

# **ENERGY STAR Appliances: 1998 Sales Data Report**

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## **Executive Summary**

This report details the results of sales data collected from ENERGY STAR Retail Partners for the period January 1, 1998 through December 31, 1998. The data includes the four major appliance groups covered by the U.S. Department of Energy's (DOE) ENERGY STAR Appliances program: clothes washers, refrigerators, dishwashers, and room air conditioners.

The nature of our agreement with our retailer partners prohibits us from disclosing most details about the source of the data. The data is drawn from national retail chain stores and represents a significant percentage of total sales. It does not represent sales from independent retailers, which make up approximately half of appliance sales nationally. Anecdotal information about sales at smaller stores indicates that they may have stronger sales of ENERGY STAR-qualifying products than national chains, and, therefore, this report may under-represent actual sales of ENERGY STAR-qualifying products. DOE and the Environmental Protection Agency (EPA) will work with local and regional groups to collect this data in as many areas as possible. In the meantime, the data in this report is valuable as a baseline for product sales in regions with little or no promotional activity, and as an early measure of success in those regions where there has been heavy involvement from both local utilities and regional market transformation groups.

### **Product Availability**

A key goal of the ENERGY STAR program is to increase the availability of energy efficient products. Consumers drive demand by purchasing particular products thereby signaling the manufacturer to produce more. Manufacturers and retailers can also influence product sales by producing and displaying more of certain types of products. A successful manufacturer or retailer will be able to follow the pulse of consumer demands accurately and respond quickly to the changing market. Another influence on product availability is Federal appliance standards. The postponement or anticipation of Federal appliance standards can drive product availability. The delayed release in 1997 of proposed refrigerator standards probably contributed to the reduced number of refrigerator models available on the market in 1998. Similarly, as the release of the new refrigerator standard in July 2001 approaches, more efficient models are expected to enter the market.

ENERGY STAR-qualified appliance availability changed significantly throughout 1998. In general, the availability of all appliances ended on an upward trend. Only the availability of refrigerator models was lower at the end of 1998 than at the beginning. The availability of ENERGY STAR-qualified dishwashers and room air conditioners increased in 1998. By the end of 1998, after experiencing a major dip in the first and second quarters, availability of qualified clothes washers returned to its fourth quarter 1997 level.

In terms of momentum for 1998 trends, 1997 was pivotal for ENERGY STAR-qualified refrigerators, dishwashers, and room air conditioners. The number of available models of each appliance type increased in the second quarter of 1997 and remained fairly steady throughout the rest of the year. Maytag and Whirlpool specifically influenced the availability of ENERGY STAR-qualified products by introducing models in appliance categories where they previously had not produced any models—Maytag introduced a line of ENERGY STAR-qualified, top-mounted refrigerators, and Whirlpool produced a new line of dishwashers, including an ENERGY STAR-qualified model.

## **Market Share**

The national results are encouraging and show a general increasing trend in the market share for ENERGY STAR-qualified appliances. In 1998, the national market share increased for each type of ENERGY STAR-qualified appliance. For qualified dishwashers, the market share doubled from 13 percent in the first quarter to 26 percent at the end of the year, the greatest increase in market share among all classes of qualified appliances. The national average market share for qualified clothes washers increased from 4.5 percent in the first quarter to 6.5 percent in the fourth; several regions of the country saw even greater increases in market share. Qualified refrigerator market share increased slightly from 19 percent at the beginning of the year to 20 percent at the end. For room air conditioners, the market share increased between the first and third quarters from 13 to 15 percent.

In order to understand how the program is affecting markets locally, it is necessary to analyze the results in specific areas where there has been strong ENERGY STAR promotion activities and where there has been little to no promotion of the ENERGY STAR brand. Although promotions for clothes washers were the most extensive, this report includes analyses of the national market share for each appliance and comparisons of the market share results regionally where appropriate.

# ENERGY STAR-Qualified Clothes Washers

## Product Availability

The availability of ENERGY STAR-qualified clothes washers from June 1997 to June 1999 is depicted in Figure 1, Appendix III. Entering 1998, only seven brands of ENERGY STAR-qualified clothes washers were available to consumers. Of these seven, only three were “household” brand names—Maytag, Gibson, and Frigidaire. Among the clothes washer models available through ENERGY STAR Retailer Partners in 1998, about six percent were ENERGY STAR-qualified models.

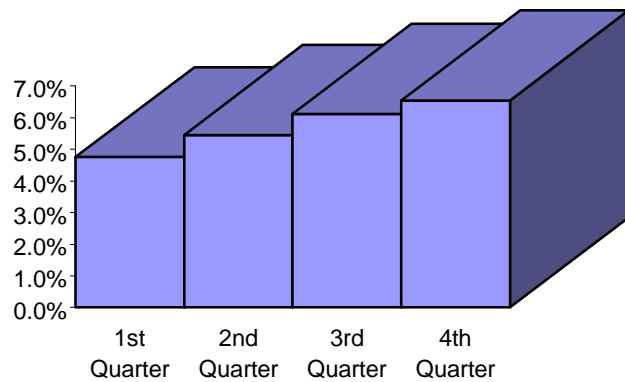
By the end of the first quarter of 1999, the picture had changed considerably, with 17 different brands available on the market, including Whirlpool, Kenmore, and General Electric, as well as a wide variety of other, more specialized brands (see Figure 1, Appendix III). The introduction of these brands to the market can be attributed in part to the success of Maytag’s ENERGY STAR-qualified, front load washer, Neptune. This clothes washer was introduced in March 1997. According to Leonard A. Hadley, Maytag Chairman and Chief Executive Officer, in October 1997, “...sales of our newest product offerings in home appliances and vending equipment drove our strong performance in the third quarter. These new products include the Maytag Neptune residential washer...”<sup>1</sup>

## Market Share

ENERGY STAR-qualified clothes washers showed a steady increase in market share during 1998, averaging about 4.5 percent market share during the first quarter and increasing to 6.5 percent in the fourth quarter (Figure 5). This is a nearly 50 percent increase in sales for qualified clothes washers, likely due to the increased number of manufacturers who introduced qualified models to the market in early 1998.

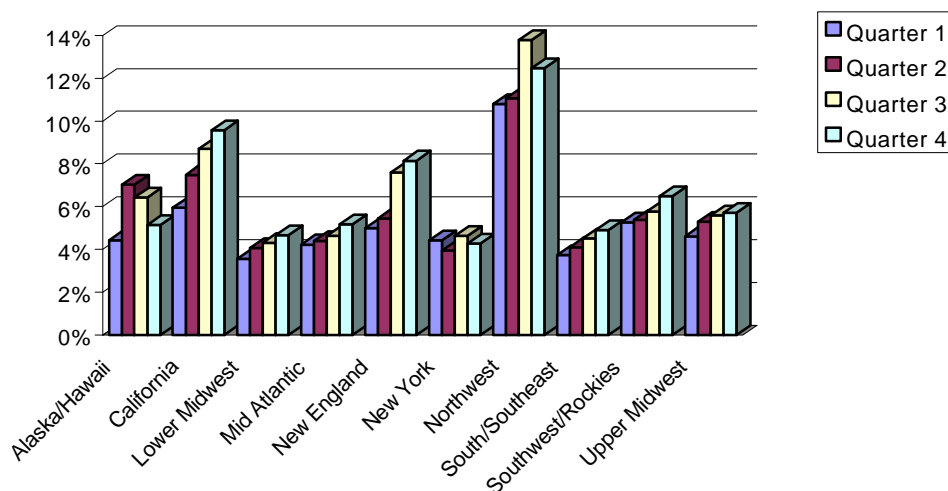
Figure 6 below shows the market share of ENERGY STAR-compliant clothes washers in broad regions throughout the United States. The Northwest region shows significantly stronger sales of qualified clothes washers than any other region. The market share of ENERGY STAR-qualified clothes washers also increased significantly in California and New England. In other regions of the country where less extensive rebates and promotions occurred, less market share was gained. In addition, water agency participation in rebate programs increase throughout the year, often in supplementing electric and gas utility rebates in the same region.

**Figure 5. ENERGY STAR Clothes Washers - 1998 Market Share**



<sup>1</sup> “Maytag Reports Strong Increases in Third Quarter Results: Home Appliances Segment Sets an All-time Quarterly Sales Record.” Maytag Company News On-call, October 16, 1997. <<http://www.prnewswire.com/cgi-bin/...5&STORY=/www/story/10-16-97/338581>>, Accessed July 29, 1999.

**Figure 6. ENERGY STAR Clothes Washers by Region  
1998 Market Share**



### Northwest

#### Market Share

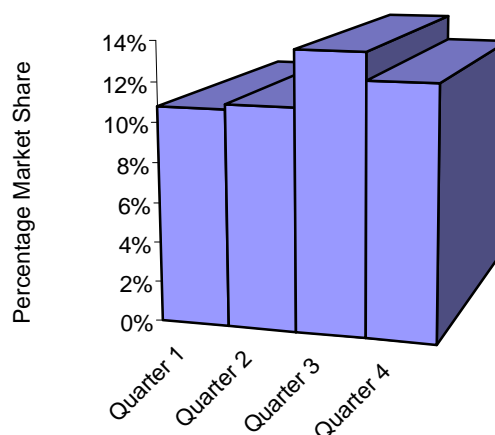
The market share of qualified clothes washers in the Northwest was the highest in the nation throughout 1998 (Figure 6). Sales decreased slightly between the third and fourth quarters most likely due to the discontinuation of rebates. Market share declined by only two percent after the rebates were discontinued (Figure 7).

#### Promotions

Increased market share for ENERGY STAR-qualified clothes washers in the Northwest in 1998 is certainly due to heavy promotion of high efficiency clothes washers through rebates and incentives by the Northwest Energy Efficiency Alliance (the Alliance).

The Alliance provided 45,927 rebates for high efficiency clothes washers from May 1997 to September 1998 with 22 utilities and 500 retailers participating in the Program.<sup>2</sup> Initially from May 1997 to February 1998, the rebate amount was \$130, and then from March 1998 to September 1998, the rebate amount dropped to \$75. The Alliance's other market transformation activities in 1998 included sponsoring newspaper ads for resource efficient washers throughout the state of Oregon and recruiting retailers to join the *WashWise* Program. Numerous utilities in Washington, Oregon, Montana, and Idaho supported the Alliance Program by offering a wide variety of supplemental rebates and financing.

**Figure 7. 1998 ENERGY STAR Clothes Washer Market Share - Northwest**



<sup>2</sup> For this report, the pool of retailers that provided the number of distributed rebates is larger than the pool of retailers that provided sales data. The market share calculations are derived from the sales data and are not directly connected to the number of rebates distributed.

- ◆ In Washington, Seattle City Light and Seattle Public Utilities teamed up to provide approximately 3,900 rebates—\$50 from each utility for a possible \$100 rebate.
- ◆ Snohomish County Public Utility District offered a \$50 rebate to its customers in 1998.
- ◆ Since 1997, LOTT (Lacey, Olympia, Turnwater, and Thurston) Wastewater Partnership has provided 467 rebates of \$50.
- ◆ Low or zero interest loans were offered in Washington by City of Richland, Clallam County Public Utility District, Franklin County Public Utility District, Grays Harbour Public Utility District, Pacific County Public Utility District, and in Idaho by the City of Idaho Falls.
- ◆ Eugene Water and Electric Board in Oregon distributed 1,057 rebates. These \$175 rebates were advertised using point of purchase materials at local retail locations.
- ◆ Since 1998, the Oregon Office of Energy has offered clothes washer rebates ranging from \$120-230 through its Residential Energy Tax Credit Program.
- ◆ Rebates ranging from \$60-175 were offered in Oregon by the City of Ashland, Emerald Public Utility District, Eugene Water and Electric Board, Lane Electric Coop, Salem Electric, and in Montana by Glacier Electric.
- ◆ McMinnville Water and Light in Oregon offered a \$40 bill credit.

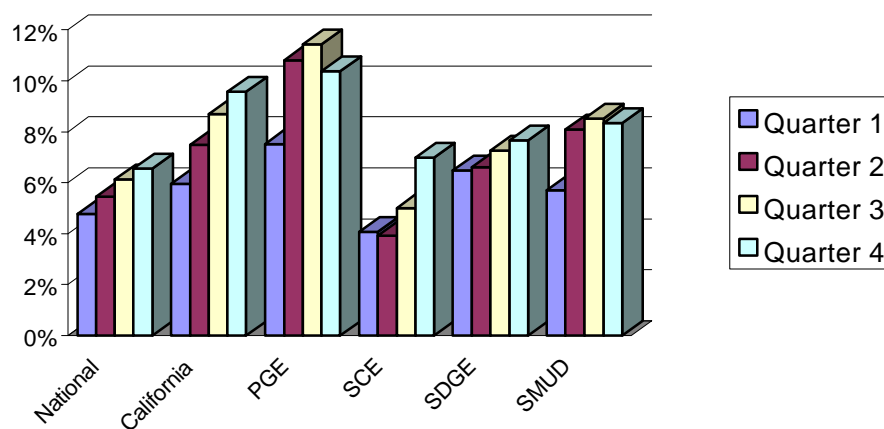
In October 1998, the Alliance's rebate program ended. The continuing market transformation effort has focused on consumer education and ENERGY STAR brand awareness. This effort also includes a \$10 incentive awarded to either individual salesperson or the dealer for each ENERGY STAR-qualified clothes washer sold.

## California

### Market share

California showed strong sales of qualified washers, ending the year with a statewide average of about ten percent market share, a significant increase from approximately six percent during the first quarter (Figure 8). Sales of ENERGY STAR-qualified clothes washers increased substantially in most utility regions throughout the year. Qualified clothes washer sales rose for all utility areas from the first quarter to the third quarter, and the market share captured for ENERGY STAR-qualified clothes washers in California was overall greater than that captured by the rest of the nation.

**Figure 8. 1998 ENERGY STAR Clothes Washers Market Share California by Utility Service Territory**



### Promotions

As in the Northwest, heavy promotion of ENERGY STAR-qualified clothes washers in California contributed to the increased market share in 1998. Most California utilities had some type of ENERGY STAR clothes washer rebate program for 1998, and collectively they distributed over 28,000 rebates for qualified clothes washers, ranging from \$50 to \$200. The following is a breakdown of the rebates offered in 1998 by the four utilities highlighted in Figure 5.

- ◆ The bulk of the rebates were distributed by Pacific Gas and Electric (PG&E)—23,000 in total, ranging from \$50 to \$100.
- ◆ San Diego Gas & Electric (SDG&E) successfully conducted a two-phase financial incentive program, combining rebates and dealer incentives with an overarching consumer education program (see the case study below).
- ◆ Sacramento Municipal Utility District (SMUD) provided 264 rebates of \$150 in 1998.
- ◆ While not part of its 1998 ENERGY STAR Retail Initiative, Southern California Edison (SCE) did offer \$70 rebates in 1998 for the purchase of energy efficient horizontal axis clothes washers to its customers with electric water heaters.



Other utilities in California also impacted the clothes washer market through ENERGY STAR promotions.

- ◆ Los Angeles Department of Water and Power began offering a \$150 rebate for ENERGY STAR clothes washers in 1998, providing 4,000 by May 1999.
- ◆ In collaboration with PG&E, Sonoma County Water Agency provided 1,000 additional \$100 rebates to its customers in 1998.
- ◆ The City of Milbrae provided 24 rebates in 1998 as part of its Urban Water Management Plan.

California utilities also promoted ENERGY STAR extensively during 1998 through sales training to retailers, informational monthly bill stuffers, and general consumer education campaigns.

## Case Study

### 1998 ENERGY STAR-qualified Clothes Washer Sales Case Study San Diego Gas & Electric

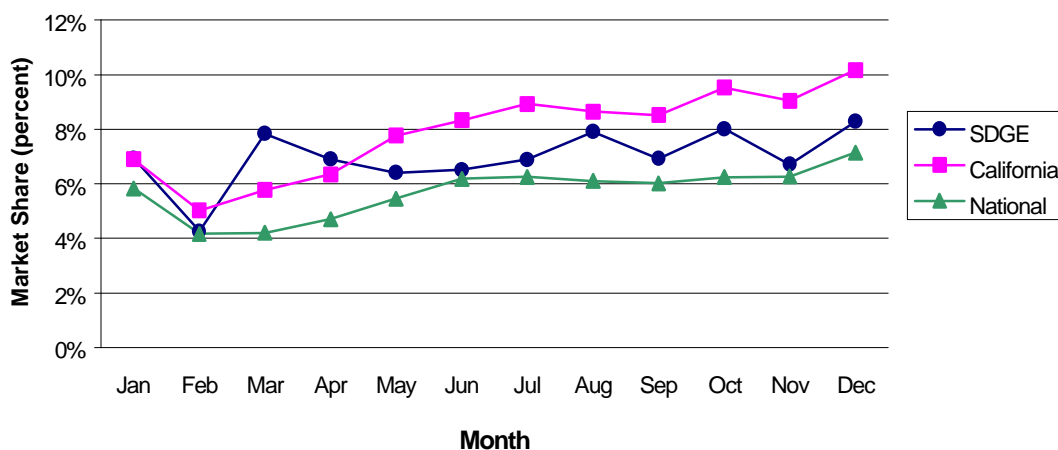
On February 20, 1998, San Diego Gas & Electric (SDG&E) launched the first phase of its 1998 clothes washer program with a \$200 customer rebate and a \$50 dealer incentive. The customer rebate was lowered to \$100 on April 6, 1998, while the dealer incentive remained the same. The rebates went fast, and the first phase of the program ended by May 24, 1998. SDG&E processed a total of 1,835 rebates, 566 of which were \$100 rebates, and 1,269 of which were \$200 rebates.

The second phase of SDG&E's clothes washer program started on October 5, 1998, with a dealer incentive of \$50 and no customer rebates. Only about 40 percent of the retailers involved in the first phase continued their participation in the second phase. The program ended on December 31, 1998, with SDG&E having paid out 255 dealer incentives to the 40 percent of retailers in SDG&E's territory that continued to participate in the program's second phase.

Figure 9 below shows sales of qualifying clothes washers in SDG&E's territory during 1998. The data shows SDG&E consistently performing on par with California at large, despite the presence of large rebates in most other utility territories, and performing well above the national average for the entire year. Even after the rebate phase-out in May, sales in SDG&E's territory continued to rise.

SDG&E continued to promote the ENERGY STAR program throughout the year, focusing on consumer education through newspaper advertising, in-store promotions, and retailer training. This strategy was instrumental in SDG&E's maintenance of demand for qualifying products after phasing out costly rebates, ultimately creating market change.

**Figure 9. 1998 ENERGY STAR Clothes Washer Sales  
San Diego Gas & Electric**



## New England

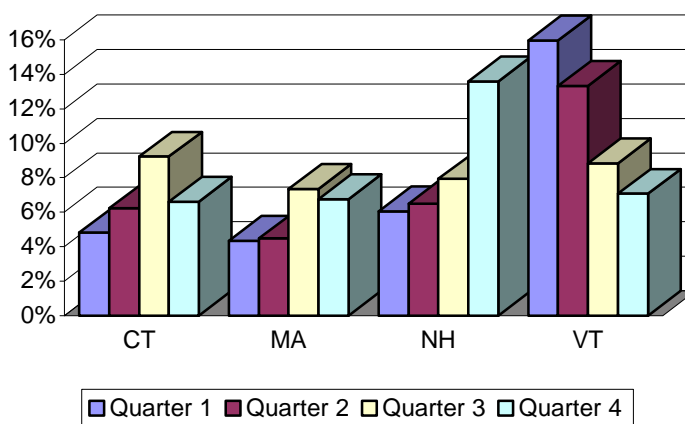
### Market Share

Sales in New England were as impressive as sales in California. Overall, sales of ENERGY STAR-qualified clothes washers in New England rose to more than eight percent market share during the last quarter of 1998 from about five percent during the first quarter (Figure 10).

Connecticut and Massachusetts both experienced increased ENERGY STAR sales in the second and third quarters with declining sales in the fourth quarter. Sales in New Hampshire increased for all four quarters with an significant jump in sales in the fourth quarter. Vermont sales decreased every quarter, but the first quarter market share was higher than any other quarter for any

other state and the fourth quarter market share for Vermont was still higher than the percentage for Connecticut and Massachusetts. The number of major retailers in Vermont and New Hampshire is small.

**Figure 10. 1998 ENERGY STAR Clothes Washer Market Share New England by State**



### Promotions

Northeast Energy Efficiency Partnerships, Inc. (NEEP) began coordinating the *TumbleWash* utility programs in 1998. During 1998, 8,675 rebates were distributed through the *TumbleWash* program, sponsored by 16 utilities in the Northeast. Rebate amounts differed from state to state and the utilities advertised the rebates through television ads and radio spots.

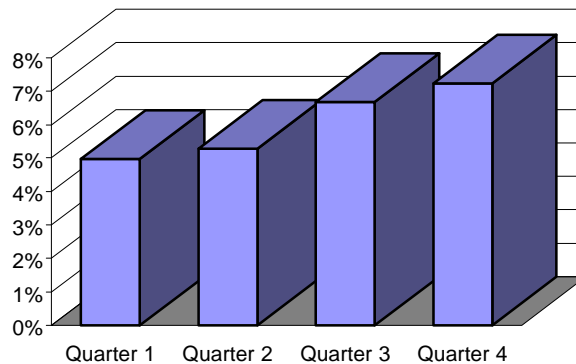
- ◆ New Hampshire joined the rebate program in the fourth quarter of 1998, which probably accounts for the big jump in market share for qualified clothes washers in the state in that quarter. Rebates of \$100 were offered in New Hampshire.
- ◆ The rebate program started in early 1998 in Vermont. The initial rebate amount was \$150 and was reduced toward the end of the year.
- ◆ In Connecticut, the rebate was \$25 with an additional \$75 for customers with electric water heaters.
- ◆ In Massachusetts, the rebate amount was \$100.

## Wisconsin

### Market Share

In 1998, the market share for ENERGY STAR-qualified clothes washers in the state of Wisconsin increased gradually but steadily from nearly five percent in the first quarter to over seven percent in the fourth quarter (Figure 11). The market share captured by ENERGY STAR-rated clothes washers is most likely due to the two rebate programs that were active in Wisconsin during 1998 since no other rebates or promotions occurred in the region.

**Figure 11. 1998 ENERGY STAR Clothes Washer Market Share - Wisconsin**



### Promotions

Beginning in October 1998, the Wisconsin ENERGY STAR Cash-back Rewards Program distributed \$100 rebates and \$15 retailer incentives for qualified clothes washers. This program will continue through the end of December 1999. Among the utilities participating in this program are Alliant Energy, Wisconsin Electric, and Wisconsin Public Service, as well as numerous municipal utilities. Also in October 1998, the Wisconsin Energy Conservation Corporation (WECC) began implementing the Wisconsin Community Services Energy Efficiency Awards Program on behalf of the Wisconsin Department of Administration's Energy Bureau. WECC distributed awards of \$300 for the purchase of high efficiency clothes washers to licensed child care and community-based residential facilities. The WECC-run program is ongoing depending on the availability of funding. These were the only ENERGY STAR Partner promotions offered in the Midwest region in 1998.

### Non-ENERGY STAR Partner Promotions

Other areas of the country were not involved in significant promotions and showed a relatively modest increase in sales of qualified clothes washers. As the examples below illustrate, regions that promoted high efficiency clothes washers without using the ENERGY STAR symbol did not have the impact on the market as the ENERGY STAR Partner programs in the Northwest, Midwest, California, and New England had on the market.

### Upper Midwest

#### Market Share

The Upper Midwest region includes Iowa, Minnesota, and Wisconsin. The market share for ENERGY STAR clothes washers in this region gradually increased from 4.6 percent in the first quarter of 1998 to 5.7 percent in the fourth quarter. This market share can be attributed to the promotion of ENERGY STAR brand in Wisconsin.

## **Promotions**

In the Upper Midwest, the rebates were offered by four entities in the three states. In the summer of 1998, Owatonna Public Utilities of Minnesota began offering rebates \$25-50 based on the type of service (electric, gas, or water) and the Consortium for Energy Efficiency (CEE) efficiency tier the machine met, advertising through bill inserts, brochure, and local dealers. In addition to the \$100 rebate that it offered throughout the Upper Midwest, Alliant Energy in Iowa and Minnesota offered financing for the purchase of energy efficient clothes washers. These Midwest programs will continue through the end of 1999.

## **South/Southeast**

### **Market Share**

The market share for qualified clothes washers in this region increased by one percent in 1998, from about four percent in the first quarter to about five percent in the fourth quarter.

### **Promotions**

In the South/Southeast, rebates were offered only in Texas. Two utility groups have distributed nearly 1,800 rebates since 1998. The City of Austin and Southern Union Gas combined efforts to offer rebates ranging from \$25-150 depending on the CEE tier that the model meets. In 1998, 1,400 rebates were provided. Since September 1998, City Public Service, Bexar Metropolitan Water District, and San Antonio Water System collectively have sponsored rebates through the *Wash Right* Program. Bexar Metropolitan Water District and San Antonio Water System offer a \$100 rebate to customers purchasing a high efficiency clothes washer, while City Public Service offers an additional \$100 credit. The *Wash Right* Program advertises the rebate using bill inserts and point of purchase material. Other promotions have included energy efficient clothes washer giveaways. Both rebate programs are ongoing.

## **Southwest/Rockies**

### **Market Share**

The market share in the Southwest/Rockies region rose gradually from 5.25 percent in the first quarter of 1998 to 6.5 percent in the fourth quarter.

### **Promotions**

Only Colorado has offered rebates for high efficiency clothes washers in the Southwest/Rockies region. In 1997, the City of Boulder Public Works began offering \$100 rebates for high efficiency clothes washer models that meet CEE's standards. In 1998, 300 rebates were distributed.

## Other Regions

The market share for ENERGY STAR-qualified clothes washers in Lower Midwest and Mid Atlantic increased by about one percent, the same amount as in the Upper Midwest, the South/Southeast, and the Southwest/Rockies regions. The Alaska/Hawaii region experienced a two percent increase in market share from the first quarter to the third quarter, but ended the fourth quarter dropping from 6.4 to 5.1 percent. No clothes washer rebate programs or other promotions were offered in the Alaska/Hawaii, Lower Midwest, or Mid Atlantic regions in 1998.

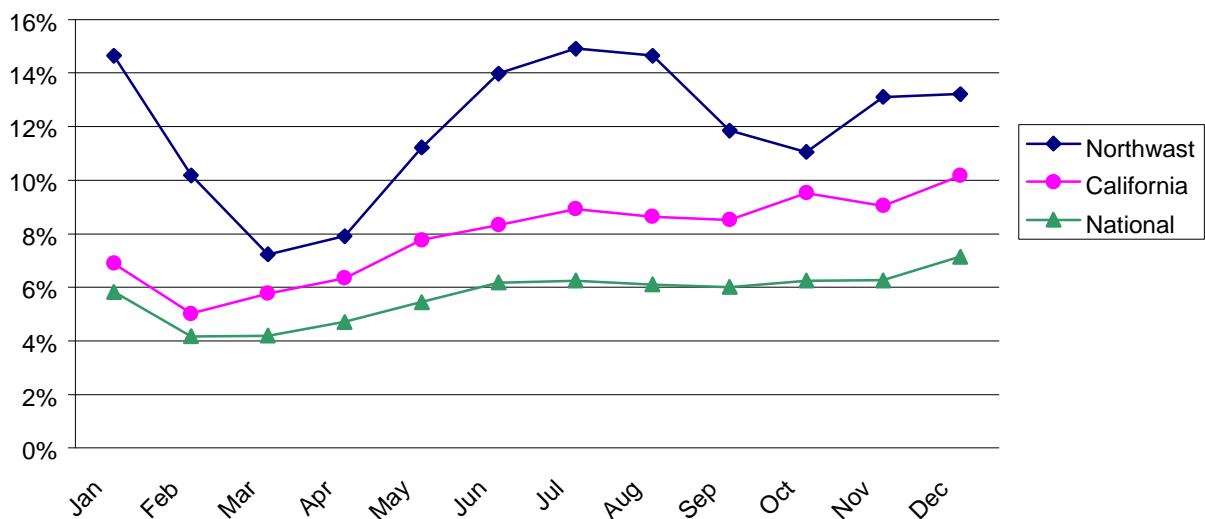
## Regional Comparisons

### ENERGY STAR-qualified Clothes Washers: California vs. the Northwest vs. the Nation

Appendix II lists the major rebate programs that occurred for 1998. The three local regions that had the most consistent and active rebate and promotional programs for 1998 were California, New England, and the Northwest. Most of the ENERGY STAR rebate programs in 1998 involved only clothes washers and, thus, only clothes washer market share in these regions is highlighted in Figure 12.

ENERGY STAR-qualified clothes washer sales for California followed the same pattern as qualified clothes washer sales nationally, with the increase slightly higher for California. ENERGY STAR-qualified clothes washer sales for the Northwest started very high for January and February and then fell back almost to the national levels for March and April. Sales rose again from May and July and then dipped for August through October, rising again in November and December. Despite the roller coaster ride, ENERGY STAR-qualified clothes washer sales in the Northwest were still significantly higher than for any other region throughout 1998.

**Figure 12. 1998 ENERGY STAR Clothes Washer Percent Sales**



# ENERGY STAR-Qualified Refrigerators

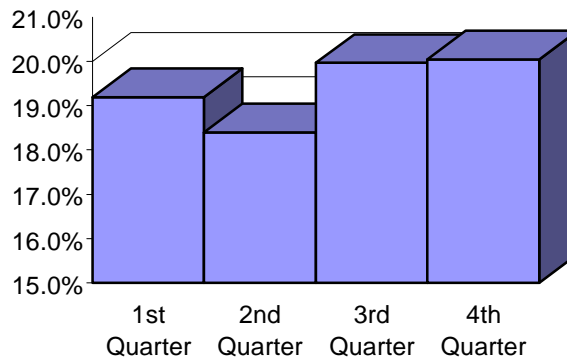
## Product Availability

Refrigerator availability has been the most varied of the ENERGY STAR-qualified appliances in 1998 (Figure 2, Appendix III). By the end of the first quarter in 1998, a number of ENERGY STAR-qualified refrigerator models had been pulled from the market, resulting in a 27 percent decrease in availability of ENERGY STAR-qualified refrigerators. At the same time, the release of the 1997 Federal Appliance Standards was delayed, possibly affecting the availability of qualified refrigerator models. However, as of June 1999, availability has largely returned to the first quarter 1998 levels with new models added by Whirlpool, Amana, and Maytag. Previously, between May and June 1997, Whirlpool had increased the number of ENERGY STAR-qualified refrigerator models fourfold. Among the refrigerator models available through ENERGY STAR Retailer Partners in 1998, ten percent were ENERGY STAR-qualified models.

## Market Share

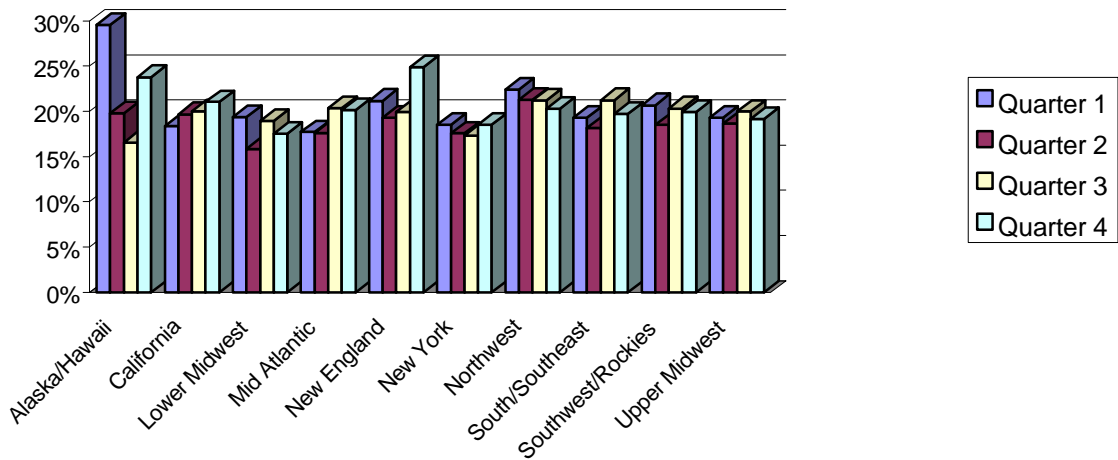
The market share for qualified refrigerators stayed between 18 and 20 percent during most of 1998, ending slightly higher at an average of 20 percent during the fourth quarter (Figure 13). These results are positive considering the generally lower availability of qualified products and lack of rebates offered during much of 1998.

Figure 13. ENERGY STAR Refrigerators - 1998 Market Share



Upon first analysis, qualified refrigerator sales do not appear to have been as successful as qualified clothes washer sales. However, considering the general decline in availability throughout 1998 and the general downward trend in availability in most regions, the modest upward trend in New England and California is significant (Figure 14). All other areas were roughly flat or lost some market share during 1998.

**Figure 14. ENERGY STAR Refrigerators  
1998 Market Share by Region**



## California

### Market Share

The market share of ENERGY STAR-qualified refrigerators in California rose from 18 percent to 22 percent of the market share (Figure 14). This increase was driven by significant market share increases in SDG&E's and SCE's territories.

### Promotions

Promotional activities for ENERGY STAR-qualified refrigerators included fewer rebates than for clothes washers but included several other successful promotions. In 1998, San Diego Gas & Electric focused its market transformation efforts on promotional advertising and beat both the nation and California in 1998 sales of qualified refrigerators (see case study below). SCE was engaged in general promotions of ENERGY STAR products during 1998 through salesperson training, paid advertising, and development of educational materials. SCE also offered a \$50 rebate for energy efficient refrigerators in 1998. While these SCE rebates were not specifically part of its 1998 ENERGY STAR Retail Initiative, the refrigerator models that qualified for the rebate met the ENERGY STAR specification.

## New England

### Market Share

The market share of ENERGY STAR-qualified refrigerators in New England rose from about 21 percent to 25 percent (Figure 14). All four states in the New England region experienced increases in market share ranging from four to 13 percent. New Hampshire and Vermont experienced significant increases in the fourth quarter, ending the year with 33 percent and 31 percent market share respectively. This increase in market share for qualified refrigerators may be related to the broad awareness of the ENERGY STAR brand through the clothes washer rebates and other ENERGY STAR appliance market transformation efforts coordinated by NEEP. Another influencing factor may be the general rise in availability by the end of 1998.

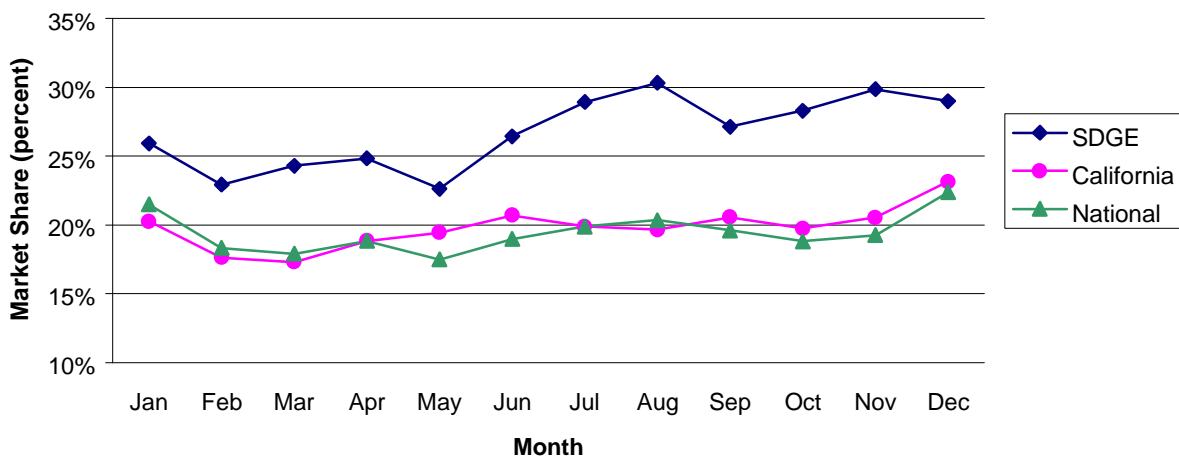


## Case Study

### 1998 High Efficiency Refrigerator Promotion San Diego Gas & Electric

Figure 15 below shows sales of ENERGY STAR-qualifying refrigerators in SDG&E's territory. The market share throughout 1998 was significantly stronger compared to statewide market share and to national sales, despite the lack of customer rebates. SDG&E's strong message through advertising, its well organized in-store promotional activities, and its strong ENERGY STAR awareness in connection with the clothes washer program undoubtedly contributed to these results.

**Figure 15. 1998 ENERGY STAR Refrigerator Sales  
San Diego Gas & Electric**



# ENERGY STAR-Qualified Dishwashers

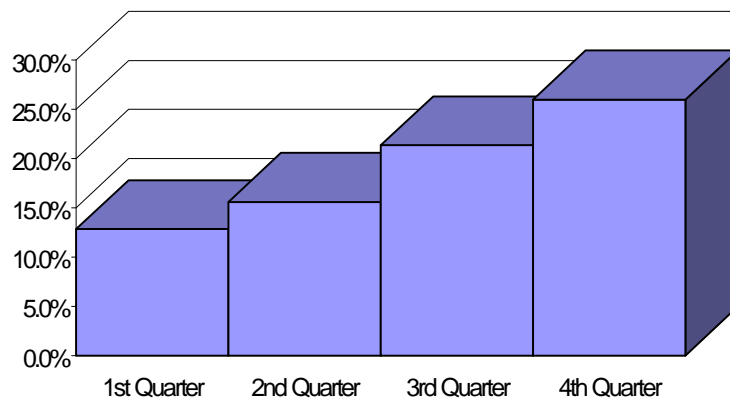
## Product Availability

The year ended with more ENERGY STAR-qualified dishwasher models on the market than at the beginning of the year with a slight decrease in availability at the end of the second quarter 1998 (Figure 3, Appendix III). Between September and October 1998, availability increased due to the addition of models to the market by Frigidaire, Bosch, and Asko. Availability reached its highest level between November 1998 and February 1999 with the introduction of models by Equator and Southcorp to the market. In 1997, a sharp increase in ENERGY STAR-qualified dishwasher availability paved the way for a strong showing in 1998. In the first quarter, the only manufacturer providing ENERGY STAR-qualified dishwashers was General Electric. By June 1997, eight other companies had introduced models. Frigidaire introduced 68 models and Bosch introduced 27, while General Electric added 17 more to the market that year. Among the dishwasher models available through ENERGY STAR Retailer Partners in 1998, 20.6 percent were ENERGY STAR-qualified models.

## Market Share

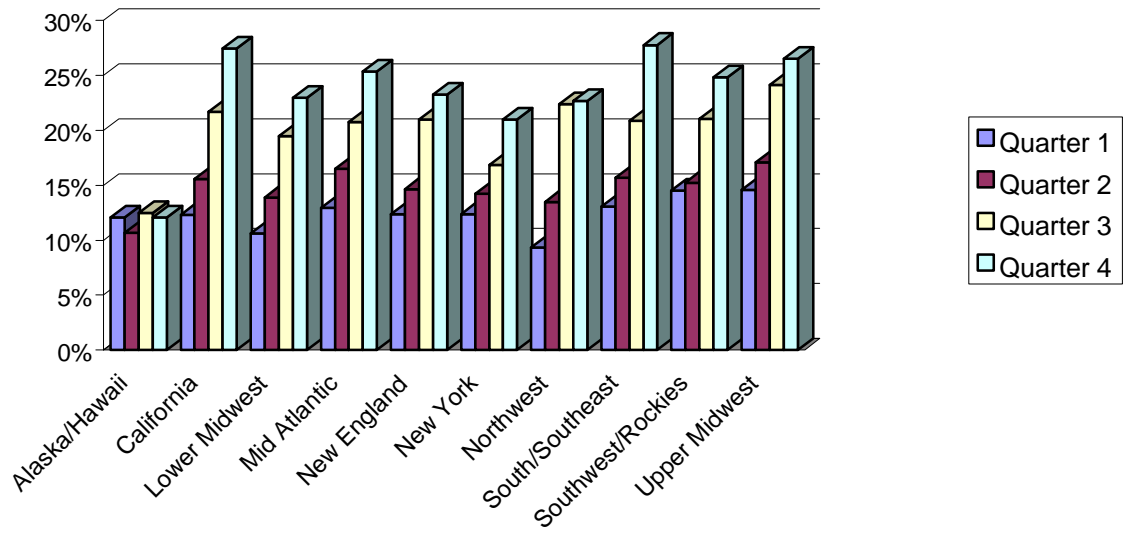
The market share for ENERGY STAR dishwashers increased significantly during 1998, nearly doubling from about 13 percent market share during the first quarter to more than 25 percent in the fourth quarter (Figure 16). While these gains are significant, it should also be noted that a large number of qualified dishwashers were introduced in mid-1997, which probably contributed to these tremendous gains.

Figure 16. ENERGY STAR Dishwashers - 1998 Market Share



The market share of dishwashers rose dramatically in most areas of the country (Figure 17). This general upward trend is much stronger than the effects of regional promotions and is likely due to the significant increase in availability of ENERGY STAR-qualified dishwashers through the last quarter of 1998. The market share for ENERGY STAR dishwashers in California and in the South/Southeast more than doubled from the first quarter of 1998 to the fourth quarter contributing to this large overall increase in market share. The regional differences depicted in the chart below are not as significant compared to the overall increase in product availability.

**Figure 17. ENERGY STAR Dishwashers  
1998 Market Share by Region**



## ENERGY STAR-Qualified Room Air Conditioners

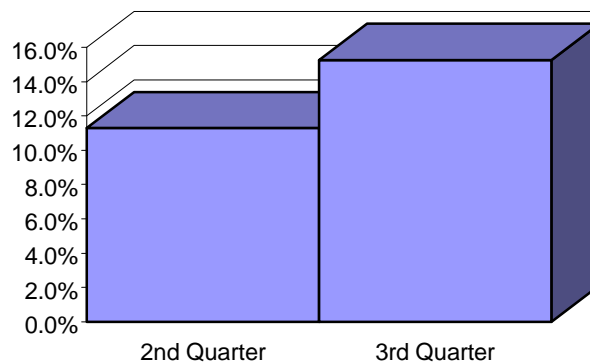
### Product Availability

After fluctuating throughout the year, availability of ENERGY STAR-qualified room air conditioners at the end of 1998 was on an upward trend mainly due to the addition of five more models by Whirlpool to the market (Figure 4, Appendix III). Generally, sales of room air conditioners are lower during the non-cooling season, October through March. However, the upward trend in availability of ENERGY STAR-qualified room air conditioners continued in early 1999 with a spike in March and April as Amana and Frigidaire introduced more models to the market. Among the room air conditioner models available through ENERGY STAR Retailer Partners in 1998, about seven percent were ENERGY STAR-qualified models.

### Market Share

Market share for ENERGY STAR-qualified room air conditioners grew in 1998, capturing about 15 percent of the market during the third quarter compared to 11 percent in the second quarter (Figure 18). This increase was driven by strong sales in the Northwest, Upper Midwest, Southwest/Rockies, and New England regions. Availability was also higher during the third quarter of 1998. Because air conditioner sales are extremely low during the non-cooling season, no data is shown for the first and fourth quarters.

**Figure 18. ENERGY STAR Room Air Conditioners - 1998 Market Share**

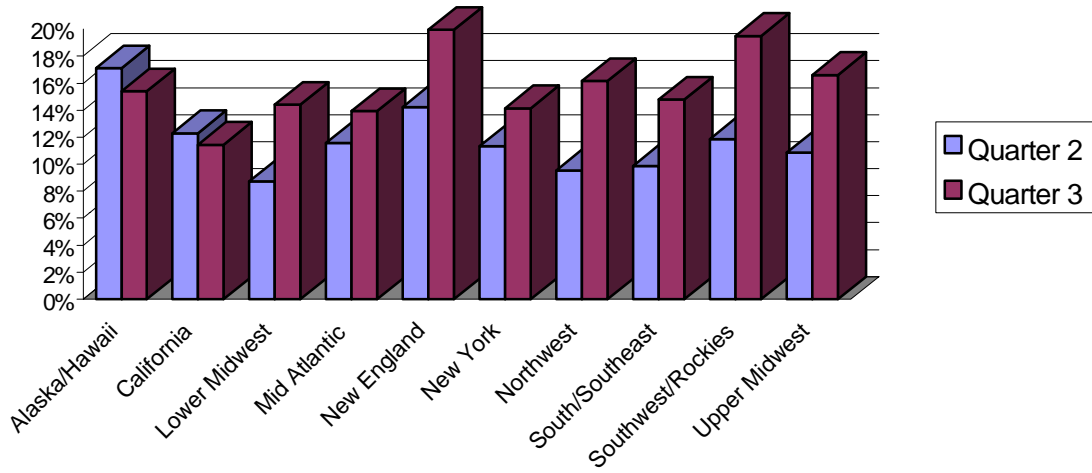


Since the upward trend in the market share for ENERGY STAR-qualified room air conditioners was fairly consistent nationwide, it is not meaningful to try to attribute this increase in sales to regional ENERGY STAR promotions. In addition, different types of promotions influence sales of qualified room air conditioners because they are highly seasonal products.

California showed a slight decline in market share from the second quarter to third quarter despite the state's involvement in market transformation activities during 1998 (Figure 19). California also had the lowest overall sales of qualified products compared to other regions for room air conditioners likely due to the state's relatively mild climate.

Other regions of the country captured the major portion of the market share. Air conditioners sold in New England gained the greatest market share of all the regions in 1998—nearly 20 percent, up from 14 percent. The Northwest market share rose from nearly ten percent to 16 percent. In the Upper Midwest, the market share increased from nearly 11 percent to nearly 17 percent. The largest increase in market share among the regions occurred in the Southwest/Rockies region.

**Figure 19. ENERGY STAR Room Air Conditioners  
1998 Market Share by Region**



## Conclusions

The results from this analysis show that during 1998, availability and market share of ENERGY STAR-qualified appliances generally have increased over 1997 levels. Availability of ENERGY STAR-qualified clothes washers, dishwashers, and room air conditioners increased in every quarter throughout 1998. Only ENERGY STAR-qualified refrigerator availability decreased during the year. ENERGY STAR-qualified product availability can be attributed to a range of factors. Increased qualified clothes washer availability was due to the success of pioneer products from American manufacturers. For ENERGY STAR-qualified refrigerators, a significant number of models were pulled from the market, while at the same time the release of the 1997 Federal Appliance Standards was postponed. In the case of both qualified room air conditioners and dishwashers, manufacturers introduced new products to the market.

A variety of factors explain the increase in market share for each appliance type. For clothes washers in California and the Northwest, rebates for qualified clothes washers and heavy educational promotions likely drove the high market share. However, in some cases, the market share in regions where there were less extensive ENERGY STAR rebates or promotions, such as in the Upper Midwest, was about the same as the market share in regions where non-ENERGY STAR rebates occurred, such as the South/Southeast. This indicates that rebates for ENERGY STAR-qualified appliances complemented by consumer education about energy efficiency are significantly more effective at transforming the market than rebates alone. For ENERGY STAR-qualified dishwashers, the general increase in market share in each region nationwide suggests that increased availability of qualified dishwashers in 1998 affected the market share rather than regional promotions. Despite the decrease in availability of ENERGY STAR-qualified refrigerators, the market share increased modestly in 1998, indicating that consumer demand for ENERGY STAR-qualified appliances likely drove this increase. For ENERGY STAR-qualified room air conditioners, the 1998 market share grew by about the same percentage as 1998 availability, indicating that this market may be highly influenced by qualified product availability.

## Appendix I: States included in each region

<b>Region</b>	<b>States</b>
New England	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
New York	New York
California	California
Mid-Atlantic	Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania, Virginia, West Virginia
South/Southeast	Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Texas
Northwest	Idaho, Montana, Oregon, Washington
Lower Midwest	Arkansas, Kansas, Kentucky, Missouri, Oklahoma, Tennessee
Southwest/Rockies	Arizona, Colorado, Nevada, New Mexico, Utah, Wyoming
Upper Midwest	Illinois, Indiana, Iowa, Minnesota, Michigan, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin
Alaska/Hawaii	Alaska, Hawaii

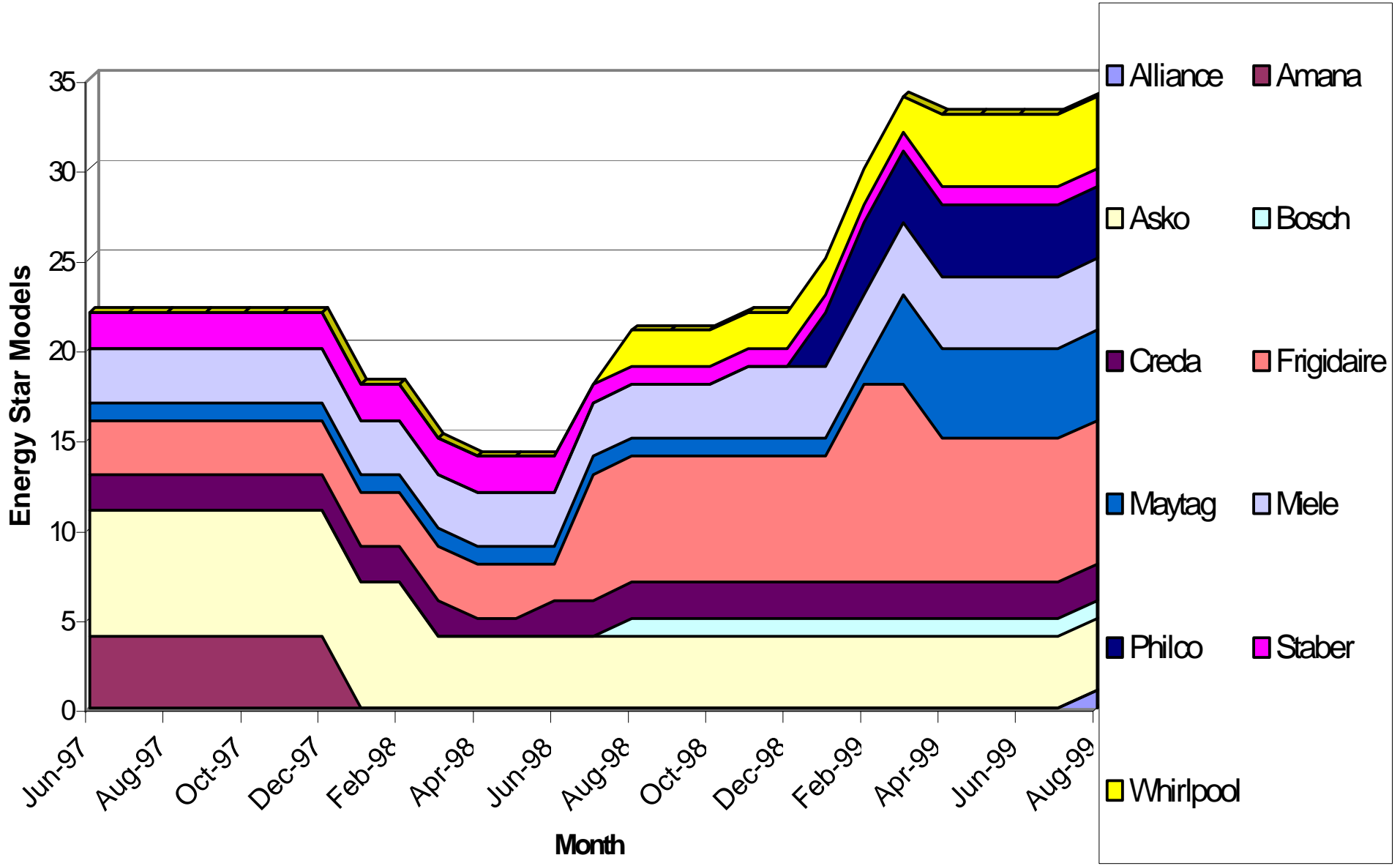
## Appendix II: Significant rebate programs during 1998

State	Utility	Dates	Product	Amount
Massachusetts	All (NEEP)	May 1-December 31	Clothes Washers	\$100
Vermont	All (NEEP)	May 1-December 31	Clothes Washers	\$150
California	SMUD	Full Year	Clothes Washers	\$75-150
California	SMUD/SAWWA	Full Year	Clothes Washers	\$50
California	PG&E	Full Year	Clothes Washers	\$100
Idaho	All (NEEA)	Full Year	Clothes Washers	\$10
Montana	All (NEEA)	Full Year	Clothes Washers	\$10
Montana	Glacier Electric	Full Year	Clothes Washers	\$75
Montana	Montana Power	Full Year	Clothes Washers	\$75
Oregon	Blachly-Lane Coop	Full Year	Clothes Washers	\$75
Oregon	City of Ashland	Full Year	Clothes Washers	\$75 or \$150
Oregon	City of Lafayette	Full Year	Clothes Washers	\$40
Oregon	Corvallis Public Works	Full Year	Clothes Washers	\$50
Oregon	Emerald-PUD	Full Year	Clothes Washers	\$100
Oregon	Eugene Water	Full Year	Clothes Washers	\$175
Oregon	Lane Electric Coop	Full Year	Clothes Washers	\$170
Oregon	McMinnville Water and Light	Full Year	Clothes Washers	\$40
Oregon	Salem Electric	Full Year	Clothes Washers	\$60
Oregon	All (NEEA)	Full Year	Clothes Washers	\$10
Washington	City of Kent	Full Year	Clothes Washers	\$50
Washington	LOTT	Full Year	Clothes Washers	\$50
Washington	Seattle Public	Full Year	Clothes Washers	\$50
Washington	Seattle City Light	Full Year	Clothes Washers	\$50
Washington	Snohomish PUD	Full Year	Clothes Washers	\$50
Washington	All (NEEA)	Full Year	Clothes Washers	\$10



## **Appendix III: 1998 ENERGY STAR-Qualified Appliance Availability**

Figure 1. Energy Star Clothes Washers by Manufacturer



**Figure 2. Energy Star Refrigerators by Manufacturer**

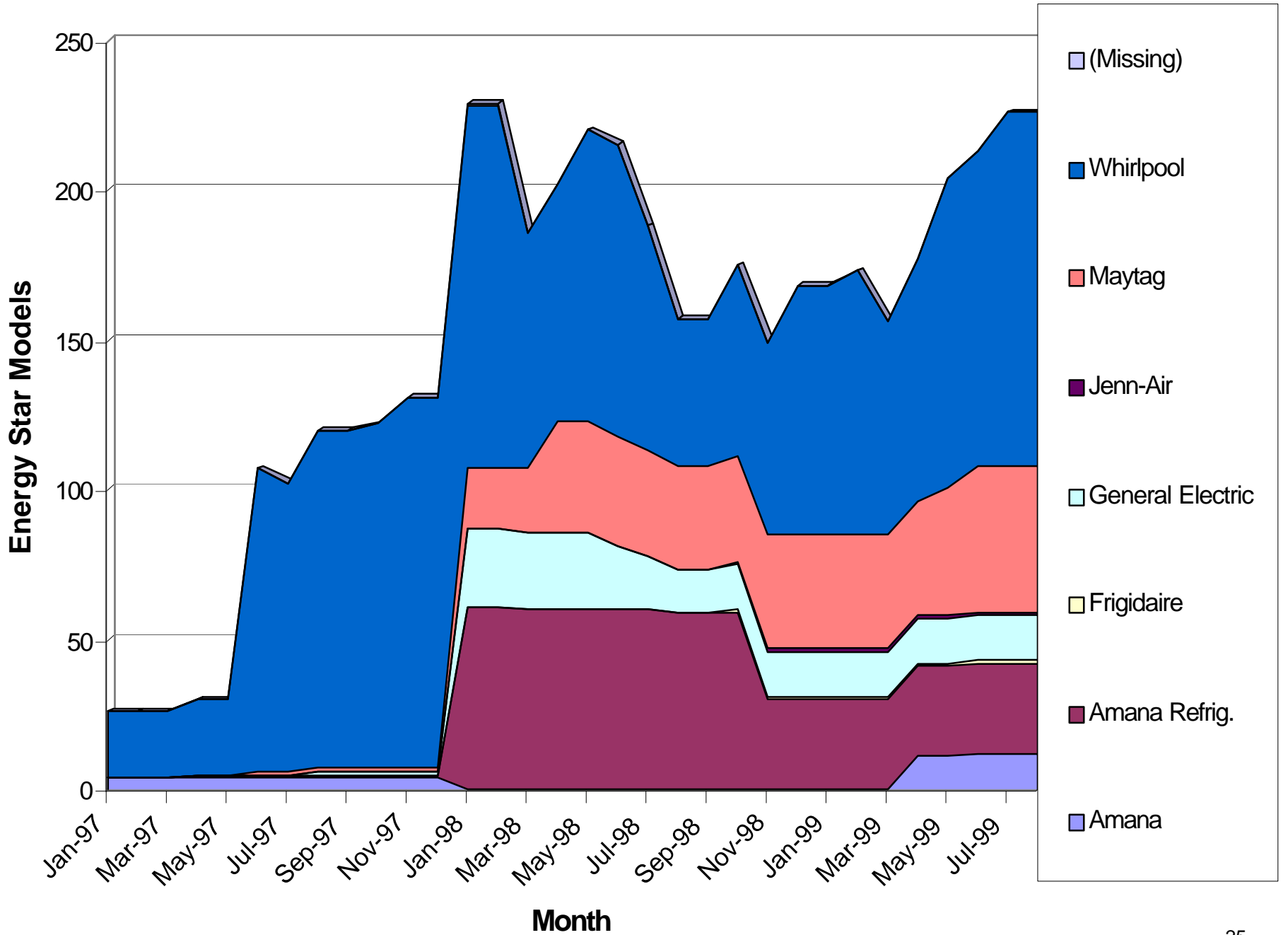


Figure 3. Energy Star Dishwashers by Manufacturer

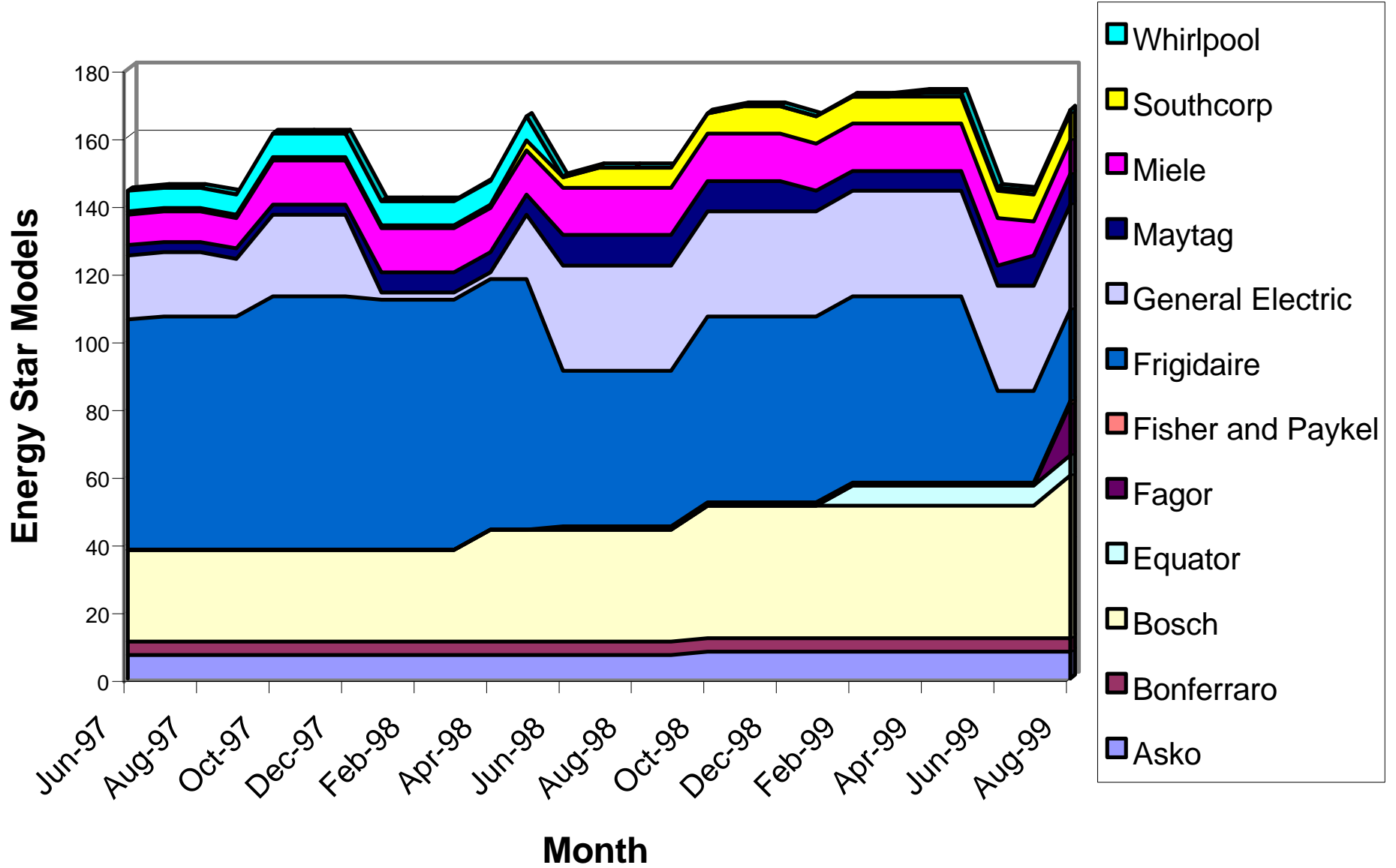


Figure 4. Energy Star Room Air Conditioners by Manufacturer

