

# **Market Transformation: Half a Decade of Results from a Supply-Side Intervention**

*The New York State Energy Research and Development Authority's ENERGY STAR<sup>®</sup> Products and Marketing Programs*

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## **ABSTRACT**

Recently, some of the nation's residential ENERGY STAR<sup>®</sup> appliance and lighting market-transformation programs that use consumer cash incentives have begun to reduce their use of such incentives in favor of adding more supply-side promotions to their program activities. Since 1999, the New York Energy Research and Development Authority (NYSERDA) has used an ENERGY STAR marketing strategy that minimizes the use of consumer cash incentives to transform the residential market for appliances and lighting products. This strategy almost exclusively relies on advertising, promotions, and cooperation with manufacturers and retailers to increase consumer preferences for these ENERGY STAR products. A discussion of this marketing strategy and its results may be useful to market-transformation program operators that are interested in reducing reliance on consumer cash incentives. This paper helps to meet that need by describing NYSEDA's half-decade of progress with its ENERGY STAR Products and Marketing Programs.

## **Introduction and Purpose**

Since 1999 the New York State Energy Research and Development Authority (NYSERDA) has operated a residential ENERGY STAR<sup>®</sup> appliance and lighting Products Program (Products Program) and a supporting Marketing Program (the Programs). The Programs are part of a suite of system benefits charge programs (the **New York Energy Smart<sup>SM</sup>** programs) whose goals are to “facilitate competition, market forces, and private sector solutions; focus on market transformation and new methods of program delivery; give priority to the most efficient and environmentally protective technologies; voluntarily aggregate customers least likely to benefit from competitive markets; strive to overcome long-standing barriers to energy efficiency; and provide maximum leveraging, as well as low-overhead delivery strategies.” (Perez, Waintroob & Barnes 2001, 74) The Programs are NYSEDA's principal initiatives to meet these objectives for residential appliance and lighting products.

The Programs constitute a two-part marketing strategy designed to (1) stimulate demand by increasing consumer awareness of the benefits of the ENERGY STAR brand through mass advertising (the Marketing Program), and (2) encourage manufacturers and retailers to produce, stock, and promote a higher proportion of ENERGY STAR appliance and lighting models (the Products Program). Consumer cash incentives are not part of this strategy. The Programs' primary goal is to transform the residential market for appliance and lighting products in New York into a market with a high, sustainable ENERGY STAR market share.

The Programs operate in the territories of six New York State Electric utilities (the **New York Energy Smart<sup>SM</sup>** area): Consolidated Edison Company of New York, Inc.; Central Hudson Gas & Electric Corporation; Niagara Mohawk—A National Grid Company; New York State Electric & Gas

Corporation; Orange and Rockland Utilities, Inc.; and Rochester Gas & Electric Corporation. These six utilities serve approximately 5.9 million residential customers, or 88% of all electric customers in the State. The Programs do not operate in the service territory of the Long Island Power Authority except when invited to do so.

During a half decade, plus, of operations, NYSERDA has held to the theory that the Programs' goal can be achieved without relying on consumer cash incentives to raise awareness of ENERGY STAR products and stimulate sales. Except for two digressions, NYSERDA has relied entirely on advertising through paid media, local promotions, and retailer advertising to build awareness and stimulate demand for ENERGY STAR products. Once the consumer is in the store, the strategy relies on the retailer to sell ENERGY STAR.

NYSERDA has digressed on a pair of occasions to use consumer incentives to meet State resource-acquisition needs. From 2001 to 2003, the Program offered a cash bounty to consumers who turned in an old room air conditioner and purchased a new ENERGY STAR air conditioner. This digression was designed specifically to reduce summer peak electricity demand during these three summers. In 2003, NYSERDA joined a national ENERGY STAR clothes washer cash-incentive program to help the State address a concern over water-supply reserves. Otherwise, NYSERDA has relied on its basic two-part strategy. During twenty-five calendar quarters of promoting four appliance and eight lighting product categories—300 product-quarters—only ten product-quarters have included consumer cash incentives.

NYSERDA's marketing strategy is worth special note because there are few residential ENERGY STAR appliance and lighting programs in the nation that rely as heavily on advertising and supply-side marketing without cash incentives to meet market-transformation goals. Nexus Market Research (NMR) has identified 169 energy-efficiency programs in twenty-two states that offered consumer cash incentives in 2003 for appliances<sup>1</sup> (NMR 2005), and the Consortium for Energy Efficiency (CEE) has profiled twenty-six residential energy-efficiency programs for 2004 in sixteen states (CEE 2004).<sup>2</sup> Of these, only the Northwest Energy Efficiency Alliance offers a program that relies as extensively on a supply-side marketing strategy, and this regional program supports local and state programs that use consumer cash incentives.

This comparison to other programs is not meant to imply that the author, NMR, or CEE has canvassed all of the energy-efficiency programs in the nation, nor does it mean that each of the programs reviewed relies on cash incentives for each and every residential product it promotes. However, the research indicates the widespread use of consumer cash incentives to stimulate demand for residential ENERGY STAR appliance and lighting products by both resource-acquisition and market-transformation programs.

In recent years some of the market-transformation programs that have used consumer cash-incentives have begun to reduce their emphasis on them. For operators of such programs, it may be useful to review the accomplishments of a residential market-transformation strategy that has relied primarily on advertising and supply-side intervention, without consumer cash incentives, to transform its market. The purpose of this paper is to describe and comment on the progress that has been made by such a strategy. The paper hopes to demonstrate that market-transformation progress can continue even after consumer incentives are reduced or eliminated.

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<sup>1</sup> This count excludes NYSERDA's clothes washer incentive during 2003.

<sup>2</sup> The author is grateful to Lisa Wilson-Wright of NMR and Rebecca Foster of CEE for providing this information.

## **NYSERDA's Marketing Strategy**

The following are the principal elements of NYSERDA's two-part marketing strategy. The classification of the elements into demand-side and supply-side is somewhat arbitrary inasmuch as some of them serve both sides of the market.

### **Demand Side**

- Paid ENERGY STAR print and broadcast advertising and public service announcements in designated market areas in the **New York Energy Smart<sup>SM</sup>** area
- A mascot, "Socket Boy," who appears at trade shows, fairs, and regional sporting events
- Exhibits at trade shows and fairs.

### **Supply Side**

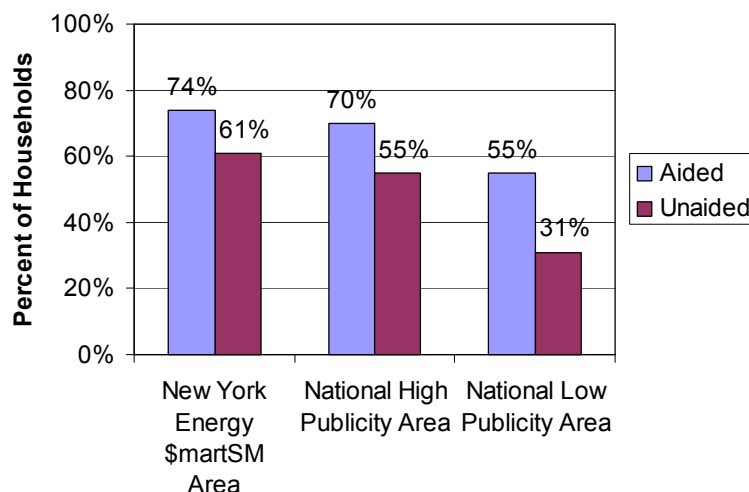
- Co-operative advertising cash incentives for participating retailers to promote ENERGY STAR in their print and broadcast advertising and advertising signs
- Point-of-purchase marketing collateral
- Cash incentives to run special promotions of ENERGY STAR products
- Liaison with manufacturers to arrange trade promotions
- ENERGY STAR treasure hunts in new store openings
- Assistance with ENERGY STAR product labeling
- Listing on the GetEnergySmart locator Web site
- Listing as a supplier for volume procurements, if desired
- Contests for the most improvement in ENERGY STAR market share, for greatest increase in the number of ENERGY STAR lighting product models on display, and for greatest increase in the amount of display space devoted to ENERGY STAR products.
- Periodic retail partner recognition awards
- Clothes washer market-share sales incentives (proposed).

## **Demand Side Effectiveness: Consumer Awareness and Understanding of ENERGY STAR**

Figure 1 shows that the marketing strategy has developed a consumer awareness of the ENERGY STAR label, both aided and unaided, in the **New York Energy Smart<sup>SM</sup>** area that exceeds the corresponding national averages in both high and low publicity areas.<sup>3</sup> The apparent effects of this awareness on ENERGY STAR market shares and on supply-side cooperation are described later in the paper.

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<sup>3</sup> The awareness results in this section are from a New York over-sample by the 2004 CEE national ENERGY STAR awareness survey, as reported in SERA 2005, Section 2.1.



**Figure 1.** Aided and Unaided Recognition of the ENERGY STAR Label in the **New York Energy Smart<sup>SM</sup>** Area with Comparisons to the National High- and Low-Publicity Area Averages

The comparisons between the **New York Energy Smart<sup>SM</sup>** area and national averages on recognition of the ENERGY STAR logo carry over to the understanding of its meaning. In the **New York Energy Smart<sup>SM</sup>** area 65% of households have a high degree of understanding of the ENERGY STAR label, and 75% have at least a general understanding. Nationally, 54% exhibit a high degree of understanding, while 67% have at least a general understanding. (The national awareness figures do not include households in the **New York Energy Smart<sup>SM</sup>** area.)

## Supply-Side Effectiveness

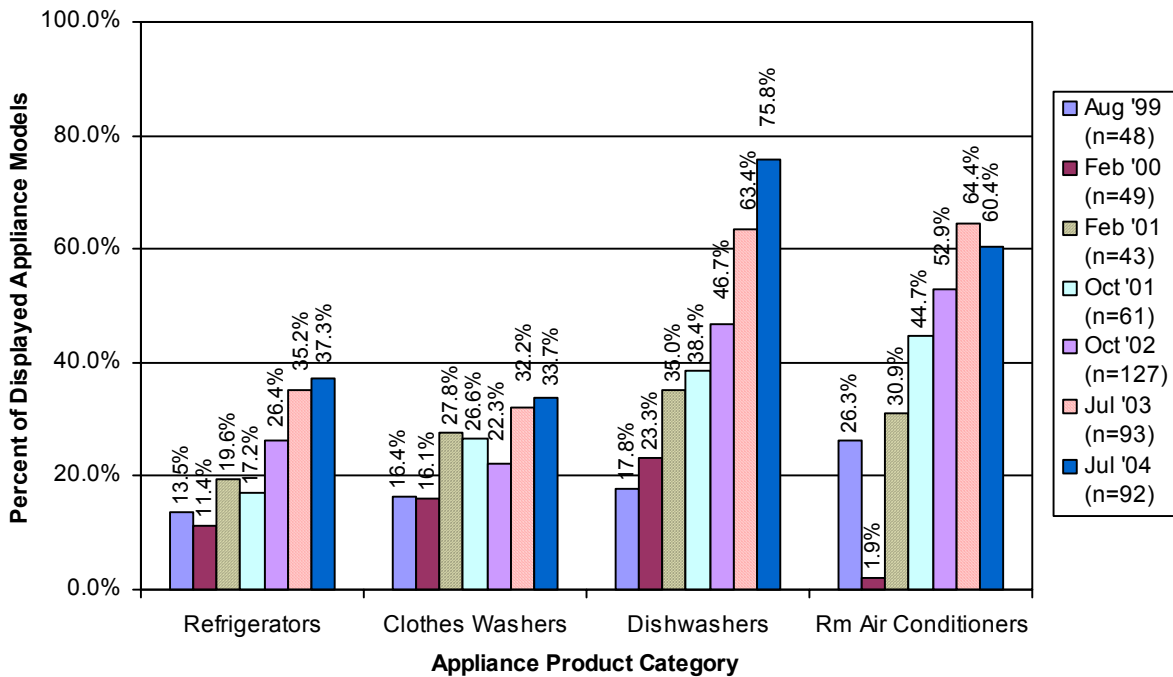
Assessing the supply-side effectiveness of an efficient-product program that is not incentive based poses a challenge for the evaluator (SERA 2004, 117). If the purpose is to demonstrate that an ENERGY STAR marketing strategy can be effective without consumer cash incentives, as this paper attempts to do, it would not be productive to compare the strategy's outcomes to the outcomes of programs that use such incentives. The most persuasive indication of effectiveness would be to compare the strategy's performance to evaluation indicators in geographic areas without efficiency programs.

Unfortunately, with one exception, comparable data do not exist for regions without active efficient-product programs. The single exception is the availability of self-reported ENERGY STAR appliance market shares for the retail appliance chains that are partners to the national ENERGY STAR Program. However, NYSERDA has not actively involved the national partners in its Products Program, so national-partner market shares have limited utility for comparison purposes.<sup>4</sup> As a result, this discussion of the effectiveness a non-incentive-based marketing strategy uses comparisons and indicators from a variety of sources to demonstrate progress over the last half decade. For reasons of space and the scarcity of such sources for lighting products, this paper covers appliances only.

<sup>4</sup> Several of the national partners participated in the Products Program during 2002 and 2003; however, they were not targeted for special data collection; therefore, comparative data are not available for just these national partners for these two years.

## ENERGY STAR Stocking Proportions

Since its launch in 1999, the Program has encouraged participating retailers to increase the ENERGY STAR proportion of refrigerators, dishwashers, clothes washers, and room air conditioners models they display. Figure 2 shows the resulting five-year trends (seven store surveys) (NYSERDA 1999-2004). The values of *n* shown are the number of appliance stores surveyed. They do not necessarily indicate the number of stores selling each product surveyed.



**Figure 2.** Trends in Proportions of Appliance Models on Display That Are ENERGY STAR Qualified, Participating Showrooms, Aug 1999 – Jul 2004

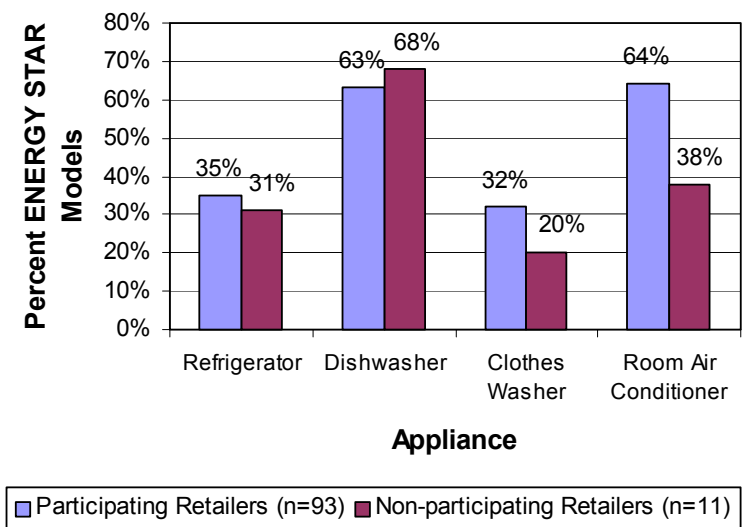
It is well known that there has been a dramatic increase in the number of ENERGY STAR appliance models available on the market since 2000. Table 1 illustrates this growth.

**Table 1.** Number of ENERGY STAR Models Available on the Market<sup>5</sup>

Product Category	2000 Models	2001 Models	2002 Models	2003 Models	Change 2000-2003
Refrigerators	299	234	421	901	+603%
Dishwashers	247	292	406	463	+216%
Clothes Washers	65	81	113	141	+76%
Room Air Cond	32	83	223	329	+297%

<sup>5</sup> NWEA 2004, 10. The Northwest Energy Efficiency Alliance developed the counts from the ENERGY STAR Web site. The Alliance attributes the exceptionally large increase in ENERGY STAR refrigerator models in 2003 to the large variety of minor differences in models such as color alternatives. The Alliance does not report when the counts were taken, with the exception of 2003 when the count was made in December.

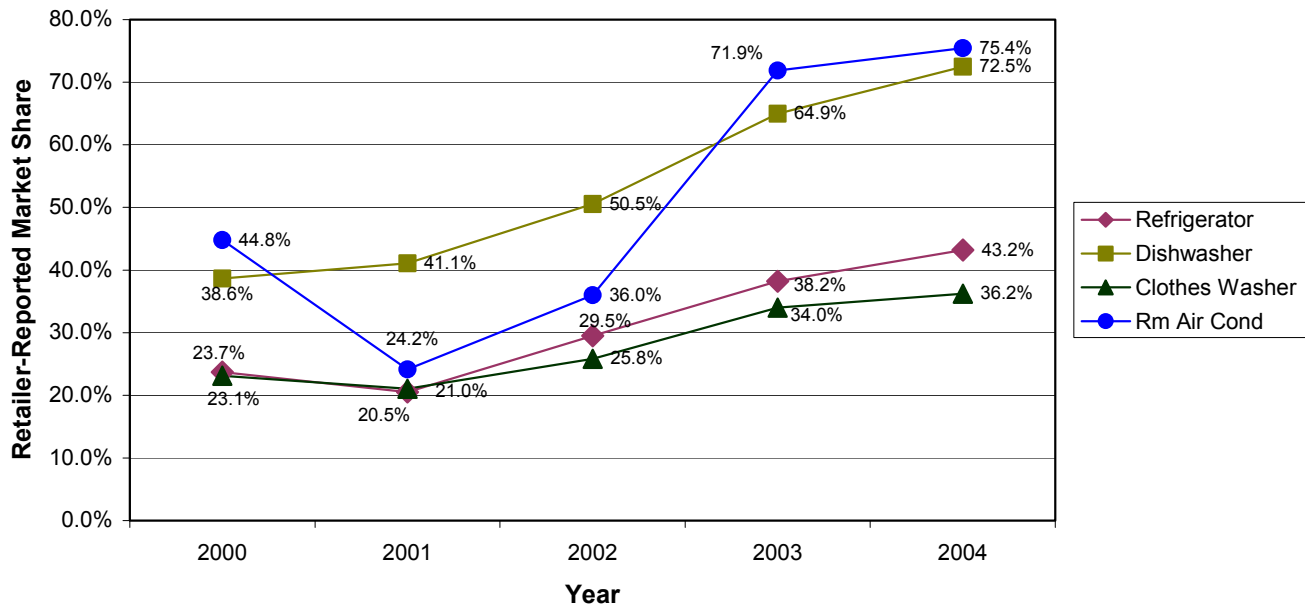
A recent evaluation of the Programs surveyed a small sample of non-participating, non-national New York retailers in the **New York Energy Smart<sup>SM</sup>** area and found that, with the exception of dishwashers, participating retailers displayed a higher proportion of ENERGY STAR models than did non-participating retailers, although the difference is not large. Figure 3 shows the results. (The comparatively high ENERGY STAR proportion of room air conditioners models displayed in 2003 indicates the effect that a cash incentive, in this case a turn-in bounty, can have on retailer display proportions.)



**Figure 3.** ENERGY STAR Model Display Proportions in 2003 in Participating and Non-Participating Retailer Stores (Excluding National ENERGY STAR Partners) (SERA 2005, Table 3-3)

### ENERGY STAR Market Share for Appliances

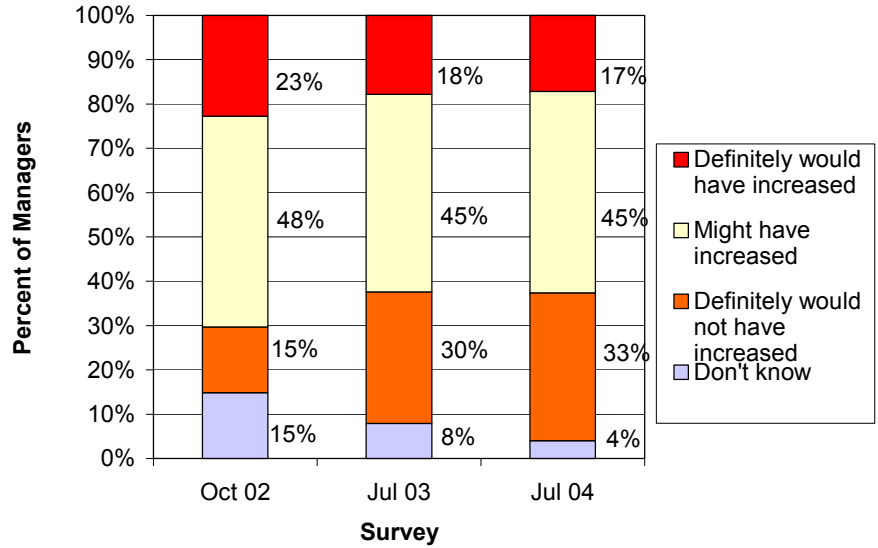
Participating retailers have been asked to report sales data since 2000. Figure 4 shows the resulting trend in average annual self-reported ENERGY STAR market shares.



**Figure 4.** Trends in Participating Retailers' Average Annual Self-Reported Market Shares for Four Appliance Categories, 2000 through 2004

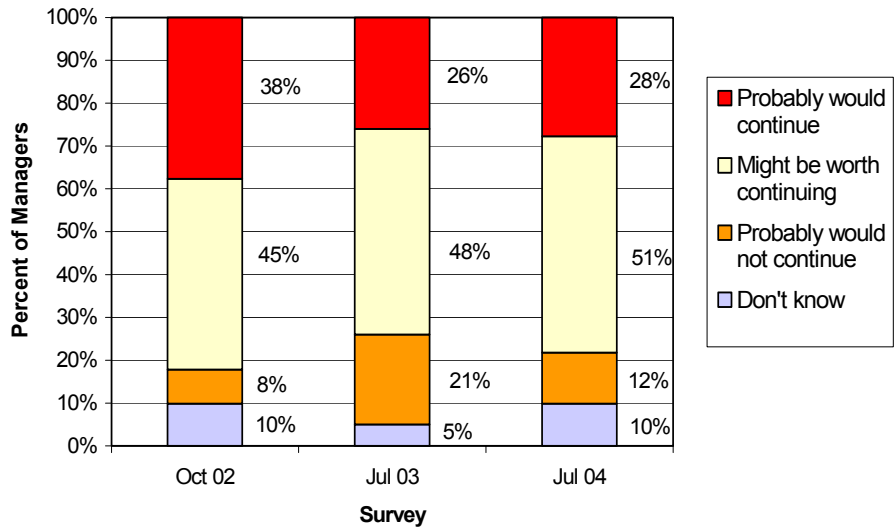
NMR has pointed out that, because of the growing numbers of ENERGY STAR appliance models available on the market, the comparative *rate of increase* in market share between active and inactive regions is more important for evaluating program effect than static snapshots (NMR 2004, 28). Market-share data comparable to that shown for NYSERDA's non-national partners in Figure 4 are not available for inactive states. However, such data are available in inactive states for national ENERGY STAR partners. Comparison of New York's national partners with the national partners in inactive states cannot be conclusive because the national partners have not actively participated in the Products Program. However, such a comparison can provide support for the effectiveness of NYSERDA's strategy because the Marketing Program covers *all* of the **New York Energy Smart<sup>SM</sup>** area, and the existence of the Programs has probably increased the shipments of ENERGY STAR models to national partners in the area. Comparison of the national partners' average annual growth rates in ENERGY STAR market share from 2000 to 2004 for each of the four appliance categories shows that the market-share growth rates of national partners in the **New York Energy Smart<sup>SM</sup>** area are 1.1 to 1.7 times higher than the growth rates for the same appliances in inactive states.

Beginning in 2002, NYSERDA has asked appliance managers who claimed their store increased its proportion of ENERGY STAR models on display since the prior year whether the increase would have occurred had the Programs not existed. The question is the supply-side equivalent of a consumer self-reported free-rider measurement. Figure 5 shows how managers have responded during the last three surveys.



**Figure 5.** Responses of Appliance Managers Who Increased the Proportion of ENERGY STAR Products on Display in the Last Year Regarding Whether They Would Have Increased the Proportions without the Programs' Involvement

These same appliance managers were then asked whether they would continue their increased ENERGY STAR stocking practice in the future if the Program were not offered. Figure 6 shows how the responses have been distributed over the last three surveys.



**Figure 6.** Responses of Appliance Managers Who Increased the Proportion of ENERGY STAR Products on Display in the Last Year Regarding Whether They Would Continue Their Increased Proportions without the Programs' Involvement.



The number of appliance managers who say they definitely would not have increased their ENERGY STAR stock without the Programs' interventions has increased over the three years that the question has been asked, while the number who say the opposite—that they would have increased their ENERGY STAR stock without the Programs—has decreased. The number who are unsure regarding the continuation of their increased ENERGY STAR stocking practices without the Programs is increasing. Figures 5 and 6 show a growing uncertainty among appliance managers regarding whether they would continue their increased stocking levels without the Programs. Managers are becoming more conscious of the influence of the Programs.

The trend may indicate that, as managers increase their ENERGY STAR stock to the relatively high levels that are the goals of market transformation, they are also beginning to realize that these levels are exceeding what can be justified on the basis of national production trends alone. If the trend continues, this would be a highly important indication that the strategy is successfully encouraging retailers to exceed the national production trends.

## Drivers of the Strategy

Interviews with managers of participating stores provide insight into some of the market drivers created by NYSERDA's marketing strategy. The store managers have been asked an open-ended question every year since 1999 about what they perceived to be the principle benefits of participating in the Products Program. Multiple answers were permitted. Every year, the response given most often has been the co-operative advertising incentive for retailers. Table 2 shows the responses over the last four years that have consistently received high mention (NYSERDA 1999-2004).

**Table 2.** Appliance Managers' Perceptions of the Benefits That Drive Retail Store Cooperation

<b>Response</b>	<b>Average over the last four years</b>
Co-operative Advertising	46%
Customers recognize and look for the ENERGY STAR logo	35%
Increases sales	26%
Brings more traffic into the store	20%

These replies suggest that the retailers recognize the Programs' effect on consumer preferences for ENERGY STAR products and value their identification with the ENERGY STAR logo because it benefits their sales. Recognition of ENERGY STAR's value by retailers and the education of consumers to the benefits of ENERGY STAR are the drivers that NYSERDA's strategy aims to instill permanently into its residential appliance and lighting markets.

## Conclusions

NYSERDA's marketing strategy has made major progress in increasing consumer preference for ENERGY STAR appliance products. ENERGY STAR proportions of appliance products stocked and ENERGY STAR market shares are still growing, indicating that the strategy is continuing to have an effect. As the levels of ENERGY STAR appliances that store managers stock reach high proportions, they are becoming more aware of the influence of the strategy in those levels.

This review indicates that marketing strategies that focus principally on advertising and supply-side promotions, without consumer cash incentives, can achieve major progress in transforming consumer markets for appliance products.

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