AN OVERVIEW OF CALIFORNIA'S APPLIANCE EFFICIENCY PROGRAMS

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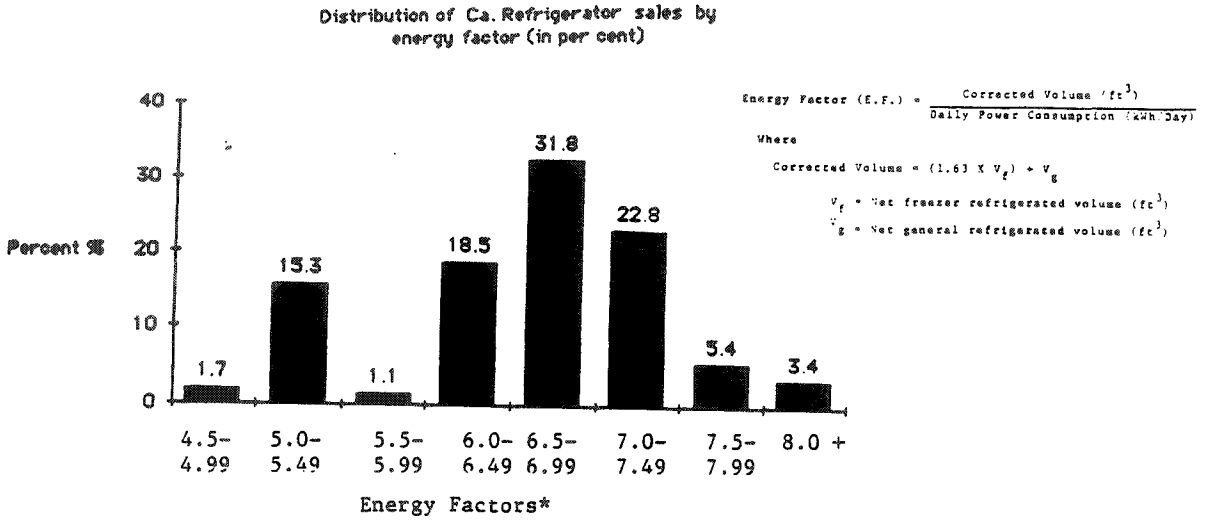
The goal of the Appliance Program is to increase the sales of high efficiency appliances. This paper examines the range of programs used to reach this goal and analyzes their potential impact on the distribution of sales by efficiency level .The paper concludes with a set of recommended program strategies to increase the efficiency of appliances beyond the levels achieved by efficiency standards.

The first phase of the Appliance Programs concentrated on setting minimum efficiency standards(1976-1982). The impact of these programs on the distribution of sales was significant because it required 60 to 80% of the current models to shift above a new minimum efficiency level in a short period of time. Although one would expect this shift to cause a significant decrease in the range of efficiency levels (and maybe models) available, data taken from manufacturer's directories before and after the adoption of standards indicate that the range of efficiencies available narrows only slightly in the first year and expands to its pre standards range in the course of 2 to 3 years.

The Second Phase of the Appliance program (1982-1986) has tried to develop strategies to stimulate the sales of high efficiency appliances by creating a market pull for high efficiency products in distinct market segments. Beginning in the early 1980's utilities began to offer cash incentives for consumers purchasing refrigerators with efficiencies 15% or greater than the standard's levels. Figure 1 suggests these activities were successful in shifting a significant level of sales to these rebate levels(from 5.7 to 6.5 E.F.) although it is not clear to what extent the introduction of energy labels and higher electricity prices in the early 1980's may have also contributed to this shift.



Source:AHAM data on 1983 shipments of top mounted refrigerators to CA.

Figure 1. Distribution of Refrigerator Sales by Energy Factor

Figure 2 shows the distribution of models by efficiency level in 1986. Comparing Figure 1 with Figure 2 suggests that more efficient products are being made available over time but that the market demand for high efficiency products has not yet caught up with product availability since there are proportionately more models available in the higher efficiency models than there are sales. This data also suggests there is a great deal of potential to save more dollars and energy if aggressive and creative marketing efforts are properly targeted to reach the market segments buying low efficiency appliances.

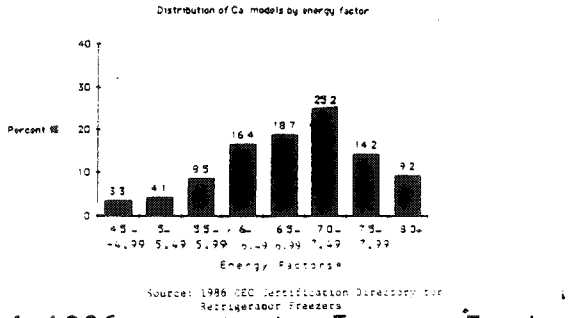


Figure 2- Distribution of 1986 models by Energy Factor

Figure 1 also suggests there is a large market for sales just above the minimum efficiency level or standard level. 15.3 % of the market's sales are concentrated in only 4.1 % of the models in the efficiency grouping with energy factors from 5.0 to 5.49. The CEC's 1979 standard was set at 5.0 in 1979 and will increase to 7.5 in 1987.

This data suggests that many manufacturers specialize in serving this market segment only and may also be the ones who most vociferously oppose the adoption of new standards for fear of losing market share.

Less than 10% of the market sales in 1983 corresponds to the 7.5 efficiency level which CEC analysis indicated was cost effective to the majority of the population. This is probably due to the fact that most consumers do not make decisions on the basis of lifecycle costs and benefits, many stores do not carry these high efficiency models and many consumers either do not have the time to shop for efficiency or it is not as important to them as other features.

The CEC is trying to mitigate some of these problems by reducing the transaction costs of searching for efficient appliance. This is being accomplished by training salespersons in the use of simple calculation tools to provide information on future energy prices in a credible form to appliance buyers at the point of sale. For example, Refrigerator consumer slide rulers will be test marketed in Northern California this summer.

Providing consumers with information on the costs of higher efficiency models or simple payback calculations may not be effective if other factors or features are more important in the appliance purchase decision. For example,to promote the sales of high efficiency

refrigerators in the 35 to 55 year old market segment of buyers, it may be better to link efficiency appeals to other desired characteristics such as product reliability or new features. For other appliances such as water heaters providing purely economic information based on payback from energy savings or lifecycle costs may be more appropriate.

Table I shows the recommended market based strategies to increase the sales of high efficiency products for some common appliances.

Table 1
Suggested Consumer Program Approaches
by Appliance Type

Appliance	Program Type
Refrigerators	Energy Slide Rule, Cooperative Advertising to Emphasize Efficiency-Reliability Link, Rebates
Water Heaters	Efficiency Rebates
Air Conditioners	Contractor/Dealer Incentive Programs
Gas Furnaces	Dealer Rebates, Energy Slide Rule, Booklets Stressing Practices
Fluorescent Lighting	Mail Stuffers, Cash-back Coupons
Clothes Washers	Consumer Information Books, Campaign Stressing Efficient Practices and Use of Machines
Heat Pumps	Consumer Information Fact Sheets

Table I-Suggested Consumer Program Approaches by Appliance Type

SUMMARY

CEC programs have effected the efficiency level of appliances sold in California and the distribution of these sales over efficiency categories. These Efficiency Standards programs have saved billions of dollars for California's consumers. However, it is not enough to count on the adoption of standards to increase the market sales of higher efficiency appliances. Utility incentive programs, consumer information programs, and R&D expenditures have and should be used to create a market pull for high efficiency products. The CEC's development of a consumer slide ruler is but the first of many steps toward achieving higher efficiency products and lower energy costs.