Energy Efficient Lighting in New Construction: National Efforts with Regional Focus

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ABSTRACT

Many utilities, state and federal agencies are promoting ENERGY STAR® Residential Light Fixtures in energy-efficiency programs that focus on retail distribution. With over 1.3 million homes built and over 25 million hardwired fixtures sold per year for new construction, many energy-efficiency organizations are integrating lighting and residential new construction programs. Program implementers are working to understand this complex market of contractors, builders, distributors, manufacturers and various distribution channels, as well as identify opportunities to leverage national ENERGY STAR and industry efforts.

This paper presents an overview of the residential lighting new construction market, and provides an overview of several regional ENERGY STAR residential lighting new construction efforts. It highlights EPA's national ENERGY STAR efforts and the Northwest Energy Efficiency Alliance's (Alliance) residential lighting new construction strategy. In addition, the paper addresses the Alliance's leveraging of EPA's national efforts as well as the American Lighting Association's efficient lighting activities.

Introduction

On average there are 1.3 million new housing starts per year in the United States (U.S. Census 2001), averaging 2,057 square feet per single family-home (U.S. Census 2002). In 1993, lighting accounted for nine percent of the total annual energy usage in a home (Atkinson et al. 1997, 2), and has increased over the past decade as the size of single-family homes has increased (Calwell et al. 1999). The average new home contains 20-30 lighting fixtures, (Atkinson et al. 1997, 7) 16 of which are hardwired (Matthews, Shirakh, Sloss 1999, 21). Given the annual housing starts and increasing number of fixtures per home, there is a large opportunity for energy savings in the residential new construction lighting market. Replacing just 10 high-use incandescent fixtures with energy-efficient light fixtures can save an estimated 539 kWh per home, per year (Matthews, Shirakh, Sloss 1999, 2). In comparison, an ENERGY STAR refrigerator saves an estimated 53 kWh/yr and an ENERGY STAR labeled central air conditioner can save up to 601 kWh a year (EPA 2002).

Influencing the new construction market has many far-reaching market transformation benefits. For example, the remodel market generally follows new construction trends. As Energy Star fixtures make inroads into the new construction market, showroom familiarity, awareness and stocking of ENERGY STAR products will increase.

The first step to influencing the residential new construction lighting market is understanding the market, which has many players and various distribution channels. In

addition, regional programs should work together with nation-wide ENERGY STAR efforts to develop efficient and effective residential new construction lighting programs.

Overview of the New Construction Lighting Market

Market Actors, Distribution Channels: Their Impact on the Lighting Decision

Residential lighting is a two billion dollar per year industry consisting of over 500 lighting manufacturers, upwards of 5,000 lighting showrooms and distributors, thousands of builders and over a million new home buyers. The distribution channel and decision-making process also includes architects, designers and do-it-yourself (DIY) stores. These market actors and their impact on lighting decisions and distribution channels are described below.

Manufacturers. Manufactures develop products, establish price points, and sell products to lighting distributors, showrooms and DIY stores. Manufacturers typically reach builders and distributors by one of the following means:

- Factory representatives: Represent only one manufacturer and may work with both builders and distributors.
- Independent representatives: Self-employed salespeople who may represent several lighting and accessory lines.

"Cover-to-cover" manufacturers offering a full line of products from all categories will sometimes interact directly with large builders to sell products, but the products are delivered and serviced through a local distributor. However, manufacturers generally sell products to the showroom/distributor who then develops "house packs" consisting of one or more manufacturers' products, which are then sold to the builder.

Manufacturers influence the lighting decision when they work directly with the builder, architect or lighting designer. This usually occurs with large national builders.

Electrical distributors. Wholesale electrical distributors generally sell to builders and electrical contractors, but usually do not have a showroom; rather, they rely on catalogue sales -- typically "cover-to-cover" lines. Electrical contractors use an electrical distributor when the contractor is responsible for the entire lighting *and* electrical package (decorative lighting, recessed fixtures, switches, receptacles and wire). Note that recessed downlights are generally part of the electrical package and budget, not the lighting fixture budget. Electrical distributors generally do not decide what lighting is used in the new home beyond what they offer through the manufacturer cover-to-cover catalogs.

Combination distributors (lighting showroom and electrical supply). A combination distributor sells to both wholesale trade and retail markets, and sometimes provides design or consultation services. A builder or contractor may have an account with a distributor and together they might develop a series of lighting packages (such as base, upgrade and premium packages), which the builder or homeowner can choose. A custom builder will often send homeowners to a combination distributor with a moderate allowance, typically ranging from $350 – $1000, sometimes as high as $1500 with 20 percent of the budget for

ceiling fans (*Residential Lighting*, 2001, 50). Homeowners have the option of exceeding this allowance at their own cost. Combination distributors make the lighting decision for a new home when they work directly with the builder on a model home, and when working directly with the homeowner to select product within a predetermine allowance.

Stand-alone lighting showrooms. A stand-alone showroom sells only lighting to either builders, contractors or the general public, and may have staff who provide design or consultation services. As with combination distributors, custom builders will often send homeowners to the showroom with a moderate allowance to select their own fixtures. Stand-alone showrooms are a major lighting decision maker because they cater to the builder market, working directly with builders and/or homeowners to select lighting. In addition the stand-alone showroom can also influence the electrical contractor.

Builder lighting showroom. Builder lighting showrooms do not sell retail, and are only open to builders and builders' customers. They provide high-level service to their clients and may have design staff. The showroom will stay within a builder-defined budget while allowing the homeowner to "select" their own styles from a limited selection of manufacturers -- usually offering "cover-to-cover" lines and products from niche manufacturers. Builder lighting showrooms are rare, representing 5-10 percent of the market, but do have a major influence when guiding homeowners and builders.

Lighting broker. Similar to builder lighting showrooms, lighting brokers deal only with builders and do not sell retail. They offer a few different lighting packages made up of various manufacturers' products that are "mixed and matched." Lighting brokers make the decision when working with speculation (spec) homebuilders, where construction begins before the home is sold. Brokers typically do not work with custom-built homes.

Do-it-yourself. This channel is used primarily by homeowners, and, to a lesser extent, by builders. The homeowner primarily uses this channel when there is no lighting allowance or the budget is minimal. The homeowner may be looking for the least expensive lighting, or they may not require/want assistance. Some homeowners do not realize that there are different levels of fixture quality, or are unaware of local specialty stores in their area. The builder might also opt to go through a do-it-yourself outlet when no relationship exists with a distributor, or when the builder wants nothing to do with the decorative lighting. Historically, DIY stores influence a very small portion of most new construction lighting markets, however they are gaining market share.

Designers. Residential new construction lighting designers are generally independent or a lighting/combination showroom employee. Independent designers tend to be very loyal to familiar lighting manufacturers and will work with the distribution channels to ensure the lighting plan is followed and to prevent substitutions that may negatively impact design integrity. Showroom employees that influence new home lighting can range from salespeople to accredited Certified Lighting Consultants. The showroom designer works with builders to select lighting, where variations in style, quality and price come into play. Designers generally only get involved with and make lighting decisions for custom homes.

Electrical contractors. An electrical contractor may assist the builder in selecting the entire lighting package. This lighting package, typically from a cover-to-cover catalog, would be an up-grade in decorative style from the basic lighting a builder might choose independently. Electrical contractors usually go through electrical wholesale supply to purchase the lighting.

Builders. How and when the builder interacts with a distributor or manufacturer has many variables. In large developments, this interaction begins early in the planning phase, prior to construction and, in some cases, during the design process. In smaller developments, or individually built homes, the interaction between the builder and distributor or manufacturer may not happen until the homes are nearly complete. This interaction is dependent on the manufacturer or distributor contacting the builder, as the builder will wait until lighting is needed before interacting with a lighting supply source. When builders are influencing the lighting choices, they are likely to pick a basic lighting package with just enough fixtures for the Certificate of Occupancy, comprised of very inexpensive lighting that meets the basic needs of the homeowner. Builders will handle purchasing through a distributor, even if they talked and sealed the deal directly with the manufacturer. Builders generally play a major role because they always influence the lighting budget, even if they let a distributor, designer or manufacturer select the lighting package.

Although there are different types of homes – detached single, town-home, etc. – builders generally fall into one of three categories:

1. Track Homebuilders. Track builders may be national, regional, or local in scope; develop a large tract of land by building many homes of one or two styles (sometimes more), ranging widely in price, size, and amenities. The manufacturer and showroom/distributor are the main decision makers selecting the lighting package, although the builders sets the budget and number of fixtures needed for track homes.
2. Custom Homebuilders. Custom builders build on a smaller scale than track builders and typically offer a full range of choices and selections, although in some cases they offer only one or two upgrade options for lighting. Custom building generally involves an architect, lighting designer, and interior designer, with the budget determined by the homeowner in conjunction with the architect or builder. The designers and homeowners are the main decision makers.
3. Speculation Homebuilders. These builders are local in nature and do not pre-sell homes but rather build basic no-frills homes, assuming, based on market knowledge, that the property will sell after construction begins. Custom homebuilders often choose to build "spec" homes on lots they feel will be more marketable and profitable after the home is built. The builder and showroom/distributor are the main lighting decision makers for "spec" homes.

Key Market Players for Energy-Efficiency Programs

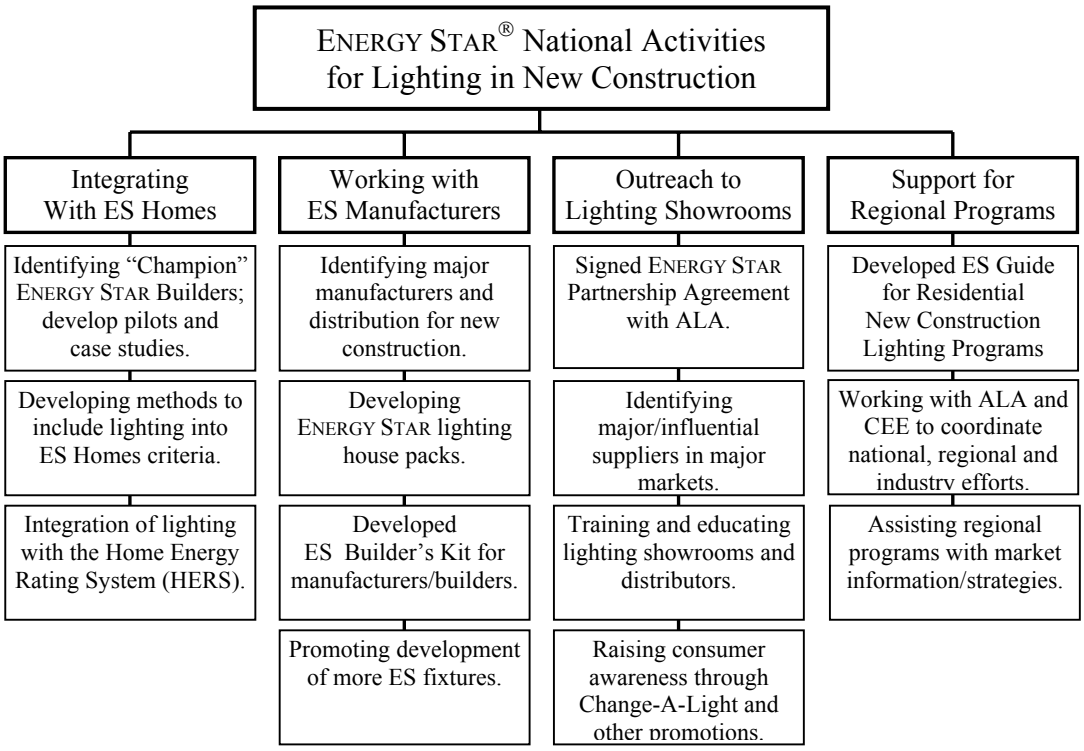
Of the players discussed above, manufacturers, combination distributors and builders are the main market players that must be included in residential new construction lighting programs. Program implementers should work with national ENERGY STAR efforts and the American Lighting Association (ALA) to identify key manufacturers, their distribution channels and available ENERGY STAR lighting packages. Regional program implementers should identify and target the influential and major builders in their region. For more

detailed information on key market players and distribution channels refer to EPA's *ENERGY STAR® Guide for Residential New Construction Lighting Programs* (Banwell et al. 2001).

National Efforts

ENERGY STAR has been laying the groundwork for national outreach efforts and regional support of residential lighting new construction programs. Figure 1 illustrates EPA's four main areas of activity to increase the penetration of ENERGY STAR fixtures in new construction.

Figure 1. EPA ENERGY STAR National Activities to increase Market Penetration of ENERGY STAR Lighting in Residential New Construction



Integrating Lighting with ENERGY STAR Homes

There are over 1,200 active ENERGY STAR Home builders across the country, and EPA is leveraging the knowledge and ambition of these builders to include lighting into their plans. By identifying builders and then working with regional implementers to bring all the market players together, ENERGY STAR hopes to increase ENERGY STAR lighting in ENERGY STAR Homes. In addition, EPA is investigating and developing methods to include lighting in the ENERGY STAR Homes criteria.

Working with ENERGY STAR Manufacturing Partners

EPA is working with ENERGY STAR Partners to identify market pressure points and increase the availability and promotion of ENERGY STAR lighting for new construction. There are a select few manufacturers that supply the majority of the new construction market with cover-to-cover lines and EPA is working with these manufacturers to identify the regional market actors, distribution channels and product offerings.

EPA is also coordinating with ALA and Consortium for Energy Efficiency (CEE) in working with manufacturers to increase fixture development and availability of higher-grade fixtures. As a first effort, a design workshop was held at the 2002 ALA Convention were fixture designers developed a sketchbook of ENERGY STAR fixture designs.

ENERGY STAR House Packs. EPA is working with manufacturers to develop ENERGY STAR Lighting House Packs. The house pack lists a hardwired fixture for each room and application in a typical single family home. Manufacturers and utilities are encouraged to use the house packs to promote and sell ENERGY STAR lighting to builders.

ENERGY STAR Lighting Builder Kit. The kit, which includes information on the benefits, energy savings, and cost savings of ENERGY STAR fixtures has two uses: 1) for manufacturers to promote ENERGY STAR lighting to builders, and 2) for the builder's use when up-selling homeowners a premium ENERGY STAR lighting package. (Banwell et al, 2000)

Outreach to Lighting Showrooms

Through the EPA/ALA ENERGY STAR Agreement signed in 2001, EPA and ALA are providing ENERGY STAR training and education to showrooms, and are also identifying opportunities to increase ENERGY STAR product penetration in showrooms and distributors, which supply the majority of the new construction industry. This partnership provides ENERGY STAR the opportunity to work with industry to identify ambitious and influential market players who will support and promote regional and national efforts. EPA is also providing showrooms that sign-on as ENERGY STAR retailers under the ALA ENERGY STAR Agreement the opportunity to participate in Change-a-Light and other national promotions.

Support for Regional Programs

Working with industry insiders and experts, EPA developed the *ENERGY STAR® Guide for Residential New Construction Lighting Programs* for regional programs and utilities to use when developing programs. The Guide describes residential lighting new construction market distribution channels, market actors, and their influence in lighting specification. The Guide also outlines important steps for developing a residential new construction program. The Guide has served as a resource to the Northwest Energy Efficiency Alliance (the Alliance) as the program implementers design their new construction lighting program.

EPA and ALA are working closely with CEE to identify opportunities and strategies at the national level that can aid regional programs. As EPA is working with manufacturers to identify regional distribution channels, there are also discussions with some utility programs to help bring all the market actors together and identify implementation strategies.

Regional Overview of Efficient Lighting Programs in New Construction

Many regional utilities and market transformation organizations have implemented ENERGY STAR Homes or energy efficient residential new construction programs, which typically include HVAC, windows, roofing and appliances. However, several residential construction programs also include efficient lighting. These are briefly described below.

Seattle City Lights Build Smart Program

The Build Smart Program (formerly *Super Good Cents*) is a multi-family housing program that provides $25 incentives for interior and exterior energy-efficient hardwired fixtures in common areas and for up to three hardwired fixtures per multi-family unit. For more information visit www.cityofseattle.net/light/conserve/resident.

Portland General Electric's (PGE's) Earth Advantage Program

This comprehensive program encourages builders to construct homes that exceed the 1993 Model Energy Code (MEC) by 20-30 percent, and scores between 87-91 on the HERS scale, exceeding the ENERGY STAR target of 86. The Program requires that three hardwire fixtures be installed, *or* builders may use two hardwired fixtures if two screw-in CFLs are installed in high-use areas. For more information visit www.earthadvantage.com.

Vermont ENERGY STAR Homes

Vermont's program contains a strong lighting component where builders must install at least four hard-wired efficient lighting fixtures in moderate to high-use locations. Also available are $25 rebates per efficient downlight, and $15 for other efficient fixtures, with a limit of 20 fixtures per home. Participants can receive a maximum rebate of up to $1800 for achieving all efficiency targets. For more information visit www.vtenergystarhomes.com.

Sacramento Municipal Utility District (SMUD) New Home Lighting Efficiency Program

SMUD's program encourages builders and contractors to install efficient lighting in new homes. Lighting incentives are limited to 50 percent of the fixture cost up to $10 per fixture. The maximum lighting incentive per home is $100 and a maximum of $20,000 per builder application. For more information visit www.smud.com/adv_home/energy.html.

New England ENERGY STAR Homes

This program offers rebates up to $900 for ENERGY STAR products per home. Full "purchase price" rebates of ENERGY STAR lighting fixtures is applied after the home receives ENERGY STAR certification based on HERS. In Massachusetts, more than 2,000 homes were ENERGY STAR certified in 2000. For more information visit www.energystarhomes.com.

Wisconsin ENERGY STAR Homes

Wisconsin's new construction program focuses on efficient home design and construction. Although lighting is not a specific component of the program, participants are eligible for the existing consumer rebate program that offers $10 rebates for ENERGY STAR fixtures, $15 for ENERGY STAR ceiling fans, and $20 for ENERGY STAR Torchieres. For more information on the rebates visit www.weccusa.org/energystar/rewards.html#rewards.

New Jersey ENERGY STAR Homes

This program utilizes HERS to determine program compliance. HERS does not include efficient lighting, but this program encourages ENERGY STAR fixtures through supplemental incentive -- $30 per ENERGY STAR recessed can; $20 for each other ENERGY STAR fixtures used in high-use locations. For additional information please visit www.njenergystarhomes.com/index.html.

Regional Program Summary

Although lighting is included in several new construction programs, it has not been a strong component of program designs; most likely due to lack of fixture availability, lack of acceptance by construction market actors, cost, reliability, and/or lack of education. Current national efforts mentioned above, such as including lighting into ENERGY STAR Homes and working with manufacturers to increase product availability, should bolster regional efforts.

A new program under development in the Pacific Northwest is solely focused on driving efficient lighting into the new construction industry. The following sections discuss the conditions that drove the Pacific Northwest to pursue this program design, and why the Alliance believes this program will succeed.

Impacts Affecting the Pacific Northwest Regional Program Design

Starting in 2001, the Alliance funded development of a regional ENERGY STAR Residential New Construction Program that stresses energy efficient lighting. The program has strong ties, where possible, with existing Pacific Northwest residential construction programs (e.g. Seattle City Light's Build Smart Program; PGE's Earth Advantage). Several market conditions, regional and national efforts, and the Alliance's 2001 ENERGY STAR Residential Lighting Program success make the present an ideal time to involve builders in the energy efficiency movement, and specifically lighting efficiency. These market conditions illustrate why lighting is the heart of the Pacific Northwest program.

California Energy Crisis, Drought, and a Regional Economic Downturn

The California crisis is well known. What may not be as well understood is the impact this crisis had in the Pacific Northwest, which was simultaneously experiencing a drought. These conditions strained Northwest hydropower generation, resulting in spot market purchases at exorbitant rates. Utilities absorbed much of the costs where possible, but were eventually forced to pass costs on to ratepayers. The average weighted rate increase for

3.4 million ratepayers (32 percent of the population) of the 11 largest utilities in Oregon, Washington, and Idaho is 25.4 percent (Kinsey-Hill 2002).

The events of September 11 and the technology sector meltdown of 2000 rocked the Pacific Northwest economy and had a significant impact on the region's prosperity. These events resulted in the highest regional unemployment in the country – 8.0 percent in Oregon and 7.5 percent in Washington.

Previous Utility and Alliance Energy Efficiency Efforts

Utility coupon campaign impact. In an effort to mitigate negative power generation effects from the record drought, many utilities pursued a resource acquisition model to reduce load. Since April 2001, more than 90 of the 130 utilities in the Pacific Northwest have distributed over 12 million $6 CFL coupons, coupled with a strong marketing campaign. To date, more than 3 million coupons have been redeemed, representing a 25 percent redemption level.

Increased retail participation. Since April 2001, retailer participation in the Alliance sponsored ENERGY STAR Residential Lighting Program and ENERGY STAR CFL Coupon Campaign soared 366 percent to over 1,400; resulting in increased retailer ENERGY STAR awareness and prominently positions efficient lighting in front of Northwest consumers.

High residential consumer awareness. As a result of the events and conditions discussed above, Pacific Northwest consumer awareness of energy efficient lighting is at record levels. The Alliance estimates that on average every household in Washington, Oregon, Idaho, and Montana acquired between one and two CFLs in 2001 (Cohan, Grove & Ton 2002). Based on preliminary program outreach, this awareness level is having some spillover into new construction. Some builders have expressed interest in learning more about building and marketing efficient homes.

National Activities Regarding American Lighting Association (ALA)

As mentioned above, ALA, ENERGY STAR and CEE are working together to increase the selection of fixtures for new construction. If success is achieved in this national endeavor, the builder industry will have greater variety of efficient lighting products for new construction projects. The Alliance is highly encouraged by these national efforts.

The Alliance Residential New Construction Lighting Program

Leveraging increased consumer awareness, the high impact utility messaging, and the significant increase in retail involvement, the Alliance has a unique opportunity to shift its current emphasis to energy efficient lighting fixtures and the untapped residential construction industry as the Pacific Northwest expands its' market transformation effort. Because of heightened awareness, the Alliance anticipates that consumers, if presented with efficient lighting options in homes, will recognize and accept the cost/benefit tradeoffs of this technology.

The Alliance Residential New Construction Team

The Alliance is developing a program for its members that will encourage increased use of dedicated energy efficient lighting fixtures in new residential dwellings. It used the EPA's *ENERGY STAR® Guide for Residential New Construction Lighting Programs* as its basis for program development. Taking recommendations from this publication, the Alliance retained two well-known lighting designers to assist with the program design -- James Benya, Benya Lighting Design, and Robert Sardinsky, Rising Sun Enterprises. The team conducted research on the new construction industry, Pacific Northwest construction trends, and other existing regional programs. Information was analyzed to identify key program components that would appeal to residential construction market actors and address obstacles.

Program Framework

Strategy. The Alliance is developing a multi-layered lighting program that integrates utility sponsorship and participation while engaging the complex set of residential new construction market actors. The program uses education, demonstration projects, utility incentives, possible future policy changes, and coordination with national ENERGY STAR efforts to address the challenge of increasing penetration of energy efficient lighting design. Home lighting poses a unique problem because of its subjective nature, and typically not much thought (or budget) is applied to selecting the fixtures during construction. In addition, a comprehensive source does not exist to answer the question "What is good energy efficient lighting?" The Alliance program plans to address this question.

Education. Education is key to this program and has many facets because of the variety of market actors. To educate the broad set of market actors the Alliance chose a web site, a brochure, and a trade show booth as the creative materials to best reach the target audience.

1. Web Site. The web site will answer the question: "What is good efficient lighting design?" It serves as an educational platform to inform builders, lighting showrooms, the public, and others as to what can be accomplished by choosing good energy efficient lighting design. The site will offer a wide selection of room layouts for high-usage areas, such as kitchen or bath. These layouts illustrate good lighting design utilizing efficient fixtures and highlight the associated energy savings. Visitors to the site, www.lightingplans.com, are encouraged to download the design plans and incorporate them into their residential blueprints.
2. Brochure. Intended for use at outreach events such as home shows and for display in model homes using efficient lighting, the brochure supports the web site and Alliance utility partners. The brochure's objective is to educate homeowners, builders, and contractors about efficient lighting options and drive them to the web site for further information.
3. Booth. Currently being considered is a professionally produced tradeshow booth that would showcase the latest energy-efficient residential lighting fixtures used in "good lighting design" applications. The Alliance wants to demonstrate that using highly efficient fixtures will greatly increase home performance without sacrificing design choices/styles. For example, the booth will showcase indoor kitchen lighting in one corner, and outdoor lighting in another – with the fixtures wired onto background

materials mimicking the depicted room. Visitors will ultimately be directed to the web site to download comprehensive lighting plans.

Demonstration projects. Demonstration projects are planned with several builders and showcase homes to illustrate the beauty, aesthetics, and functionality of energy efficient lighting designs. The builder's use of efficient fixtures demonstrates to homeowners the upscale nature of this technology, and if used correctly, dispels any myths and fears. The Program's lighting design experts are currently working with participating builders to create demonstration projects with professional lighting design, layout and review.

Utility incentives/interface. The long-term goal of market transformation is to change purchasing habits without creating unnatural market situations. Due to current cost discrepancies between standard and comparable energy efficient fixtures, utility incentives should be considered during initial phases of the program, and used to encourage builders to become early adopters and to teach them how to up-sell based on the benefits.

Utilities have the opportunity to interface with the program in several ways. They can link from their web site to the program site and be listed in the "incentives in your area" section. Also, utilities sponsoring incentive programs can link to local participating builders.

Policy changes. The Northwest has always been a leader in forward thinking energy efficient use of natural resources. The long-term objective of the program is to change the behavior of the new construction market. The Alliance hopes it will be able to influence code changes that mandate the use of well-designed energy efficient lighting in residential construction. Incentives are an unnatural force that when removed allow behaviors to return to some level of their former state. Policy changes create a shifted equilibrium that result in a permanent change of behavior.

Support national efforts. The Alliance program requires support of national efforts to overcome several market barriers (i.e. availability, reliability, and variety). National coordination with manufacturer and showroom market actors through relationships with the American Lighting Association (ALA) will achieve greater success than acting solely in this region. The Alliance is working with CEE, EPA and ALA to engage manufacturers through the fixture design workshop held in May 2002.

Conclusion

To date there has been limited success in influencing the residential new construction market because of: 1) the complexity of identifying market actors and understanding their impact on lighting decisions and distribution channels, 2) the limited availability of energy-efficient lighting fixtures, 3) the lack of acceptance by construction market actors, and 4) the difficulty of conveying the benefits of energy-efficient lighting to builders and home-owners. Despite these historic barriers the opportunities for success are stronger now than ever before due to increased public awareness, high impact utility messaging, increased retail participation, and the national efforts of ENERGY STAR, ALA and CEE to increase product availability and awareness of energy-efficient lighting products and benefits.

When designing a residential new construction lighting program, administrators should: 1) Study the *ENERGY STAR® Guide for Residential New Construction Lighting*

Programs to understand the new construction market, distribution channels, and the market actors, 2) Review programs from other regions, to determine approaches that work, 3) Develop a comprehensive strategy by collaborating with lighting design experts, national ENERGY STAR efforts, recruitment of ALA and its members, and sponsoring utilities, and 4) Plan demonstration projects and be prepared to re-evaluate and change directions as necessary. The Alliance initiative, described herein, is one example of how national efforts can be leveraged to provide a regionally focused program. The Northwest is primed and ready for its endeavor and has high confidence that support from EPA and ALA will assure program success.

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