



Consumer Electronics Program Guide

Information on Voluntary Approaches for the Promotion of Energy Efficient Consumer Electronics Products and Practices

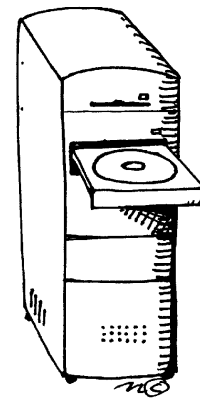
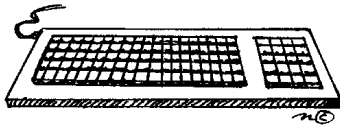
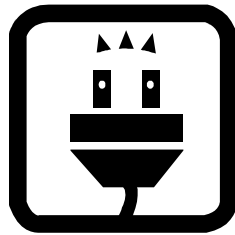
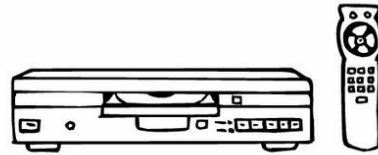
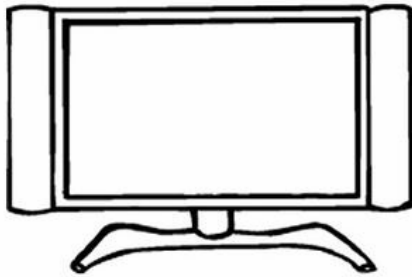


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Background

The Consortium for Energy Efficiency (CEE) Consumer Electronics Initiative was adopted in June 2007 to facilitate efficiency program efforts to increase the sale and market share of energy-efficient consumer electronics. Estimates of the electricity use of consumer electronics products range from 11 percent¹ of residential electricity nationally in the United States² to 18 percent in some regions,³ a number that is growing.⁴ At the same time, efficiency programs are faced with increasing demands for delivering energy savings accompanied by declining incremental savings opportunities from many of the traditionally targeted residential end-use product categories. While consumer electronics present an important prospect for electricity savings, the product category also presents a unique challenge due to its fast changing nature and the dispersion of end-uses in the home, each often representing a small share of total electronics energy end use.

The CEE Consumer Electronics Initiative specifies four primary focuses: working with ENERGY STAR®, consumer education, program guidelines, and industry outreach. All four Initiative focuses are represented in some form in this Program Guide, which was developed by three working groups of the CEE Consumer Electronics Committee: the Program Design Working Group, the Consumer Education Working Group, and the Specifications Working Group. These groups were envisioned at a program guidelines brainstorming session conducted at the CEE Winter Program Meeting in Long Beach, California in January 2008. Each working group met on several occasions between March and June 2008 to develop and refine the information in this document. A wide range of CEE members participated in this effort, including those currently operating a consumer electronics program that includes incentives, those focusing only on providing consumer education regarding electronics, and those not operating any form of program but considering one. The approaches in the Program Guide are based on the participating program administrators' knowledge and experience in working to develop and operate programs for electronics products and other residential products. In addition, representatives of the electronics industry and ENERGY STAR were provided an opportunity to comment on a draft of this document.

Purpose

The primary purpose of this document is to serve as an informational resource for efficiency program administrators to use when designing or modifying consumer electronics programs. In providing relevant background information, the Program Guide provides individual program administrators with important insights they can bring to bear in shaping their voluntary programs. This should result in better-informed program designs that achieve their energy savings targets while supporting the development of the market for energy efficient consumer electronics products. The Program Guide describes market actors, relevant barriers, and approaches to overcome them that have been developed with both efficiency industry and electronics industry expertise.

¹ TIAX 2007. This study does not include data for digital televisions.

² There does not at this time appear to be comparable consumer electronics consumption information for Canada.

³ Chase, Ramos and Pope 2006.

⁴ Research conducted for Pacific Gas and Electric indicates the electricity use of consumer electronics products in its Mass Market Sector could increase to 26 percent by 2010. Chase, Ramos and Pope, 3.

The Program Guide is also intended to serve as an informational resource for efficiency program administrators' primary partners in this effort: consumer electronics product manufacturers and retailers. After reading this Program Guide, those partners should have an increased understanding of the tools efficiency programs will be considering using and what opportunities may exist for collaboration.

How to Use this Document

The term “consumer electronics products” encompasses a very large number of actual devices. For the most part, this Program Guide addresses electronics products for which there are ENERGY STAR specifications (see Table 1 below). To assist in further winnowing this list to be manageable from a program design perspective, this Program Guide first provides foundational information on electricity consumption and savings opportunities for specific consumer electronics products and for their use. This information will assist efficiency program administrators in identifying primary and priority areas of focus for their programs.

The Program Guide is then divided by target audience into upstream (i.e., manufacturer), midstream (i.e., retailer), and downstream (i.e., consumer) sections. These target audiences are the key stakeholders that impact consumer decisions about electronics purchase and use. As part of the discussion on each target audience, background information is provided that includes identification of the primary market and technical barriers to the audience's increased adoption of energy efficient electronics products and practices. A set of possible program approaches for each audience is then provided.

Certain approaches are highlighted and illustrated in Program Approach Spotlight sidebars that provide information about the specific program administrators that are currently employing them. Some of these approaches are already in use in electronics programs. Some are being used in other product categories, but should be readily transferable to electronics programs. The information in the sidebars has been provided to CEE by the respective program administrators or has been gathered from publicly available sources. CEE expresses no opinion on the feasibility or effectiveness of these specific programs. Before investing in or agreeing to enter into collaborative efforts with other efficiency programs, CEE recommends consultation with legal counsel and performance of due diligence. The contact information for the managers of these programs is provided to allow for questions and the exchange of more detailed information.

The information in this Program Guide is primarily concerned with promoting electronics products that are used in residential settings. Some products (e.g., computers and monitors) undoubtedly cross over to commercial programs. There is information here that is useful for those programs as well, but only incidentally.

CEE will periodically track use of this resource in a Consumer Electronics Program Summary, which will summarize the activities undertaken by members to promote efficient electronics. In the future, CEE may explore creating a “living” version of this Program Guide hosted on CEE's website. The creation of such a tool would allow for inclusion of the most current information on the market, technical developments and program activity. CEE may also seek to evaluate the success of the various program approaches over time and revise the Program Guide to identify

the successful ones as recommended approaches. To the extent that the information to be added at a future date is merely an updated version of existing material, it will be added by staff. Changes of a more substantive nature will be brought before the Consumer Electronics Committee, industry stakeholders, and the Board of Directors for review and/or approval as appropriate.

Consumer Electronics Program Considerations

A comprehensive efficiency program to decrease the electricity use of consumer electronics products includes two focuses: product purchase and product use. Yet not every consumer electronics program will seek to be comprehensive. Some programs will embark on ambitious promotions of multiple electronics products, employing upstream, midstream, and downstream strategies with an aggressive marketing and education component. At the other end of the continuum, a program administrator may choose to focus exclusively on consumer education.

The approaches in this Program Guide are intended to support any level of program activity. Efficiency program administrators may structure a customized program that meets their needs, based on individual circumstances such as needed energy savings and local cost effectiveness considerations.

Efficiency program administrators should also be mindful of evaluation, measurement and verification (EM&V) considerations at the outset of program design. EM&V is a complicated field, and consumer electronics are a complicated product area. Developing an early understanding of all of the potential forces that could affect the outcome of the program—such as through preparation of a logic model—may increase the likelihood of a more robust outcome.

Savings Opportunity

Consumer electronics products offer a substantial savings opportunity for efficiency programs: overall as an entire category, in several individual products, and in their use.

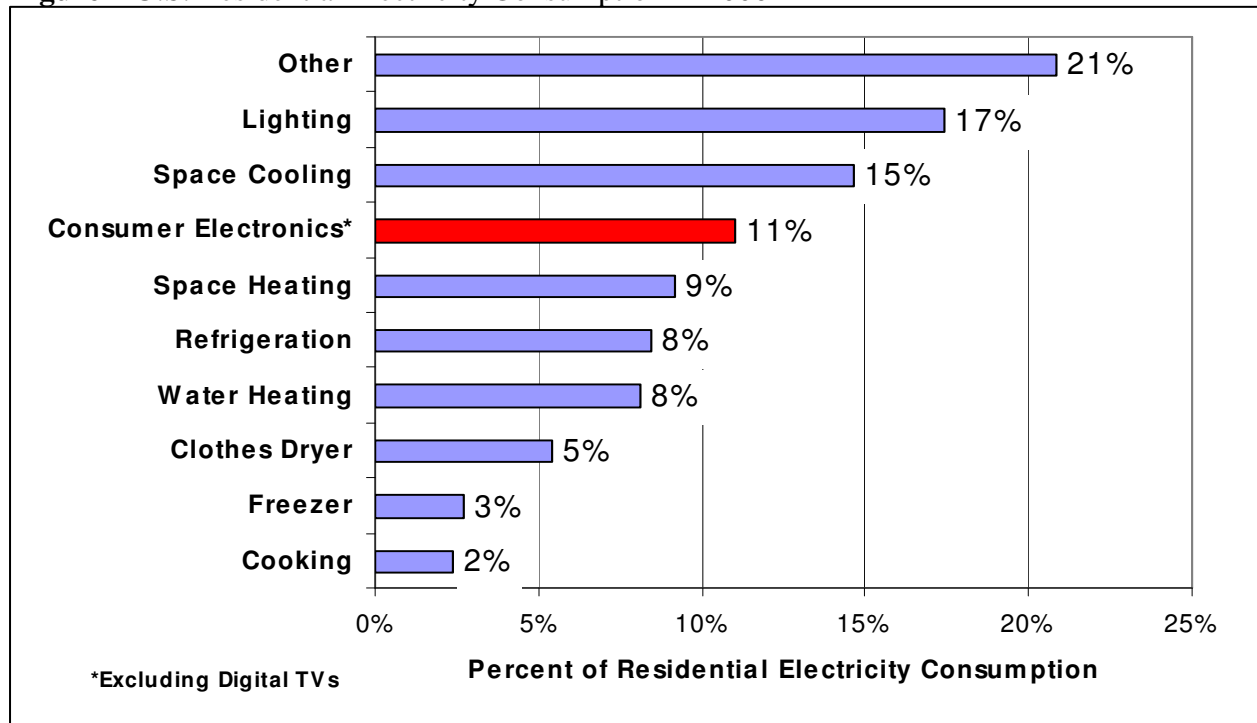
Overall Savings Opportunity for Consumer Electronics

Two studies conducted by TIAX LLC—one commissioned by the Consumer Electronics Association and published in 2007⁵ and one commissioned by the U.S. Department of Energy and published in 2008⁶—provide an excellent starting point for consumer electronics program planning. Those studies contain more detailed information on the products that receive the most significant attention in this Program Guide and information on several products for which there is little information in this Guide (e.g., cordless telephones, DVD players). Some major findings from those studies are excerpted here with other key information to provide a sense for where the greatest opportunity lies. This research was conducted on a national level in the United States only; efficiency programs may choose to supplement this information with data specific to their service territories.

⁵ TIAX 2007. *Energy Consumption by Consumer Electronics in U.S. Residences*.

⁶ TIAX 2008. *Residential Miscellaneous Electric Loads: Energy Consumption Characterization and Savings Potential in 2006 and Scenario-based Projections for 2020*.

Figure 1 U.S. Residential Electricity Consumption in 2006

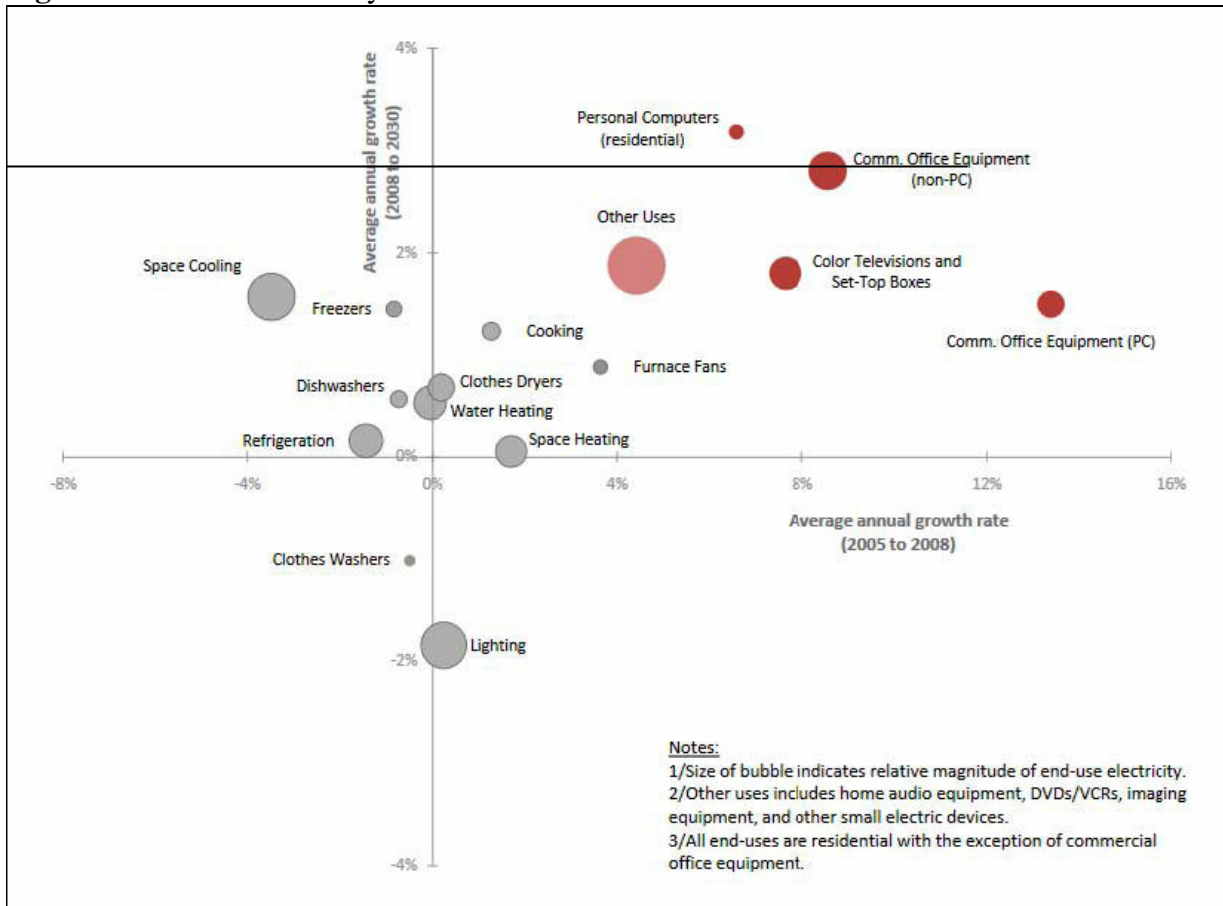


TIAX LLC for the Consumer Electronics Association 2007

Figure 1 demonstrates that consumer electronics products collectively consume electricity in amounts comparable to other product areas for which efficiency programs are already conducting programs. Including electronics products in a program's portfolio may boost energy savings.

While the incremental savings for other residential products are declining, the load represented by electronics products is forecasted to grow, as seen in Figure 2.

Figure 2 End-Use Electricity Growth Rates in the United States: 2005-2030

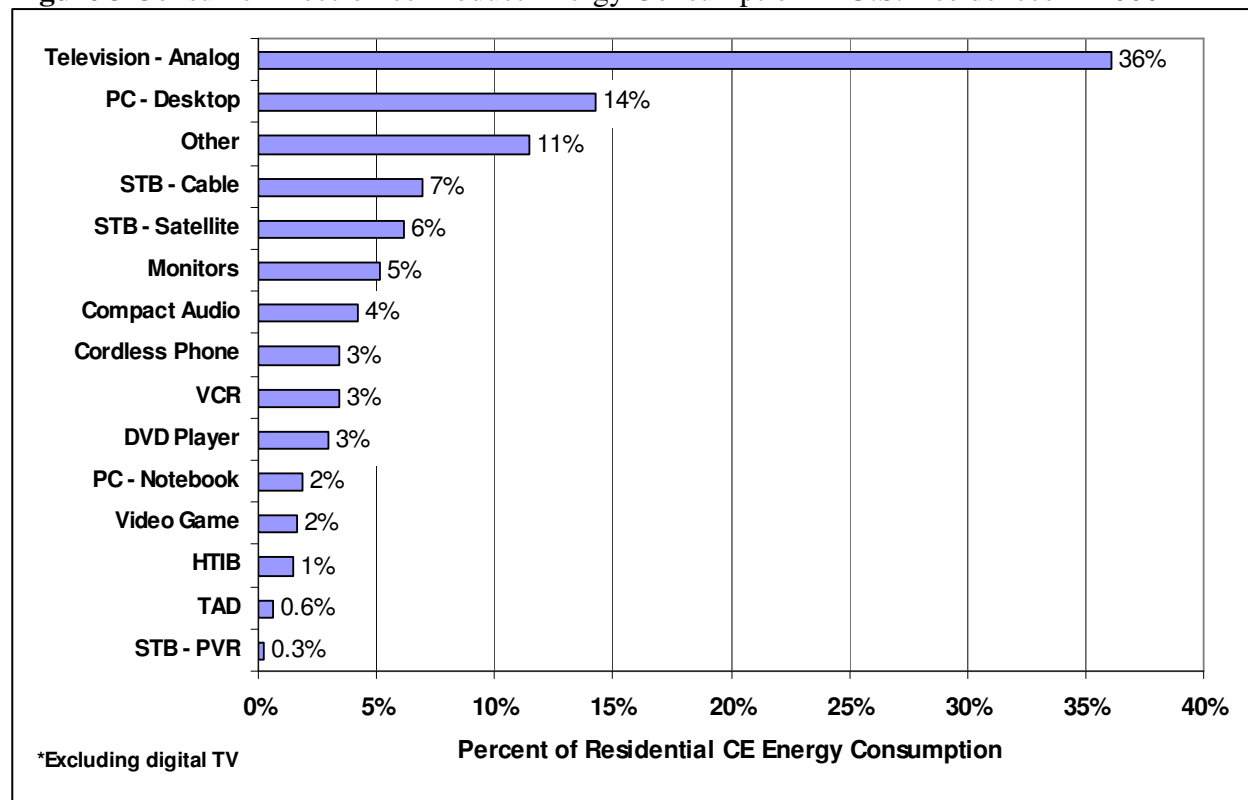


Chase, Pope and Canny 2008

Savings Opportunity for Individual Consumer Electronics Products

In assessing which consumer electronics products to target for program activity, information regarding the relative consumption of the large number of consumer electronics products is useful.⁷ Figure 3 shows the total relative consumption in the aggregate of various individual consumer electronics.

Figure 3 Consumer Electronics Product Energy Consumption in U.S. Residences in 2006

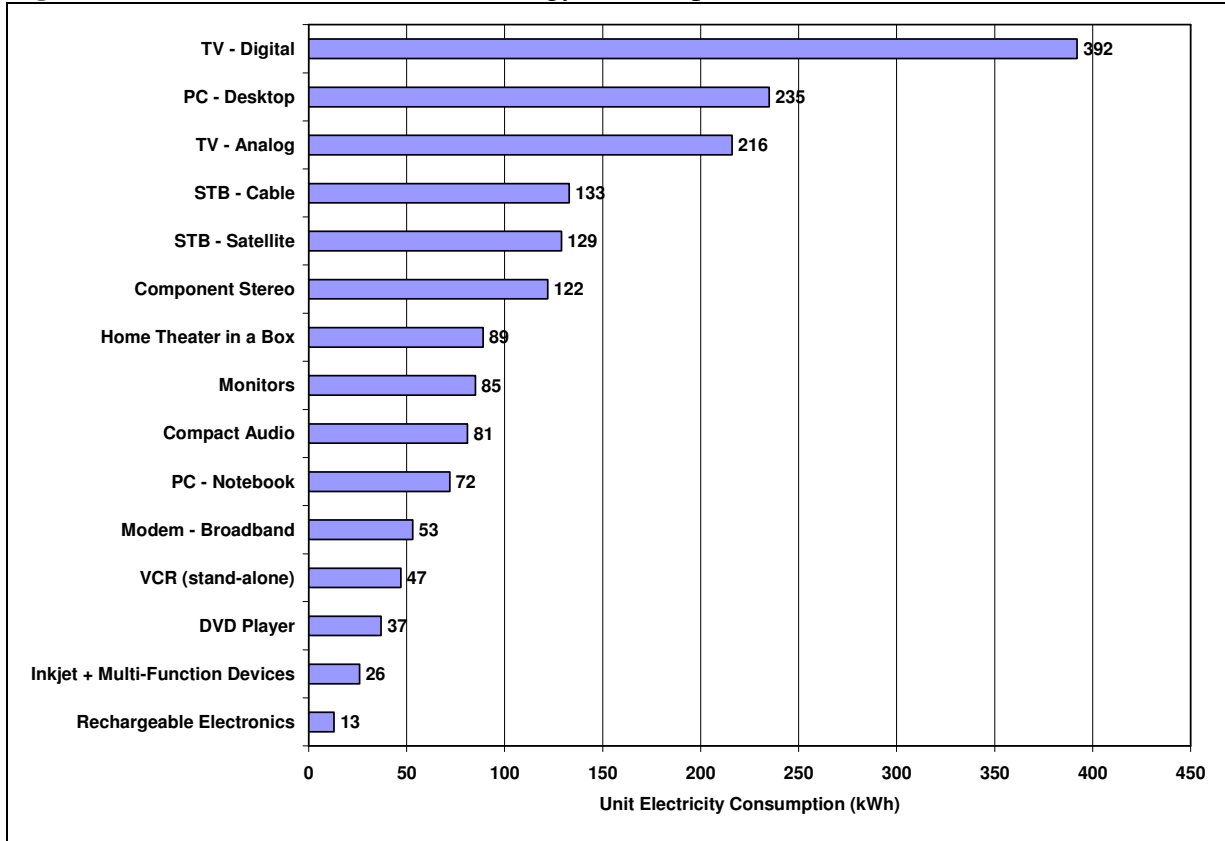


TIAX LLC for the Consumer Electronics Association 2007

⁷ The TIAX report to CEA looked preliminarily at some 28 different consumer electronics products, though it only examined 16 in detail.

Figure 4 shows the potential savings opportunity from a unit energy consumption (UEC) perspective.

Figure 4 Consumer Electronics Unit Energy Consumption (Per Year)



TIAX LLC for the U.S. Department of Energy 2008

When viewed from either the aggregate or UEC perspective, the most promising program opportunities for product promotion appear to be for televisions, computers,⁸ set-top boxes, and computer monitors and displays.

ENERGY STAR

Enhanced specifications for ENERGY STAR qualified consumer electronics products may offer a savings opportunity for efficiency program administrators. Table 1 shows the status of ENERGY STAR specifications for consumer electronics products and savings information for ENERGY STAR products over baseline. Where EPA has provided detailed savings information, that is included in the table. Where the detailed information is not available, general savings information from the ENERGY STAR website is displayed.

⁸ Although the ENERGY STAR computers specification also encompasses game consoles, at this time their energy use is not well understood. There are some preliminary indications that these products could present an additional savings opportunity. Further information on energy use and savings opportunities should emerge as ENERGY STAR finalizes the Version 5.0 computer specification in late 2008.

Table 1 ENERGY STAR Electronics Product Specifications and Energy Savings

Product	ENERGY STAR specification and Effective Date	Savings Over Baseline
Televisions	Version 3.0: November 1, 2008	52 kWh/yr 321 kWh lifetime
Set-top boxes	Version 2.0: January 1, 2009	“at least 30 percent more efficient than conventional models”
Computers	Version 4.0: July 20, 2007 Version 5.0: In development	PCs: 76 kWh/yr 304 kWh lifetime Notebooks: 11 kWh/yr 45 kWh lifetime
Monitors/displays	Version 4.1: January 1, 2006 Version 5.0: In development	Version 4.1 LCD monitor: 35 kWh/yr 173 kWh lifetime
Digital-to-analog converter boxes	Version 1.1: January 31, 2007	N/A
Imaging equipment	Version 1.0: April 1, 2007 Version 1.1: July 1, 2009	“25% more efficient than conventional models”
External power supplies	Version 2.0: November 1, 2008	“On average, 30% more efficient than conventional models” (Version 1.1)
Consumer audio and DVD products	Version 1.0: January 1, 2003	DVD player: 18 kWh/yr
VCRs	Version 2.2: Suspended effective November 1, 2008 To be combined with DVD products specification	N/A
Telephony	Version 2.0: November 1, 2006	“use about one-third of the energy” of conventional products

Detailed information regarding ENERGY STAR specifications may be found at www.energystar.gov, and additional information regarding using ENERGY STAR as part of program approach for consumer electronics may be found below.

CEE Television Specification

CEE has developed a super-efficient television specification to provide an additional savings opportunity for members. The following chart depicts the formula used to determine whether a television will qualify for one of CEE’s tiers. CEE’s Tier 1 is equivalent to ENERGY STAR. CEE’s Tier 2, 3 and 4 are 15, 30 and 45 percent more efficient respectively than ENERGY STAR. CEE’s television specification maintains the same framework as the ENERGY STAR Version 3.0 television specification and incorporates all of ENERGY STAR’s requirements, including standby power requirements (1 Watt), definitions, and product testing. Like the

ENERGY STAR specification, this specification pertains equally to all technologies (e.g., plasma, LCD, rear projection, CRT).

Table 2 CEE Television Specification

Screen Area	Tier 1 (ENERGY STAR)	Tier 2 (15% above ENERGY STAR)	Tier 3 (30% above ENERGY STAR)	Tier 4 (45% above ENERGY STAR)
$A < 680 \text{ inch}^2$	$P_{\text{Max}} = 0.2*A + 32$	$P_{\text{Max}} = 0.17*A + 27.2$	$P_{\text{Max}} = 0.14*A + 22.4$	$P_{\text{Max}} = 0.11*A + 17.6$
$680 \text{ inch}^2 \leq A < 1045 \text{ inch}^2$	$P_{\text{Max}} = 0.24*A + 27$	$P_{\text{Max}} = 0.204*A + 22.95$	$P_{\text{Max}} = 0.168*A + 18.9$	$P_{\text{Max}} = 0.132*A + 14.85$
$A \geq 1045 \text{ inch}^2$	$P_{\text{Max}} = 0.156*A + 151$	$P_{\text{Max}} = 0.1326*A + 128.35$	$P_{\text{Max}} = 0.1092*A + 105.7$	$P_{\text{Max}} = 0.0858*A + 83.05$
A = screen area in square inches				
P_{Max} = maximum On Mode power consumed to qualify for CEE specification				
NOTE: This specification incorporates all requirements of the ENERGY STAR Version 3.0 television specification, including standby power (max 1 Watt) and product testing. On CEE's Qualifying Products List, models will be listed only at the highest tier for which manufacturers represent they qualify.				

CEE has estimated the average savings (in W of active power) for televisions at Tiers 2-4. This analysis is presented in Table 3 below. The estimate is based on analysis of the products appearing on the ENERGY STAR qualifying products list and uses the average of all qualified products for the baseline given information to which CEE has access indicating the market penetration of ENERGY STAR qualified TVs is close to 100 percent. Recognizing that this is not a commonly accepted surrogate for a full data analysis using actual sales data, the result is an extremely conservative estimate of energy savings. The following calculations, therefore, are only useful as a relative indicator of the per unit savings potential at each tier relative to Tier 1.

Table 3 Savings Estimates for CEE Television Specification

CEE Tier	Electricity Use (Watts) On Mode	Energy Savings (Watts) On Mode	Annual On Mode Energy Savings (kWh/year)*
Tier 1 (ENERGY STAR)	139	-	-
Tier 2 (15% above ENERGY STAR)	120	19	34.7
Tier 3 (30% above ENERGY STAR)	103	36	65.7
Tier 4 (45% above ENERGY STAR)	98	41	74.8

The CEE specification may be used by programs to provide different incentive amounts, or to provide customers with information about the range of product efficiency and which products meet the higher tier level. CEE has developed a list of models, the performance of which manufacturers indicate is sufficiently high to meet the specification. The list is updated monthly and published on CEE's website at <http://www.cee1.org/files/TVQualifyingProductList.pdf> for the use of CEE members, manufacturers, retailers, and consumers.

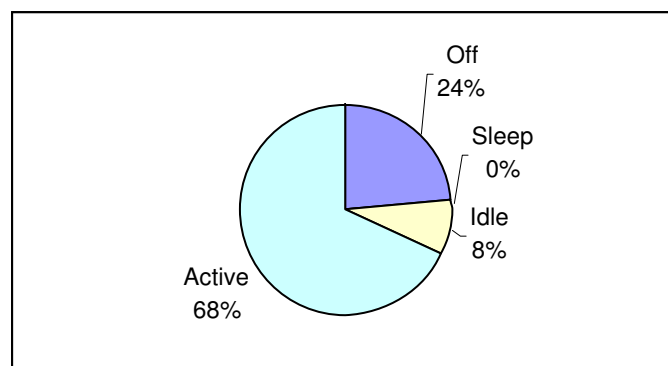
Super-efficient specifications for other consumer electronics products may be examined in the future by the Consumer Electronics Committee as interest is expressed by CEE members and as market conditions warrant.

Savings Opportunity in the Use of Consumer Electronics

Consumer electronics products—whether they are considered energy efficient or not—vary substantially in their electricity use by mode. Successfully influencing consumer behavior to save energy in the day-to-day operation of their consumer electronics products could result in additional energy savings for energy efficiency programs. Possible content and delivery methods for consumer education are addressed in greater detail below in the downstream program approaches.

In order to provide some guidance to inform the relative investment of resources in program approaches that target use versus product purchase, Figure 5 presents the annual energy consumption of consumer electronics products by mode.

Figure 5 Residential Consumer Electronics Annual Energy Consumption by Mode



Data Source: TIAX LLC for the Consumer Electronics Association 2007

As an illustration, in On Mode a large LCD television might use 300 watts of power. If it is ENERGY STAR qualified under the new specification, it uses only 1 watt of power in Standby Mode, a difference of 299 watts. Successfully influencing a consumer to turn off a television when not watching it could result in energy savings of 109 kWh per year per hour of use in Standby Mode instead of On Mode.

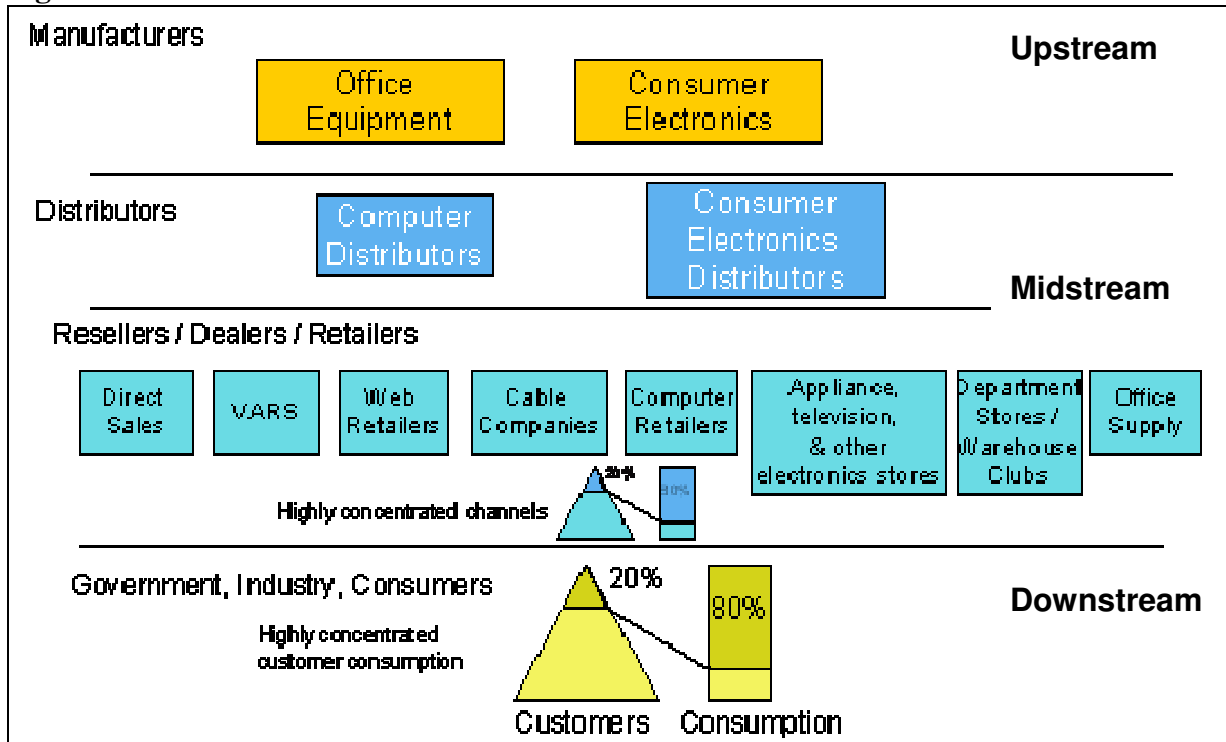
Activating power management of computers and monitors also offers a savings opportunity. ENERGY STAR estimates an average consumer would save in the vicinity of \$75 by using power management for a computer and monitor. Dell, a major computer manufacturer, estimates its power management software reduces the energy consumption of its computers by 40 percent.

Program Approaches

As indicated above, this Program Guide presents program approaches for three target market actor audiences. Figure 6 shows them graphically. Manufacturers are often referred to as the upstream stakeholders. Retailers, distributors, and cable and satellite service providers, are

referred to as the midstream stakeholders. And consumers and other product purchasers such as industry and government are downstream actors.

Figure 6 Consumer Electronics Market Actors



Pacific Gas and Electric Company 2008

Upstream Strategies—Manufacturers

Manufacturers are a key market actor for efficiency programs. Decisions are made at the manufacturing level regarding issues of product design, marketing, and provision of efficiency information to consumers.

The ENERGY STAR manufacturer partner list for the products addressed in this Program Guide includes 271 businesses, evidence that this is a large and complex industry. CEE works closely with the Consumer Electronics Association to exchange information about the respective industries (electronics and efficiency programs) and areas of possible collaboration. The information on manufacturers in this Program Guide will be supplemented over time.

Barriers

Manufacturers have indicated that a major barrier in deciding whether to increase their production of energy efficient consumer electronics products is the lack of sustained, strong consumer demand for these products. Factors that may give rise to this market condition are limited product availability at retail for certain products and the lack of consumer awareness of the operational features and benefits associated with ENERGY STAR qualified products. These and other barriers are presented below.

- Lack of sustained, strong consumer demand for efficient products
- Low corporate management priority for designing products to include energy efficiency
- Inclusion of new product features often comes at a cost to energy efficiency
- Delivering some consumer amenities requires that products draw power in more than just the active mode
- Absence of energy use disclosure (e.g., EnergyGuide label)
- Lack of manufacturer familiarity with energy efficiency programs and vice versa
- Added cost to make the product more energy efficient
- Lack of synergy among energy efficiency programs at a large scale

The following program approaches seek to overcome the barriers listed above.

Considerations for Efficiency Programs

1. Relationships with Manufacturers

- Take advantage of opportunities provided by the CEE forum and ENERGY STAR partner meetings to participate in bi-national discussions on advancing product efficiency.
- Use the Change the World, Start with ENERGY STAR campaign as an interaction point with manufacturers. Build on contacts generated during this campaign by seeking input from manufacturer partners about future program plans.
- Taking into account manufacturer differences, establish relationships with the local manufacturer representative or with the manufacturer's national ENERGY STAR contact, channel buyer for electronics products, or "green" buyer.
- Use this relationship to inform manufacturers far in advance of upcoming program plans. Longer lead times can produce better results in leveraging manufacturer resources.
- Inform manufacturers of the entire program portfolio that could incorporate ENERGY STAR-qualified electronics products. These programs could include commercial, small business, and low-income programs.
- Partner with manufacturers to reach other market actors, like retailers and consumers. In this way, manufacturers can assist efficiency programs in meeting their objectives.

2. Upstream Incentives

- Upstream incentives may be used to encourage more electronics manufacturers to produce and ship energy efficient products or to buy down the price of a product the consumer will pay at retail.
- Manufacturers can be approached individually, or solicited for program participation through requests for proposals.
- Negotiating incentives with manufacturers also provides an opportunity to meet other program needs. Consider asking for the following in your negotiations:
 - Energy savings information by specific product
 - Shipping data with as much specificity as possible
 - In-box information for consumers regarding energy use and ongoing power management
 - Training for both efficiency program and retail staff

- A matching contribution from the manufacturer

3. Co-branding and Co-operative Marketing

- A good marketing plan is an important component of an effective energy efficiency program. Co-operative marketing, in which both the manufacturer (or retailer) and program administrator assume roles for marketing, is an excellent tool. The following

elements should be considered:

- Begin by establishing partnership and program criteria
- Clearly set forth program objectives and eligibility guidelines
- Consider using a competitive process (e.g., through issuance of an RFP) to solicit partners for the effort
- Include education as a component
- Specify the products to which the program applies (e.g., ENERGY STAR)
- Identify activities appropriate for inclusion in the proposal (e.g., print and radio co-op advertisements, dedicated display space, special events)
- Provide funding to match partner investments in product marketing
- Set forth other contributions or support the program administrator will provide
- Require sales data before partnership and after for participation
- Specify any timing considerations (back to school, holiday push)

Program Approach Spotlight Upstream Incentives

80 PLUS® and Savings with a Twist

Efficiency programs use incentives targeted to manufacturers in a variety of ways. These two programs illustrate common practices that can be used by individual programs or by programs working in coordination:

To ensure higher efficiency products are brought to market:

80 PLUS® is a nationally coordinated, third-party administered upstream incentive program to integrate more energy efficient power supplies into desktop computers and servers. Several CEE members participate in 80 PLUS as program sponsors.

The 80 PLUS Program certifies that power supplies are at least 80 percent efficient in the AC-DC conversion process, and pays incentives to computer manufacturers for computers that use them to help cover the added cost for the more efficient product. Participating energy efficiency organizations have contributed over \$5 million of incentives to help the computer industry transition to 80 PLUS certified power supplies.

To buy down the cost of products at retail:

The Savings with a Twist (SWAT) promotion was launched by the Northwest Energy Efficiency Alliance (NEEA) in 2005. NEEA's goal was to achieve cost-effective energy savings in the region by reducing the market price of ENERGY STAR qualified CFLs. It chose to do so through a manufacturer buydown, which is a subsidy paid to a manufacturer to offset production costs with the result that the price manufacturers offer to retailers—and ultimately, to consumers—is reduced. In 2006, NEEA sought to fund up to one million ENERGY STAR-qualified CFLs through a \$1.35 per unit buy-down, resulting in a CFL price of less than \$1.00 less per bulb.

NEEA coordinated the program from 2005-2007. In 2007, Northwest retailers sold more than 18 million CFLs.

For more information:

80 PLUS: [Ryan Rasmussen](#), Program Manager, (503)525-2700 x163, rasmussen@ecosconsulting.com, www.80plus.org

Savings with a Twist:

<http://www.nwalliance.org/research/reports/E07-174.pdf>

Program Approach Spotlight

Co-operative Marketing Sacramento Municipal Utility District

In planning its 2008 Residential Lighting Program, Sacramento Municipal Utility District (SMUD) set aside \$2.1 million for co-operative marketing with manufacturers and retailers. Rather than engaging in an extensive up-front program design exercise and labor-intensive negotiations with a series of individual manufacturers and retailers, SMUD designed a process that would bring the best proposals from manufacturers and retailers right to its front door. It did this by issuing a request for proposals (RFP) to potential manufacturer and retail partners.

The RFP was cast in relatively broad terms. SMUD sought applications for funding for marketing ENERGY STAR-labeled lighting products for a wide range of activities: providing consumer incentives, point-of-sale discounts, manufacturer buydowns, in-store displays, demos, advertising, and special events within stores. SMUD specified a maximum per product amount that it would award. SMUD encouraged manufacturers and retailers to collaborate in preparing program applications. It also encouraged manufacturers and retailers to contribute a minimum of 33 percent of the total project cost as a cost buy-down and/or as product marketing. Projects demonstrating cost contributions greater than that amount received more favorable consideration.

Through this process, SMUD executed 101 memoranda of understanding, encompassing 13 manufacturers and more than 200 retail outlets.

For more information: Jon Elissalde, Residential Lighting Program Manager, 916-732-6657, jelissa@smud.org, <http://www.smud.org/>

4. Program Duration

- As stated above, one of the barriers manufacturers face when considering whether or not to increase production of ENERGY STAR-qualified products is inconstant demand. Similarly, manufacturers find it difficult to respond to promotions that have a short duration. These also may cause confusion to the sales representatives, retailers, and consumers.
- Efficiency program administrators and manufacturers may create annual incentives as a way to allow all parties to prepare for and execute an incentive program in a more consistent manner. This will allow for the manufacturer and retailer to gear up inventory levels, educate sales personnel, and make ENERGY STAR a consistent, standing message, not one that is seen only two months out of the year.
 - Note: Due to efficiency program resource constraints and planning timelines, if incentive programs cannot be implemented on a year-round basis, program changes should be communicated to manufacturers and other stakeholders as far in advance as possible.

5. Product Design and R&D

- Given the upward trend in the power consumption of consumer electronics products, there are many opportunities to partner with manufacturers in product design and development.
 - Efficiency programs could partner with set-top box manufacturers and cable and satellite providers to develop a method of downloading information and content that consumes less electricity.
 - Efficiency programs could work with manufacturers of a variety of products to

improve user interface, such as by supporting the Power Control User Interface Standard—IEEE 1621 Standard or by designing products to included forced menu options such as that included in the ENERGY STAR Version 3.0 television specification.

- Supporting research on promising products like “smart” power strips and whole-house automation may facilitate the investment of efficiency program dollars in energy efficient products.
- A “Golden Carrot”-type award program may be considered for bringing products to the market that may require a more substantial financial push, such as set-top boxes that meet ENERGY STAR’s Tier 2 level, which will be effective in 2011.

Midstream Strategies—Retailers

Midstream market actors are very important for efficiency programs, though they can also be very challenging to reach and motivate. The primary target of the following discussion about the midstream audience is retailers, where most electronics business is transacted. Where appropriate, strategies unique to other midstream market actors like cable and satellite service providers are highlighted. An additional midstream actor—the distributor—is not addressed here, but may be a factor in commercial programs.⁹

Barriers

Program administrators report that the barriers to successful promotion of energy efficient products at retail are largely centered on the provision of information—to retail staff and to consumers. Efficiency program administrators should be aware of the following potential barriers:

- Lack of sustained, strong consumer demand for efficient products
- Low corporate management priority for stocking and promoting products that include energy efficiency
- Absence of energy use disclosure (e.g., EnergyGuide label)
- Corporate guidelines regarding point of purchase information
- Proliferation of product types and features
- Difficulty in identifying and differentiating energy efficient products
- Generally low level of sales staff knowledge regarding energy efficiency
- Focus on product sale and rarely on ongoing use
- Lack of synergy among energy efficiency programs at a large scale
- Lack of retailer familiarity with energy efficiency programs
- Lack of energy efficiency program familiarity with retailers

The following program approaches seek to overcome the barriers listed above.

Considerations for Efficiency Programs

1. Transferring Lessons Learned

⁹ The business-to-business sector is outside the scope of this Program Guide.

Program Approach Spotlight

Retail Midstream Incentives

Pacific Gas and Electric Company
Sacramento Municipal Utility District
San Diego Gas and Electric Company

Recognizing that approximately one million CA households will be looking to purchase new digital televisions between 11/1/08 and 2/17/09 due to the transition from analog to digital television signals, two investor-owned utilities in CA—PG&E and SDG&E—looked carefully at various program designs for getting efficient televisions into consumers' hands and at the energy saving potential of these designs. They settled on a program centered on midstream (retailer-targeted) incentives. The purpose of these incentives is to prompt retailers to stock, promote and sell a higher percentage of energy efficient televisions as well as desktop computers and monitors. The Sacramento Municipal Utility District saw the merit of this approach and joined the program, which in turn increased its attractiveness to potential retail partners.

The program, scheduled to launch in November 2008, features incentives to be paid on a per-unit basis to retailers based on the zip code of the store in participating utility service territories. Some important issues being addressed in this program that will help facilitate stronger support and participation by national retailers are: 1) a common program (with common incentives), 2) a common contract structure, and 3) common data requirements. Over the course of this 3-year program, it is projected that 13.2 million TVs will be sold in CA.

The mid-stream incentives will be paired with custom-designed POP materials for each retailer, detailing firms to ensure the marketing materials are up in the stores and that store personnel are properly trained, and utility marketing focusing on a consumer awareness campaign.

Program sponsors will initially be supporting products that meet or exceed the CEE Tier 2 television spec, and will be closely monitoring market advances in efficiency and possible revisions of the CEE spec to include higher tiers to capture additional savings. For desktop computers the sponsors are supporting the ENERGY STAR Version 4.0 spec, and for monitors they are supporting the ENERGY STAR Version 4.1 spec +25%. The primary goal of the sponsors is to change the behavior of the electronics product manufacturers and retailers rather than consumers.

For more information:

Tim Michel, Senior Program Manager, Pacific Gas and Electric Company, 415-973-3614, TIM3@pge.com

- Many of the techniques that may be used to successfully promote consumer electronics products are already in use for products like appliances and lighting. Review those programs to see what program design elements may work for electronics as well.
- Several of the major retailers that sell electronics products (e.g., Wal-Mart, Best Buy) sell other ENERGY STAR products, and many program administrators therefore already have a relationship with them. Use the existing relationship as a starting point for discussions on an electronics promotion.

2. Product Availability

- Create a value proposition for the retailer – why they should stock efficient products, what the efficiency program has to offer the retailer, how the retailer can promote the product to customers, etc. If applicable, include the manufacturer in development of the value proposition.
- Use the Change the World, Start with ENERGY STAR campaign as an interaction point with national retailers.
- Educating the buyer for the retailer may be a productive strategy. The buyer is often a key decision maker who determines whether ENERGY STAR products will be stocked and displayed at stores, and if so, which products these will be. An educated buyer may be an important ally of efficiency

programs. As such, programs may work with manufacturers (who often have existing relationships with these individuals) to educate buyers on the benefits associated with ENERGY STAR qualified consumer electronics products.

- Using stocking incentives may ensure efficient products reach store shelves and indirectly prompt manufacturers to produce more of these products.
 - Keep in mind that simplicity of program design will make it easier for retailers to participate
 - Contact category buyers or higher to negotiate the incentives
 - Consider whether, and if so, how (e.g., labeling, point of purchase display), you will tell consumers that an incentive has been tied to the product they are purchasing
 - Providing marketing for the program may increase consumer demand for the now-stocked products
 - Consider how other program needs can be met in this program design by asking for the following in your negotiations:
 - customer-level sales data, collected and shared monthly
 - training for sales staff
 - participation in co-op marketing and customer rebates

3. Point of Purchase Displays

- A compelling point of purchase (POP) display can be an important part of a program. Develop in-store signage and educational materials (e.g., fact sheets, fact cards, tents, stickers) in conjunction with the retailer with messaging and graphics that are modified seasonally.
 - Note: Some ongoing maintenance of these materials may be necessary to ensure that they are properly displayed. If this maintenance is not possible, consider using this approach for very short-term promotions only.
- Including the ENERGY STAR label on POP displays may facilitate consumer recognition. Take advantage of the resources ENERGY STAR provides to its partners for this purpose.
- Producing displays that are consistent from product to product may also facilitate consumer recognition and understanding.
- Give the retailer guidance on setting up in-store displays. Encourage the retailer to display the information about the program prominently in a high-traffic area.
- Tailor your approach and displays to the particular retailer you are working with. A big box retailer may have different needs, interests and procedures from an independent store.
- Detailing firms may be helpful to program administrators in creating and deploying POP displays.

4. Sales Staff Training

- Tailor sales staff training to the type of retail establishment with which you are working. Factors to consider in designing the training include:
 - Form of training materials (print, Web, in-store training)
 - Skill of sales staff (lifers vs. part-time students)
 - Commitment of organization to promoting energy efficiency

- Training materials should provide a good foundation of information on:
 - The ENERGY STAR label and the EnergyGuide label if and when it is extended to electronics products
 - The features and benefits of an energy efficient product
 - Managing the ongoing energy consumption of the product, including power management features and use of power strips
- Pairing training with an active product promotion may increase the likelihood of information uptake by the trainees.
- Consider linking mastery of training material with an incentive

Program Approach Spotlight

Retail Sales Staff Training

BC Hydro

In 2008, BC Hydro introduced an ENERGY STAR appliances training module for retail sales staff at big boxes and independent stores in its service territory. To provide the sales staff with the information necessary to meet the program's goal of increasing the sales of ENERGY STAR-labeled appliances, BC Hydro prepared two information pieces: 1) a brochure with information on ENERGY STAR appliances, including frequently asked questions, energy savings and benefits, and how to read the EnerGuide label (the Canadian equivalent of the U.S. EnergyGuide label) and 2) a wallet card for sales staff to be used as a quick reference with an energy and cost savings summary and information on how to read the EnerGuide label.

Recognizing that information is only of benefit to increasing sales if retail staff can recite it to customers, BC Hydro crafted an incentive for the sales staff who received the training. Staff who took a two-page quiz and correctly answered 12 of 16 questions correctly received a \$10 gift card. This tool also provides BC Hydro with a measure of the success of its program for evaluation purposes. As another evaluation tool to measure the effectiveness of the training BC Hydro employed mystery shoppers to assess sales staff knowledge of the efficiency-related information.

For more information:

Rob Lee, Marketing Product Development Specialist, 604-453-6491, Rob.lee@bchydro.com, <http://www.bchydro.com/powersmart/>

- Capitalize on ongoing or planned trainings being conducted by manufacturers or retailers to present your own training
- Targeting the sales staff training concept to appropriate retail staff may increase your success:
 - At the head or regional office, approach category buyers and marketing staff
 - At the store, approach store and department managers
 - Make the case for increased customer satisfaction, product knowledge and sales
- Update training as necessary

5. Salesperson Incentives (SPIFFs)

- Retailers are familiar with SPIFF programs, as these are often offered by manufacturers to increase sales of new product introductions. As such, efficiency program SPIFFs may be most effective at the beginning of a new program promotion.
- Manufacturer experience shows that SPIFF programs aimed at staff are most successful at driving sales. Simplicity is also key to a successful SPIFF program.
- Engage store management as early as possible in SPIFF program design.
- Consider granting the store a "stake" in the SPIFF. They may be working with competing SPIFFs or issues relating to margins.
- Incorporate training, and consider requiring

it for any salesperson wishing to receive SPIFFs

- Provide supporting information to salespeople to ensure their success:
 - Pamphlet of qualifying products for the salesperson to carry if feasible

- A form or tally sheet so the salesperson can claim the incentive

6. Co-branding and Co-operative Marketing

- A good plan for marketing energy efficient products is a very important component of an effective energy efficiency program. Co-operative marketing, in which both the retailer (or manufacturer) and program administrator assume roles for marketing and share credit for it, is an excellent tool for bringing energy efficiency to the attention of consumers. The following elements should be considered in developing your co-op marketing or co-branding strategy:
 - Begin by establishing partnership and program criteria
 - Clearly set forth program objectives and eligibility guidelines
 - Consider using a competitive process (e.g., through issuance of an RFP) to solicit partners for the effort
 - Include education as a component
 - Specify the products to which the program applies
 - Identify activities appropriate for inclusion in the proposal (e.g., print and radio co-op advertisements, dedicated display space, special events)
 - Provide funding to match partner investments in product marketing
 - Set forth other contributions and support the program administrator will provide
 - Require sales data before partnership and after for participation
 - Specify any timing considerations (back to school, holiday push)
 - Support program with field services staff to visit stores, provide training, and assess progress

7. Incentives

- Consider designing incentives to capture savings from consumer electronics products offered in bundles (e.g., home office bundle of ENERGY STAR qualified computer, display, and printer; home entertainment bundle of ENERGY STAR qualified television and home audio equipment).
- Work to streamline incentive paperwork, keeping in mind that with many retailers, the more complicated the promotion, the less likely it is that they will participate.
- Point of sale or instant rebates may be most effective in meeting efficiency programs' attribution needs, but can be challenging for retailers.

8. Opportunities for Collaboration

- It is a frequent complaint of retailers that it is challenging to work with individual efficiency programs on product promotions. Before investing in or agreeing to enter into collaborative efforts with other efficiency programs, CEE recommends consultation with legal counsel and performance of due diligence. Measures that may help facilitate stronger support and participation by national retailers are:
 - a common program
 - a common contract structure, and
 - common data requirements

The above sidebar from California illustrating midstream incentives is also a good illustration of the regional collaboration approach.

Midstream Strategies—Cable/Satellite Service Providers

Fifty-eight percent of U.S. households subscribe to cable service, which is typically granted as a semi-exclusive franchise by a municipality to a cable provider. Partnering with cable and satellite providers to ensure ENERGY STAR qualified set-top boxes are at a minimum available for subscribers may provide an opportunity to capture energy savings.

Barriers

- Lack of demand for efficient product and service
- Cost to implement changes to the service network
- Delivering amenities requires that products draw more power
- Service territory for set-top box service providers may be large or very fragmented

Considerations for Efficiency Programs

1. Cable and Satellite Providers

- ENERGY STAR has recently re-vamped their efficiency specification for set-top boxes. The Version 2.0 set-top box specification is effective on January 1, 2009 and contains separate program requirements for service providers. The ENERGY STAR program requirements for providers should ensure the subscribers of ENERGY STAR partner providers will have access to ENERGY STAR-qualified set-top boxes.

2. Incentives

- One method for cable and satellite providers to meet the ENERGY STAR program requirements is to ensure 50 percent of new boxes purchased in a year are ENERGY STAR qualified. Efficiency program administrators may capture savings for a large number of units by negotiating a per-unit incentive to providers to purchase new ENERGY STAR set-top boxes.
- Alternatively, service providers can meet the ENERGY STAR program requirements by ensuring that 10 percent of all boxes in use by their customers in a year are ENERGY STAR qualified. Boxes already in service may be refurbished by being reconfigured to meet ENERGY STAR requirements and put into use again. A per-unit incentive could be paid to service providers for refurbishing units in their deployed base to meet ENERGY STAR requirements.

3. Opportunities for Collaboration

- Efficiency program service territories are frequently very different from the geopolitical boundaries (state, county, city) that define the service territories for cable and satellite service providers. Partnering regionally with other efficiency programs may increase a program administrator's ability to successfully engage these service providers. Before investing in or agreeing to enter into collaborative efforts with other efficiency programs, CEE recommends consultation with legal counsel and performance of due diligence.

4. Cable Franchises

- Local governments grant the franchise for cable service within their jurisdiction. At a minimum, program administrators should consider informing the local decision-making authority that ENERGY STAR qualified set-top boxes are available and offer energy

savings for consumers. A further step could be to ask the local government to specify ENERGY STAR set-top boxes in franchise negotiations.

Downstream Strategies—Consumers

While upstream market strategies to expand product lines and midstream strategies to increase the stocking, specification, and sale of ENERGY STAR consumer electronics are all important program activities, it is equally important that consumers make a conscious decision to choose ENERGY STAR electronics products rather than conventional ones, and that they understand that their purchasing and operating choices have energy implications.

Barriers

The barriers that a consumer encounters in selecting an ENERGY STAR consumer electronics product are varied and may include awareness, availability, aesthetic and cost considerations. Each of these is outlined below.

Research by CEE and others continues to show a growing awareness and understanding of the ENERGY STAR label, and these awareness levels are highest in those parts of the country that actively promote ENERGY STAR products. Nonetheless, many consumers remain unfamiliar with ENERGY STAR qualified consumer electronics products. Further, many consumers do not fully understand the energy savings associated with these products; they do not view a purchase of electronics equipment from the perspective of total lifetime ownership and operating costs. From this perspective, ENERGY STAR qualified electronics are almost always the lower cost alternative.

Several factors are particularly challenging in stimulating consumer demand for ENERGY STAR electronics. Electronics products such as televisions are often viewed as providing entertainment and people consequently may be less concerned about bearing the additional cost that is associated with energy-consuming features like high definition. In many instances, the electricity consumption difference between an ENERGY STAR product and conventional product is not large enough to tip the balance for the consumer. Furthermore, right now consumers simply have access to little information beyond the ENERGY STAR label and Web site information to help them differentiate product energy use. These barriers and others are summarized in the following list:

- Lack of consumer demand for efficient products
- Difficulty in identifying and differentiating energy efficient products (e.g., no EnergyGuide label or comparable information)
- Lack of a focused message to consumers about what to do
- Consumer desire to have at least one each of the latest and greatest gadget
- Relatively small per-unit energy savings
- Lack of understanding about product power use across various modes (e.g., that some products are drawing power all of the time)
- User interfaces that may be available to help consumers manage energy consumption (e.g., screen brightness in televisions, power management for computers and monitors) are challenging for many consumers and/or are not supported by additional information
- Interconnectedness of products, which limits a consumer's ability to turn off products

- Lack of information sources about efficiency (e.g., sales staff)

Considerations for Efficiency Programs

The program approaches set forth below may address a number of the consumer-related barriers listed above, most notably product awareness, understanding of product benefits, and product availability. Depending on program objectives, program resources, and the existing local or regional market for ENERGY STAR qualified consumer electronics products, some or all of the proposed strategies may be appropriate. They can be pursued individually or in combination, though synergies typically exist through the pursuit of multiple program strategies.

Program Approach Spotlight In-Person Consumer Education Wisconsin Focus on Energy

Under Wisconsin Focus on Energy's Information and Education Initiative, Focus employees from across the residential, business and renewable programs staff booths or deliver presentations at community fairs and other group events to educate Wisconsinites about energy efficiency. At the 2008 Wisconsin State Fair, Focus created a display area with information about CFL recycling, LED holiday lights, mercury in CFLs, ghost energy, overall home energy tips and renewable energy. Staff estimates that over 10,000 people visited this area over the course of the Fair. Other events at which Focus staff conducts in-person education include home shows, Earth Day events, Summerfest and other fairs held around the state.

For more information:

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Wisconsin Focus on Energy,
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www.focusonenergy.com/

1. Leveraging ENERGY STAR

- National marketing that focuses on the existence of ENERGY STAR qualified electronics products, their benefits, and their availability for purchase is seen as one of the necessary conditions for the growth of the market for these products. Currently, the Change the World, Start with ENERGY STAR campaign administered by EPA is one vehicle that programs can leverage.
- In order to add new elements to year-round electronics programs, consider taking advantage of both the promotional materials and the “buzz” that ENERGY STAR creates with seasonal pushes at back to school and holiday times. Many retailers and manufacturers plan their promotional activities to coincide with this national campaign.

2. Consumer Education

- A variety of measures may be employed as part of a consumer education campaign.
- Create bill inserts on the energy and other benefits of purchasing ENERGY STAR qualified consumer electronics products and on ways to reduce the electricity consumption of existing electronics products, such as through enabling power management on computers.
- Consider these main points for your educational materials, focusing on basic education to avoid confusion caused by advanced technical information:
 - Consumers should purchase ENERGY STAR labeled products
 - Electronics products use energy even when they are not in active use
 - Unplug chargers when not in use

Program Approach Spotlight

Web-Based Consumer Education

Efficiency Vermont
NYSERDA

Interactive educational activities present an opportunity to more fully engage consumers in buying energy efficient products and using products in an energy-efficient fashion. CEE members are using a variety of tools to supplement more traditional educational activities like printing bill stuffers. Two illustrations follow.

As more and more consumers resort to the internet for information, many efficiency programs are using innovative internet-based tools to engage and educate audiences in energy efficient practices. One benefit is access to an audience that includes children, who are major users of consumer electronics products users in their own right. A recent market research study found that 75% of children use a computer (14% own their own), and 70% use a television.

Efficiency Vermont uses a similar tool to educate consumers about the energy-saving benefits of compact fluorescent lamps (CFLs) on its Web site. The New Bulb in Town campaign features Jesse Watts, a cowboy-hat wearing animated CFL, to share information about energy and cost savings, the wide variety of CFL bulb types, and proper CFL disposal.

The New York State Energy and Research Development Authority (NYSERDA) created the Energy Pirates interactive game for its Web site to highlight consumer electronics products and appliances that use electricity. Energy saving tips are used throughout the game to educate consumers, young and old, on small things they can do in their home to save energy.

For more information:

Michael Russom, Retail Market Manager, Efficiency Vermont, 802-860-4095, www.newbulbintown.com/

Mark Michalski, Associate Project Manager, NYSERDA, (518) 862-1090 x3237, mm2@nyserda.org, www.getenergysmart.org/energyPirates/

- Altering the settings of a product may increase power use (especially TVs, computers). Consumers should ensure energy savings modes are activated.
- Consider plugging certain products into power strips and shutting them down when not in use or into “smart” power strips that do the shutting down for you.
 - Note: Program administrators should carefully analyze the implications of recommending such a strategy to consumers, as the functionality of certain products like set-top boxes may be compromised if all power to the device is curtailed, resulting in customer complaints.
- Consumer electronics products often operate as an interconnected system—when one product is on, all are on, and conversely, when one product is off, they are all off. But this is not always the case. When finished using electronics equipment, scan to be sure all devices have been turned off (e.g., gaming consoles, DVD players).
- When a new electronics product is purchased, the old one should be recycled. Recycling locations may be found at www.mygreenelectronics.org
- Consumer benefits, including energy savings
- Additional tips recommended by the Consumer Electronics Association may be found at <http://www.mygreenelectronics.org/ReduceTipsSaveEnergy.aspx>.
- Include articles on ENERGY STAR-qualified electronics products in customer newsletters.
- Work with local media outlets to highlight the energy use of electronics products and offer tips to reduce it
- Include ENERGY STAR messaging on your Web site, describing the environmental and economic savings of efficient electronics through purchase and use.

- Conduct in-person education on efficient electronics at events like festivals and fairs.
- Enlist community partners to conduct outreach that coincides with their missions.

3. Incentives

- Consider “instant rebates” as one way to provide at-the-cash-register discounts for consumers buying ENERGY STAR-qualified electronics products. Typically, the rebate coupons are sent to a program contractor for processing and redemption.
 - Note: As the retailers must submit the coupons for processing and reimbursement, some smaller retailers have declined to participate in these program activities in other product areas.
- If pursuing other rebate options, carefully investigate the effect of rebate amounts that could be set. Lower rebate dollars typically result in a lower rate of rebate submissions.

4. Electronics Turn-ins

- Consumers who purchase new electronics products, even efficient ones, often move the older product such as a television or computer to another room in the house. To avoid adding additional load, consider conducting a turn-in promotion, a highly visible promotional activity that has been used for refrigerators, room air conditioners and halogen torchieres. These promotions are often done at the site of a retailer that provides some combination of space, staff and products, and may include a coupon or rebate for the purchase of a new, efficient replacement product. Several major retail sellers of electronics products, including Best Buy and Costco, already have electronics recycling programs and may be particularly receptive to partnering on this type of promotion. The existing infrastructure of community recycling programs may also present good candidates for partnership.
 - Note: Efficiency program administrators are encouraged to conduct research to ensure the electronics products are responsibly recycled and not sent to another part of the world to use electricity there.

5. Product Labeling

- The Energy Independence and Security Act of 2007 extends the Federal Trade Commission’s (FTC) responsibility for providing information to consumers on energy consumption to televisions, set-top boxes, personal computers, computer monitors and stand-alone digital video recorders, some of the most consumptive products previously not subject to the labeling requirements. Participating in the FTC’s proceeding by working at CEE with other program administrators may help generate a result that includes the consumer information efficiency programs feel is most important.
- The ENERGY STAR specification development process is another important opportunity to provide input on labeling measures that meet program needs. Participating in the CEE Consumer Electronics Committee review and comment of these specifications is a way to help shape the final product.

6. Opportunities for Collaboration

- Efficiency program service territories are frequently very different from geopolitical boundaries (state, county, city), media market boundaries, and regional self-identification by consumers. Partnering on projects such as research, consumer education, and marketing campaigns may enhance program cost-effectiveness and success.

7. February 2009 Digital Transition

- As of late May 2008, 25 million homes had at least one analog television. These homes have several options to keep receiving a TV signal: 1) buy a new digital TV, 2) subscribe to cable, and 3) buy a digital-to-analog converter box (for which a government coupon is available to defray the cost: <https://www.dtv2009.gov/>).

Program Approach Spotlight

Regional Collaboration

Northeast ENERGY STAR® Products Initiative

The Northeast ENERGY STAR® Products Initiative is a group of electric utilities and energy efficiency organizations that is facilitated by the Northeast Energy Efficiency Partnerships (NEEP). Participants are committed to increasing education about and the usage of energy efficient technologies including clothes washers, refrigerators, dishwashers, room air conditioners, dehumidifiers, ceiling fans, compact fluorescent lamps, interior and exterior light fixtures and consumer electronics.

Through regional communication and coordination, participants in the Products Initiative have successfully leveraged resources to increase the availability and purchase of ENERGY STAR products significantly above national levels. Participants include the following electric utilities and energy efficiency service providers throughout the Northeast: The United Illuminating Company, Connecticut Light & Power, Efficiency Maine, Public Service of New Hampshire, NYSEERDA, New Jersey Clean Energy, National Grid (MA, RI), Long Island Power Authority, Efficiency Vermont, NSTAR, Western Massachusetts Electric Company, and Cape Light Compact.

The U.S. Environmental Protection Agency and the Department of Energy have recognized the Northeast ENERGY STAR Products Initiative on multiple occasions with the Excellence in Energy Efficiency and Environmental Education Awards for outstanding contributions to reducing greenhouse gas emissions by bringing ENERGY STAR to communities across the Northeast.

For more information:

Contact NEEP Sponsors or David Lis, Regional Initiatives Program Associate, Northeast Energy Efficiency Partnerships, 781-860-9177, x27, djlis@neep.org.

- Efficiency program administrators could use the heightened public awareness around this event to promote energy efficient choices during the transition, such as buying ENERGY STAR-qualified DTAs or televisions. This may be accomplished through consumer education alone, or paired with an incentive.

Downstream Strategies—Bulk Purchasers

The primary focus of this document is on developing strategies to target consumers in the form of residential customers. There are savings opportunities for electronics products in the commercial sector as well. Consumer electronics efficiency program administrators should consider addressing these opportunities in their own programs, or if not within their scope, flag them for appropriate colleagues.

Televisions and office equipment are two product areas that appear particularly well suited for engaging bulk purchasers. Bulk purchasers of televisions include hotels, restaurant and bar chains, and airports. Bulk purchasers of office equipment include small offices, retail establishments, and large businesses.

Efficiency program account managers may already be working on other efficiency projects with these entities and should consider adding electronics products to the mix. Offering a per-unit incentive for the purchase of ENERGY STAR qualified electronics equipment could result in substantial

savings for the customer and efficiency program.

Conclusions

At its core, successful programs that reduce electricity used by consumer electronics rely on the delicate art of balancing upstream activity to build supply and downstream activity to build demand. They also depend on extensive knowledge of the players and channels that are relevant to consumer electronics, strong relationships with the key market actors, and a consistent, sustained program presence. Identifying the manufacturers, retailers, and other partners that will be important to program success and opening a dialogue with them at the initial stage of program development is an important first step. Invested, engaged, and motivated market actors are essential to any program's success.

Program administrators should be mindful that the technology in this category is constantly changing. Product life cycles are short, new products are constantly entering the market place, consumer purchasing trends head in unforeseen directions, and existing products are frequently updated with enhanced features. Staying abreast of the developments that may increase—or very possibly decrease—the energy efficiency of consumer electronics products will be important.

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Lawrence Berkeley National Laboratory

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