***The evaluation activities conducted for this MPER (from September 1998 to April 1999) relate only to the 1998 version of LightWise. This report also describes the content and "hoped-for" effects of the 1999 LightWise strategies; only further research can capture the effects of these new strategies.***

### **Summary of MPER #1 Findings**

By October 1998, LightWise had made many positive strides. It brought more and varied CFLs into the Northwest market at a substantially lower price, and involved many more retailers in selling and believing in CFLs. However, prices were still too high, the market share was still small, and many consumers were not familiar with the product nor inclined to purchase the product. In addition, the more rural markets of Idaho and Montana were not adequately participating, the high power factor requirement for program bulbs was interfering with manufacturer interest, and retailers saw marketing and other support as inadequate.

### **Summary of MPER #2 Findings**

Not surprisingly, findings in this report underscore that the 1998 LightWise strategy did not foster many further program gains between October 1998 and May 1999, when the new 1999 LightWise strategy began to be implemented. In effect, LightWise appeared stuck in a pattern that did not push it further toward market transformation. Program bulb models remained at similar prices, market share did not appear to change, the number of bulbs shipped was somewhat lower than projected, further outreach and marketing was not yet done in rural and smaller markets, and consumer awareness, attitudes, and barriers to purchase did not change. The one bright note was that non-program bulbs appeared to continue downward in price, but were still far from a \$10 price point goal.

The 1999 LightWise is operating under the program changes described above. To what extent these changes will further transform the market will not be determined until at least a year from now. Still, initial data are encouraging. Allowing normal power factor bulbs led more manufacturers to participate in LightWise (an increase from 3 to 6). Having more manufacturers should increase competition, lower bulb prices and encourage more bulb variety. Notably, the lower incentive did not appear to discourage manufacturers.

And, the Alliance's decision to allow normal power factor CFLs in LightWise had wider impacts. It encouraged CEE and utilities around the country to include lower

power factor CFLs in their endorsements and programs. In addition, DOE used the new LightWise specifications as a template for qualifying CFLs under its ENERGY STAR<sup>®</sup> umbrella.

With a circuit rider team contacting utilities and retailers in Idaho, Montana, and parts of eastern Oregon and Washington, more CFLs should be available in small markets, with more retailers, utilities, and consumers being exposed to them. And a new marketing firm (Oliver and Russell from Boise, ID) is helping LightWise develop point-of-purchase materials and a revamped marketing plan for 1999. Still, LightWise, while making progress, has a considerable way to go toward ensuring a sustained, adequate market transformation for CFLs.

### **Key Indicator Status**

The first MPER established key indicators for LightWise and measured how well it met those indicators; these key indicators have been refined and updated in this report, and some have been added. The indicators, the progress of LightWise against those indicators by May 1999, and notes on the strategies LightWise uses to reach each indicator are shown in **Table 1** below. The plus (+) or minus (–) signs in the “Progress” column indicate positive or negative progress toward each respective indicator between 1998 and 1999 measures. Five areas of key indicators are discussed: price, market share, retailer information, consumer views, and energy savings.

Table 1 - Key Indicators for LightWise Program

<b>Price Indicators<sup>i</sup></b>	<b>Progress</b>	<b>Strategy Notes</b>
1. Total prices of program bulbs <sup>ii</sup> (including incentives) drop and continue to drop.	+ Average total program bulb prices (including incentives <sup>iii</sup> ) have dropped since November 1997, when average prices ranged from \$13.70 to \$27.11. Prices for the same bulbs ranged from \$12.84 to \$15.94 in April 1998, and from \$12.80 to \$16.29 in November 1998.	Incentives to manufacturers "buy down" shelf prices and will be phased out as market transforms. A small incentive drop (\$.50) did not affect prices. The effect of the larger drop from \$4.50 to \$3 for 1999 is unknown, but more manufacturers signed on than ever before.
2. Shelf prices (without incentives) for program bulb models are \$10.00 or less.	+ Four of six consistently tracked program CFLs found in the November 1998 audit were below the \$10 goal (two between \$8 and \$9 and two between \$9-\$10). The remaining two were in the \$11-\$12 range.	
3. Shelf prices for comparable* non-program CFLs drop and eventually equal the prices of program bulbs.  *Six 1998 non-program CFLs compared to the same six program CFLs.	+ By the November 1998 store audit, four of six comparable non-program CFLs had dropped below their November 1997 levels but not below \$10.  + Shelf prices for five of six non-program CFLs cost more than comparable program bulbs, while one was equal. When the \$4.50 subsidy is considered, however, the incremental cost rise for three bulbs was less than the \$4.50 incentive while the rise for the remaining two was more.	Program bulbs will pull down the prices of comparable bulbs without incentives. The prices for other manufacturers with similar bulbs are not tracked.
<b>Market Share Indicator</b>	<b>Progress</b>	<b>Strategy Notes</b>
4. Market share of CFLs increases.	+ The original market share was assumed to be to 0. Market share is currently estimated at 2.5%. (We assume this share has been steady for at least a year since parameters for calculating market share haven't changed.)	Market share calculated using survey data, population figures, and bulbs in an average household.

<sup>i</sup> Price comparisons are made among 6 bulbs that have been consistently represented in 3 in-store audits: November 1997, April 1998, and November 1998. Figures used previously for "pre-program" price comparisons (January 1996) were determined to be unreliable; thus the November 1997 prices gathered at the first store audit are used as the baseline price data. For more data on bulb prices, see Chapter 3.

<sup>ii</sup> Unique bulb models within a store, across stores, are used in this analysis.

<sup>iii</sup> Manufacturers' incentive was \$4.50 at the time of these studies. Shelf prices would be \$4.50 less than the prices listed.

<b>Retailer Indicators</b>	<b>Progress</b>	<b>Strategy Notes</b>
<p>5. <b>More qualified CFLs are shipped to and sold in the Northwest.</b> <i>(Note: The program assumes shipped bulbs closely match CFLs sold, since CFLs are not returned to the manufacturers.)</i></p>	<p>+ <b>LightWise has increased the number of qualified CFLs shipped to and sold in the Northwest.</b> Few qualified CFLs existed prior to LightWise. 134,156 were shipped in 1996, 203,998 units in 1997, 168,774 in 1998 (slightly less than expected), and 210,616 are planned for 1999.</p> <p>– <b>As of May 1999, 49,344 bulbs had been shipped, somewhat behind schedule for the year.</b> (Shipments didn't begin until March due to program changes.)</p>	<p><b>LightWise uses retailers as partners in the program and manufacturers often share incentives with retailers.</b> The drop in shipments in 1998 reflected one manufacturer dropping out that served many small independent retailers and several retailer changes.</p>
<p>6. <b>The number of Northwest retailers stocking qualified CFLs year-round increases.</b></p>	<p>– <b>Initially, retailers increased from 30 to 250 in 1997, then decreased to 145 in 1998, and are unknown for 1999.</b></p> <p>– <b>The number of retailers was especially low in Idaho and Montana due to one manufacturer dropping out, largely due to the high power factor requirement.</b></p>	<p><b>Circuit rider outreach in Idaho and Montana should increase the total.</b> LightWise operations can be very sensitive to manufacturer and retailer changes.</p>
<p>7. <b>More retailers “regularize” program CFLs by consistent ordering and promotions and by stocking them in preferred locations.</b></p>	<p>+ <b>90% of LightWise retailers surveyed in 1998 report they regularly ordered CFLs.</b></p> <p>+ <b>MPER #1 reported more and better shelf space and location since program inception, as well as integration of program and non-program bulbs, based upon retailer opinions and store audits.</b> Due to store audit procedures, coverage conclusions may not be accurate.</p>	<p><b>LightWise is increasing retailer support/training, and will re-survey retailers in August 1999. The in-store audits will include better measures of coverage and display.</b></p>
<p>8. <b>Retailer knowledge of CFLs increases.</b></p>	<p>+ <b>Retailers feeling knowledgeable about CFLs increased from 37% in 1996 to 58% in 1998.</b></p> <p>– <b>Due to low program coverage, retailer knowledge may be lower in Montana and Idaho.</b></p>	<p><b>Circuit rider service emphasizes help for small markets. Early reports suggest good response.</b></p>
<p>9. <b>Retailers are satisfied with support for LightWise.</b></p>	<p>– <b>Retailers were dissatisfied with marketing and consumer education support, manufacturer support, and other support for Light Wise.</b></p>	<p><b>New circuit rider service, marketing materials, and more manufacturer support is designed to up satisfaction.</b></p>

<b>Consumer Indicators</b>	<b>Progress</b>	<b>Strategy Notes</b>
10. Consumer awareness of, satisfaction with, and likelihood to buy CFLs rises.	<p>– Virtually no changes were noted in consumer awareness, satisfaction, and likelihood to buy, between an April 1998 and April 1999 survey of 500 consumers. In 1999:</p> <ul style="list-style-type: none"> <li>• Only 57% of consumers were “aware” of CFLs</li> <li>• 17% had bought one or more CFLs in the past five years.</li> <li>• 18% were “very likely” to buy a CFL in the future (current satisfied users plus very interested non-users).</li> <li>• While 52% of users were “very satisfied” with their CFLs, 19% were very dissatisfied.</li> </ul>	Circuit rider service and new marketing materials help small markets, but dollars spent here may detract large markets efforts, which determine market share. CFLs not available in grocery stores where most buy bulbs.
11. Consumer barriers to purchase decrease.	<p>– Consumer and retailers continue to identify significant purchasing barriers, including:</p> <ul style="list-style-type: none"> <li>• High price and “sticker shock” compared to incandescent bulbs</li> <li>• Product unfamiliarity and lack of persuasive marketing</li> <li>• Lack of availability in grocery stores where most people buy bulbs</li> </ul>	Staff recognize need to have grocery store participation but budget limits efforts. 1999 program has more opportunity for price competition. The small marketing budget may not have much clout.

<b>Manufacturer Indicators</b>	<b>Progress</b>	<b>Strategy Notes</b>
12. The number of qualifying products expands.	<p>+ The number of qualifying program CFLs expanded from 6 in 1996, to 13 in 1997, to 18 in 1998. However, only 13 models were found in store audits in 1998. Over 60 qualified models are expected in 1999.</p>	More manufacturers in 1999 and allowing normal power factor CFLs should up number of qualified bulbs.
13. Several manufacturers of CFLs substantially compete in the Northwest.	<p>– Until 1999, only one manufacturer (Lights of America), with low brand awareness, had performed consistently in LightWise.</p> <p>+ 6 manufacturers signed on for 1999, an increase of 3 over 1998. By May 1999, 2 had met product shipment goals, 2 had shipped product but had not met full goals, 2 had not shipped product.</p> <p>+ Store audits now list 200 different models of non-program CFLs.</p>	The first step to competition – more manufacturers – has been achieved. Active participation needs to be ensured.



<b>Manufacturer Indicators</b>	<b>Progress</b>	<b>Strategy Notes</b>
14. Manufacturers expand manufacturing of qualified high power factor CFLs.	– The high power factor CFL requirement discouraged some major manufacturers from participating, produced higher bulb prices, and hampered the variety and distribution of CFLs throughout the Northwest.	Allowing normal power factor bulbs for 1999 attracted manufacturers, and should encourage competition, lower prices, and more bulb choice.

<b>Energy Savings Indicators</b>	<b>Progress</b>	<b>Strategy Notes</b>
15. Energy savings meet cost-effectiveness assumptions.	By the end of 1999, LightWise expects to have shipped/sold over 717,500 CFLs, thereby exceeding the original “buydown” bulb assumptions (500,000), and the 215,000 buydown + induced sales figure of 715,000.	Some assumptions for energy savings calculations need to be revisited.

Once again, it is important to note that the progress against key indicators shown in the table above does not reflect the impact of significant changes already underway for LightWise 1999 (as described above).

### Conclusions and Recommendations

Each of the following recommendations is preceded by a discussion of the issues that surround it. These recommendations are in addition to the recommendations the Alliance adopted at the end of 1998, and which LightWise is already putting in place.

1. *Issue:* To date, LightWise has been hampered by a variety of factors, including high power factor bulb requirements, limited manufacturer initiative and competition, limited consumer education and retailer support, and changing program contractors. Despite these problems, it has brought many CFLs into the Northwest, influenced downward prices for program and non-program bulbs, and fostered CFL programs elsewhere. However, a substantial price gap still remains between CFLs and incandescent bulbs and many consumers are not even minimally aware of this type of bulb (43%). Even if they are, many are not convinced they should buy them when they cost much more, are unfamiliar, and are not available at their local grocery store.

*Recommendation:* The Alliance should embrace even more fully the challenge of transforming this market or stop the program. Continuing with the current level of effort will probably yield only modest changes that occur at a slow pace and possibly not to a sustainable level. To help further transform the market, at least these steps should be taken:

- LightWise should be extended beyond Year 1999. The current three-year time frame is too short.

- At the same time, greater efforts should be spent in educating consumers about the applications and benefits for CFLs. Half the market or more is not really aware of this bulb choice. These efforts could be in the form of targeted pilots that can be tracked to see if more intense education and marketing can make a difference. While LightWise has leveraged manufacturer involvement with CFLs, it has been much less successful in involving manufacturers in additional marketing and educational efforts. Thus, LightWise needs to be more proactive in these areas.
  - To ensure equity, attention to small markets should be continued. However, marketing to small markets should not be at the expense of large markets, which will be the largest determinant of market share.
2. *Issue:* The largest share of consumers conveniently buys their light bulbs in grocery stores; currently, CFLs (LightWise or otherwise) are not in grocery stores. According to LightWise administrators, grocery stores are a difficult venue in which to secure shelf space especially due to the expense of inventory and relatively slow sales compared to other merchandise. Some manufacturers also appeared to think grocery store distribution was not feasible.

Still, in looking at the market from the consumers point of view, CFLs will not be mainstreamed until they reach grocery store shelves or until consumers are schooled to look elsewhere for their light bulbs (or at least are willing to spend time going to and shopping at alternative locations). Not having CFLs in grocery stores does not mean that the market share cannot be increased or that market transformation has not occurred to some degree. Indeed, market transformation could be defined as excluding grocery stores. However, their lack as a distribution point does appear to limit the program.

*Recommendation:* If not already known, LightWise staff should determine how and if CFLs can be placed in grocery stores. If groceries are a feasible distribution channel, CFLs should be pilot tested with adequate support and marketing.

3. *Issue:* While prices have dropped, they are not near a point where consumers can make an easy purchase. Even if bulbs generally reach the \$10 level, which was a good initial goal, the price needs to drop further so that buying CFLs can be a routine purchase rather than a significant investment. Even at \$5, the price is much more than an incandescent bulb.

*Recommendation:* A new goal of a \$5.00 price point should be set. This is the point at which manufacturers believe consumers will more readily buy CFLs.

4. *Issue:* Brand recognition for light bulbs resides primarily with General Electric and, to a lesser extent, Sylvania. Although many consumers report they buy the cheapest bulbs, those that buy by brand most often choose these two manufacturers. Yet GE and Sylvania, while having participated in LightWise,

consistently do not ship and, consequently, forfeit their bulb allocations. While Lights of America has been a very reliable partner, lack of the “big name guys” limits the program’s effect on the market.

*Recommendation:* If a bigger push is decided for LightWise, further effort should be put toward determining how the recognized brand name manufacturers can be more visible.

5. *Issue:* Market transformation parameters are not clearly set for the program. While we are assuming a 2.5% market share is low, others may view this level as quite meaningful. As described above, prices, while lower, may still have a long way to go. Or do they?

*Recommendation:* Program staff and other experts should specify what levels of price and market share constitute market transformation.

6. *Issue:* Since the future funding of LightWise is uncertain, the program, along with the Alliance, has pursued national specifications for CFLs that match LightWise specifications. In May of 1999, CFLs became the latest addition to the ENERGY STAR<sup>®</sup> family of products.

*Recommendation:* LightWise should pave the way for its potential affiliation with the ENERGY STAR<sup>®</sup> brand, particularly by working with the utilities to smooth this transition from a regional “brand” to a national one.

7. *Issue:* If the LightWise program is absorbed under or affiliated with ENERGY STAR<sup>®</sup>, it will be possible to join the energy efficient lights and fixtures programs together. On the surface, joining them makes sense. Fixtures and bulbs logically go together, consumers may look for both at the same time, and looking at these products together might solve “disconnects” in the marketplace. However, the actual joining of these two programs may be more or less complicated by the way in which each is constructed and the point at which each market is positioned. Many questions would need to be answered to determine the compatibility of these two programs and the efficiencies of joining them together. For instance, how can program operations be integrated? Are the philosophies and purposes of each program similar? Are the actors similar?

*Recommendation:* The Alliance should explore the efficacy of merging these programs.

8. *Issue:* Currently, the procedures used for the in-store audits do not allow a true measure of bulb coverage at retailers, give little sense of volume in the stores, use the aggregate of unique bulb models across stores as the basis for calculating price, and appear to include unwieldy and less than useful data collection requirements. These store checks are a key mechanism for

measuring program progress but it's unclear whether they have provided adequate measurement tools.

*Recommendation:* LightWise evaluators and staff should review in-store audit procedures to see how they can be easier to implement and more amenable to evaluation activities. One suggestion is to make a representative sample of bulbs the basis for determining average price, volume, and shelf-space coverage. The procedures should continue to track the variety of bulb models and their prices.

9. *Issue:* Tracking of shipments and invoicing appears to plague program record keeping, evidenced by unexpected payouts of incentives and issues with over allocations. Monthly reports of bulb shipments can be less than insightful and difficult to understand.

*Recommendation:* Evaluators and LightWise staff should discuss how these regular reporting mechanisms might be improved, and agreed upon modifications should be implemented.