

WashWise Cleans Up the Northwest: Lessons Learned from the Northwest High-Efficiency Clothes Washer Initiative

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ABSTRACT

WashWise is a regional market transformation program designed to promote the sale and acceptance of resource-efficient clothes washers (RECWs) in the Northwest through financial incentives, education, and marketing. The Program is sponsored by the Northwest Energy Efficiency Alliance (the Alliance), a non-profit regional consortium of utilities, government, public interest groups, and private sector organizations. WashWise started in May 1997 and will continue through the end of 1999.

WashWise works to transform the clothes washer market primarily at the retail level through an in-store instant rebate and a retailer bonus. In addition to financial incentives, WashWise has undertaken a collaborative marketing and promotional campaign to educate consumers about the financial savings and other benefits of RECWs. The program promotes only RECWs that meet strict energy and water savings criteria.

WashWise has far exceeded initial expectations; annual program sales goals were met in the first three months. As of June 1998, 30,000 RECWs have been sold through the program (representing approximately 13 percent of the Northwest residential clothes washer market). In addition, over 540 retailers, including national and regional chains, are participating in the program. Preliminary survey results also have also provided evidence of broad customer satisfaction.

This paper reviews the key elements that have contributed to the success of the WashWise program. In addition, the paper provides program results and indicates future directions for WashWise and the RECW market.

Introduction

WashWise is a regional market transformation program designed to promote the sale and acceptance of resource efficient clothes washers (RECWs)¹ in the Northwest through financial incentives, education, and marketing. The program started in May 1997 and will continue through the end of 1999.

WashWise is sponsored by the Northwest Energy Efficiency Alliance (the Alliance), which is a non-profit regional consortium of utilities, government, public interest groups, and private sector organizations. The Alliance is dedicated to transforming markets for energy efficient products and services. Programs sponsored by the Alliance target customers in Oregon, Washington, Idaho, and western Montana.

¹ RECWs also are referred to as horizontal axis washing machines, since, all of the machines that currently qualify as RECWs employ horizontal axis technology. RECW standards used by the WashWise program are those set by the Consortium for Energy Efficiency (CEE).

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WashWise has far exceeded initial expectations; annual program sales goals were met in the first three months. As of June 1998, 30,000 RECWs have been sold through the program (representing approximately 13 percent of the Northwest residential clothes washer market). The two key elements that have contributed to the success of the WashWise program are: 1) the multifaceted program design that includes financial incentives, marketing, education, and retailer training and support; and 2) regional collaboration among diverse organizations.

Background

The U.S. residential clothes washer market is dominated by vertical axis machines. This technology uses an upright agitator to circulate the clothes and completely fills the tub with water several times during a wash cycle, requiring an average of 45 gallons of water per load. In contrast, a horizontal axis (h-axis) machine is designed with the tub on its side and does not use an agitator; the drum rotates on a horizontal axis. Thus, the tub fills just enough to tumble the clothes through a shallow pool of water using only 20 gallons of water per load. Figure 1 illustrates the difference in design between a vertical-axis machine (left) and an h-axis machine (right).

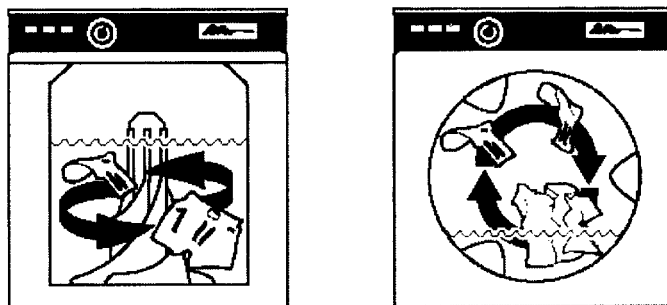


Figure 1. Vertical Axis vs. Horizontal Axis Clothes Washer Technology

In addition to the significant water savings, the h-axis technology provides resource savings in three ways. First, since less water is required, heated, and sent into the wastewater stream, energy, water and wastewater are conserved. Second, most h-axis models have a higher spin rate, which removes more water than the vertical axis machine. Thus, additional energy savings result from a shorter dryer time. Finally, h-axis machines require less detergent than vertical axis machines. The following table provides annual dollar savings assessment for the Northwest Region.

Table 1. Northwest Savings Assessment: Vertical Axis vs. Horizontal Axis Clothes Washers

	Vertical Axis	Horizontal Axis	Annual Savings
Water Heating			
Electric	\$76.83	\$48.10	\$28.73
Gas	\$57.21	\$42.01	\$15.20
Water	\$34.68	\$25.26	\$9.41
Wastewater	\$81.73	\$59.54	\$22.19
Detergent	\$80.00	\$26.00	\$54.00
Total Cost			
Electric	\$273.24	\$158.90	\$114.34
Gas	\$253.62	\$152.81	\$100.81
Assumptions: Electric cost 6.5 cents/kwh. Natural gas cost 55 cents/therm. Water cost \$1.70/CCF. Sewer cost \$4/CCF. All savings incorporate the reduced drying time due to lower remaining moisture content. Standard detergent use was assumed.			

For over 50 years, h-axis technology has been the standard in European countries, where space is scarce and energy and water costs are high. European h-axis models also have been available in the United States. Import costs and U.S. design requirements, however, have kept these products at a premium. The high price combined with lack of consumer awareness has hindered the integration of h-axis technology into the mainstream U.S. residential clothes washer market. As recently as 1996, h-axis washers represented less than one percent of annual U.S. residential washer sales (Northwest Energy Efficiency Alliance 1997).

It All Began With THELMA

The WashWise story began in 1992 when a coalition of Pacific Northwest utilities, government agencies, and environmental groups that were interested in promoting appliance efficiency identified the h-axis clothes washer as a promising resource saving technology. Preliminary investigation showed that there were no major U.S. manufacturers in the market and that European models remained high-end products. Limited testing and anecdotal information suggested that RECWs could provide substantial savings in water, energy, and detergent, as well as other performance benefits.

This coalition recognized that market transformation would be less expensive and had a greater chance of success if utilities pooled their resources. In addition, diverse organizations, such as electric, gas, and sewer utilities, could all benefit from a successful program. To assess the market and its potential for transformation, the coalition developed The High Efficiency Laundry Metering & Marketing Analysis (THELMA). Due to the interest from several resource sectors, the project was structured as an Electric Power Research Institute (EPRI) Tailored Collaborative research study. In all, 29 utilities and organizations joined the collaborative research effort. To address the technology, savings, and market issues, the THELMA study:

- characterized the current state of RECW technology worldwide;
- confirmed engineering estimates of savings through lab testing;
- assessed consumer laundering habits in the U.S.;
- identified potential barriers to market penetration of RECWs; and
- identified critical issues and suggested strategies for utility market transformation programs.

THELMA confirmed that significant market barriers exist in the RECW market, including high purchase price, lack of competitive products, distrust of unfamiliar technology, and lack of information about RECW technology, particularly about non-resource conservation benefits. In addition, at the time of the THELMA study, with only one exception, European models were the only RECWs on the U.S. market. These models were high-priced, had a smaller capacity, and had an internal water heater, which requires a different electrical hookup than the typical U.S. washer. The lack of a domestic model designed to meet U.S. consumer preferences (e.g., large capacity) was identified as a significant market barrier. Until a domestic model was introduced, any market transformation program most likely would have failed. In the Fall 1996, a domestic manufacturer introduced a re-engineered h-axis model. In the Spring 1997, WashWise was launched.

Program Objectives

The WashWise program design evolved from the THELMA findings. Initially, the primary objective of WashWise was to create a sustainable market for RECWs in the Northwest by stimulating competition among manufacturers. To achieve this goal, WashWise was designed to address consumer awareness and demand. The theory behind the WashWise program is based on basic economic principles. As more h-axis machines are purchased, manufacturers will increase the production of these machines, and new competitors will enter the RECW market. As competition increases and manufacturers achieve economies of scale, prices of RECWs will fall.

When WashWise began, market penetration for h-axis machines in the Northwest was estimated at 1 percent (Northwest Energy Efficiency Alliance 1997.) WashWise set out to achieve a market share of 3 percent, or 2,785 incentives, for 1997 in the Northwest; an ambitious penetration for the region in that time frame. By the end of the third month, WashWise had processed over 3,591 incentives, quickly surpassing the original goal.

A second and equally important objective of the WashWise program is to influence the development and support of maximum energy and water efficiency levels for federal clothes washer standards, which are being revised by the U.S. Department of Energy (DOE). A draft standard will be proposed in January 1999 and then adopted in October 1999.

As the program success became evident, a primary objective was added. If the program were to influence the national standard and overcome manufacturer resistance, demand for this technology would have to be demonstrated in markets outside the Northwest. Thus, WashWise began to seek opportunities to share program design and components with partners in regions outside the Northwest.

Technical Criteria

To qualify for participation as a WashWise RECW, machines must meet criteria set by the Consortium for Energy Efficiency (CEE) Clothes Washer Initiative (CEE 1996). The Initiative was designed to provide consistency in the market and encourage manufacturers to produce more products. Table 2 presents the criteria that clothes washers must meet in order to qualify as an RECW for the WashWise Program. Although the efficiency criteria varies, the WashWise program does not differentiate between levels, that is, any machine that meets levels A, B, or C in Table 2 below is qualified for WashWise. Currently, the 17 machines that meet these criteria all use horizontal axis technology.

Table 2. CEE High Efficiency Clothes Washer Tier Levels and Specifications

CEE Specification		EF (ft ³ /kwh/cycle)	WF (gals/ft ³)	RMC
Level	Tier			
A	1	2.50	11.0	No requirement
	2	3.25	9.5	No requirement
B	1	2.50	11.0	50%
	2	3.25	9.5	50%
C	1	2.50	11.0	40%
	2	3.25	9.5	40%
Baseline		1.18	13.3	62%
EF = Energy Factor; WF = Water Factor; RMC = Remaining Moisture Content				

Program Components

WashWise consists of four main components, which work in concert to achieve program goals: 1) financial incentives; 2) retailer support; 3) marketing; and 4) evaluations. The combined use of these features has been essential to the success of the program.

Financial Incentives

WashWise offers consumers an instant rebate when they purchase a qualifying machine from a participating retailer. In contrast to a mail-in rebate, which has been the utility industry standard, the instant rebate has several advantages. The WashWise rebate provides the customer with instant reward for having made the recommended technology choice, removes the hassle of the mail-in rebate, and reduces the initial up-front cost to the consumer. The incentive is also a tool for the salesperson to attract consumers to the machines. The consumer incentive was set at \$130 from program start (May 1997) through February 1998. In response to the strong consumer demand for WashWise, on March 1, 1998 the rebate was lowered to \$75 and will be offered through September 1998.

To help sustain the market penetration achieved by the presence of a financial incentive, WashWise will transition to marketing only after September 1998. The marketing-only strategy will be developed in summer 1998 and should include print advertisements, dealer support, one-time promotions, and cooperative advertising. The program will also complete the transition to the ENERGY STAR[®] platform.

To encourage retailers to sell the RECWs, the consumer rebate is coupled with a retailer incentive. The retailer incentive was originally thought to be a salesperson commission. However, according to retailer surveys administered, the incentive appears more often to be used to market the program through print advertising or as compensation for administering the program. The retailer incentive was originally set at \$20 and was lowered to \$10 on March 1 to coincide with the decreased consumer rebate.

Retailer Involvement

Retailer participation is the vital link to the success of the program. Retailers are on the front line and are often the customer's first source of information about clothes washers. Four program elements contributed to WashWise's high rate of retailer participation: recruitment, training, on going support, and responsive program administration.

Retailer recruitment began at the manufacturer level, where the program obtained a list of retailers in the region. Once the list of retailers was compiled, a program announcement (ice-breaker) was mailed to each retailer, which introduced WashWise and included a business reply card and toll-free number to request more information. Retailers that responded were contacted first with a phone call to determine their level of interest. Initial interest was among retailers who carried qualifying machines, followed by those waiting for a new product in summer 1997. Eventually, the program contacted each of the retailers identified in the Northwest.

A key component to obtaining retailer participation is the rebate reimbursement process. Initially, retailers were hesitant to participate using the instant rebate feature. The instant rebate was a new approach, requiring the retailer to provide rebates out of their cash reserves. For most retailers the \$130 rebate represented the entire profit margin from the sale of the machine and required internal accounting procedures to be significantly modified. The largest issue, however, was the fear that reimbursement would be delayed or, perhaps never occur. To help reduce the impact of the program on the dealer's cash flow, WashWise committed to a 5-business-day reimbursement. To increase the chances of a successful experience with the program, training was required (either in-store or over the phone) prior to offering rebates so that retailers understood the procedure for obtaining reimbursement. To supplement the training, an instruction packet was developed detailing the elements of the program. A staffed retailer hotline (1-888-823-WASH) also was put in place to respond to any questions that the retailers might have once they started operating the program.

As the program moved forward, it became clear that the process required for rebate reimbursement could not be "one size fits all." Independent retailers found it relatively easy to invoice the program on a rebate by rebate basis. For small and large chains, however, the process required tailoring. The three main issues that exist for chains are coordination among stores, high employee turnover (human error), and payment routing. WashWise worked with each chain to negotiate a tailored process that would provide the program with the data required while responding to retailer-specific accounting systems. No two chain agreements are the same. The value of the WashWise adaptive management approach is best evidenced by this program feature. Without the willingness to work with the market, WashWise would not have been able to recruit major retail players.

Marketing

Marketing is an important feature of WashWise that typically has not been included in other utility programs. The marketing approach is multi-pronged, and includes point-of-purchase information, print and radio advertising, public relations, media relations, and promotional events. In addition, a tool kit is available for utilities or retail establishments wishing to develop their own advertising or direct mail. The target population for paid advertising is women, aged 35-59, which is the population identified through THELMA and subsequent research to be the primary decision maker for the clothes washer purchase.

Point-of-purchase materials are supplied to the retailer, and are intended to help consumers identify qualifying machines and create a brand identity. These materials are provided in unlimited supply at no charge and include an acrylic display stand, poster insert, brochure, logo sticker for use on each floor model, and a promotional video. Training is provided on how to properly display point-of-purchase materials.

During 1997, WashWise implemented a program kick-off and two media flights directed at creating consumer awareness. The media-focused kick-off event took place in three locations within the Northwest and included aerial advertising, visual displays of both water and electric savings, presented a history of the washing machine from the rock to the h-axis machine, and featured a prominent local speaker. A functioning WashWise machine was present at each site and was used to wash grass-stained clothing. The first flight of paid media started the day of the kick-off and ran for six weeks. Print advertisement and radio spots emphasized the benefits of the technology as well as highlighted the instant rebate. All paid advertising featured participating local retailers. The second flight of paid advertising ran during the fall. It is important to note that retailers engage in significant advertising independent of WashWise. Initial estimates are that retailer advertising to date has at least matched the total program investment in paid advertising.

For 1998, WashWise has four flights of targeted paid advertising, and is shifting from an emphasis on the rebate to a focus on the conservation ethic – encouraging consumers to look at the “second price tag,” which includes the cost of operation and maintenance. In addition, WashWise will expand marketing efforts to the mass market by adding transit advertising for two of the flights in two major markets and adding a fair and homeshow component.

A secondary focus for 1998 is to begin facilitating the exit of WashWise. This will be accomplished in the marketing by creating a transition from WashWise to the ENERGY STAR®. The transition to ENERGY STAR® began in 1998 as the program shifted color schemes to match the ENERGY STAR® palette.

Allied Partners

The success of the program is in large part a result of regional and national collaboration through the Alliance. The combined efforts of diverse entities have provided increased resources, which have contributed to the widespread market presence of the program. In addition, coordination creates a consistent message for the consumer.

ENERGY STAR®

ENERGY STAR® is a national partnership between the U.S. Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA), local utilities, product manufacturers and retailers. The program is designed to help consumers identify and purchase the most energy efficient products on the market. In July of 1997, ENERGY STAR® adopted the CEE specifications so that each WashWise washer qualifies for the ENERGY STAR® label reinforcing the message to the consumer that these are top performing, resource efficient products. In addition, the ENERGY STAR® name brings a national presence to the program. All efforts have been coordinated with ENERGY STAR® since program start.

In addition to the national name recognition, ENERGY STAR® will provide WashWise with an option for transition when the program ends. Coordination with ENERGY STAR® will help to ensure the long-term sustainability of the RECW market.

Non-Electric Utilities

Several water and wastewater utilities have joined WashWise to offer additional rebates to their customers. These relationships provide the benefits of water savings to their customers as well as enhance the WashWise program with additional marketing and financial incentives. Additional rebates of up to \$200 have been offered. In addition, these utilities have circulated bill inserts and conducted radio advertising to help promote the program in their territory.

Local Governments

WashWise's connection with the local governments forms links with municipalities, cities and housing authorities not traditionally found in the utility chain. The Association of Washington Cities, League of Oregon Cities, Montana Local Government Energy Office, and the Association of Idaho Cities are conduits to the local governments within the program territory. These organizations provide contacts with non-electric utilities and stimulate interest by promoting the program through monthly publications.

Oregon State Residential Tax Credit

January 1, 1998, the Oregon Residential Energy Tax Credit program was launched, the first of its kind in the nation. All WashWise qualifying washers are eligible for the tax credit since it has adopted the CEE specifications. The tax credit ranges from \$145 to \$250 depending upon efficiency level of the purchased model. The WashWise program has coordinated with the Oregon Office of Energy to provide information to participating retailers. The tax credit will be highlighted in the media materials targeted to Oregon consumers. Preliminary results indicated increased sales in Oregon as compared to 1997.

Results

Total Rebates/Market Share

As of June 1998, 30,000 machines have been sold through the WashWise Program. This number represents approximately 13 percent of the total Northwest residential clothes washer market. (See Figure 2.) Figure 3 represents the number of rebates processed each month.

Retailers

Currently, the WashWise program has 545 participating retailers, which consist of three retailer types. Of the participating retailers, 53% are independent stores, 31% are large corporate chains, and 15% are small chains. Machine purchases by retailer type approximately coincide with the number of retailers per category. That is, 52%, 28%, and 20% of rebates have come from Independent Stores, Large Chains, and Small Chains, respectively.

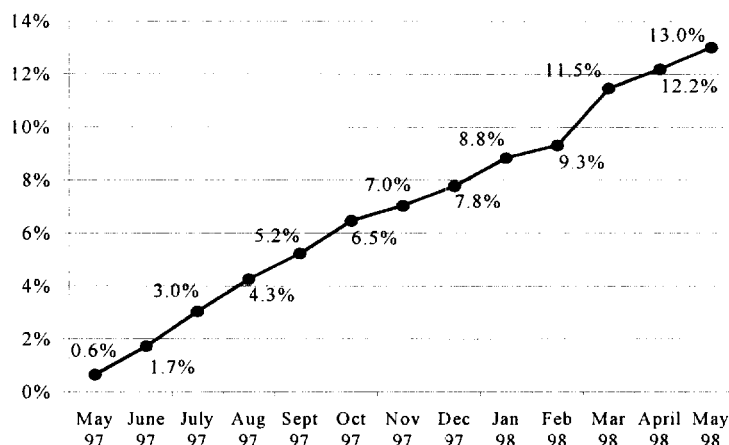


Figure 2. WashWise Northwest Cumulative Market Share

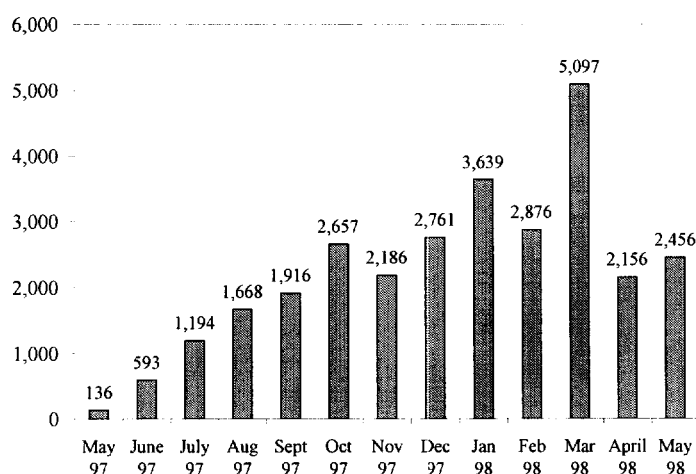


Figure 3. Number of Rebates Processed per Month

Rebate Distribution

Program activity per state generally coincides with state population. The following table illustrates the percentage of population, retailer participation, and number of rebates for each state. The program activity in Idaho and Montana is slightly offset as compared to Washington and Oregon. The factors causing this discrepancy could include retailer type (few chain stores and high volume dealers) and demographics.

Table 2. Program Activity by State

State	Population	Retailers	Rebates
Washington	54%	42%	52%
Oregon	31%	34%	34%
Idaho	11%	14%	8%
Montana	4%	10%	6%

How Customers Hear About WashWise

Retailers are the primary source of information for consumers about WashWise. In March 1998, 71 percent of consumers indicated that retailers were the primary source of information about the program (Northwest Energy Efficiency Alliance 1998). Though this number remains high, it is significantly lower than at the beginning of the program. In May and June 1997, 91 percent and 82 percent of consumers, respectively, obtained information about WashWise from retailers. The difference has been replaced by other information sources, such as friends, home shows, newspaper and radio ads, and utilities. In May 1997, 5 percent of respondents said that a friend had told them about WashWise. In March 1998, this figure had nearly doubled to just under 10 percent. Similarly, utilities, which comprised only one percent of information sources in June 1997, comprised over five percent in March 1998.

Customer Satisfaction

In August 1997, a survey of 419 purchasers of WashWise RECWs was conducted. This survey was designed to obtain information from the “early adopters” of RECW technology. An additional survey of 250 WashWise consumers was conducted in September and October 1997 to focus on second-tier customers. Ninety-five percent of customers who bought a WashWise washer say they are satisfied with all the features, 81% say it was worth the price, and 91% say they would recommend the machine to others.

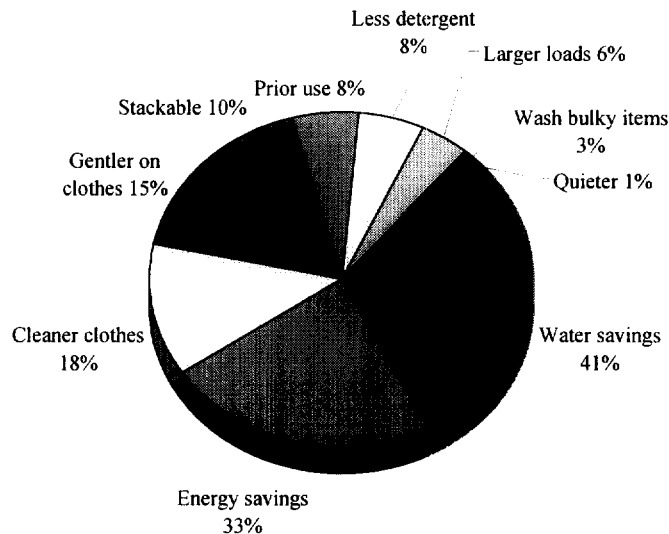
In May 1998, a survey of 400 WashWise purchasers was conducted. Of those surveyed, 95% have owned their machine five months or longer. The satisfaction level has remained high with 95% to 98% of respondents satisfied with various machine features. Eighty-six percent say that the machine was worth the price and 91% would recommend the machine to others.

Why Participants Purchase a WashWise Clothes Washer

The 1997 survey also showed that consumers purchased the WashWise machine for a variety of reasons – the replacement of an existing machine, a move to a new home, or a desire for water or energy savings. When selecting a RECW, consumers clearly cite key benefits emphasized by the program – saving money, saving the environment, and saving their clothes. Results of this survey are presented in Figure 4 below.

Program Effects at Retail

A retailer survey was conducted in Fall of 1997 and offered some surprising results. According to the survey, the estimated price range that most consumers spend for vertical axis washers is \$450 to \$550. Retailers indicated that with an incremental cost of \$100, they believe that 50% of their customers would choose a WashWise clothes washer. With a \$200 incremental cost, they could sell WashWise machines to one-third of their customers. In addition, the majority of retailers believe RECW will dominate the future of the washing machine industry. Prior to the WashWise program, 55 percent of retailers indicated that RECW sales accounted for less than one percent of their clothes washer sales. Since becoming involved with WashWise, the median value for RECW sales is estimated by retailers to be 15 percent of sales, with a significant number of retailers citing even higher numbers.



Percentages total more than 100 percent, since many participants cited multiple reasons for their purchase.

Figure 4. Customer Survey: Why Did Participants Purchase a WashWise Clothes Washer?

Average Machine Price

One of the primary goals of the WashWise program is to encourage price competition between RECWs and non-RECWs. Though the consumer incentive lowers the RECW price, this alone does not constitute sustainable competition. For RECWs to be competitive in the residential washing machine market, the purchase price without financial incentives must move closer to the purchase price of non-RECWs. In less than a year of program operation, the WashWise program has already seen some downward movement of RECW pricing. Though the prices of European models have remained consistently high, domestic models, on average, have experienced a slight decrease in price. A price analysis of one major U.S. manufacturer shows a \$124 decrease in the average price from \$838 in May 1997 to \$714 in February 1998. (See Figure 5.)

Conclusions

WashWise looks forward to continued success in the Northwest. The unique blend of program features and relationships, which has resulted in nearly 13 percent market share in less than a year, will continue to drive the market. Consumer financial incentives will end in September 1998, when WashWise will have encouraged over 40,000 purchases of qualifying machines and certainly will have caught the attention of major manufacturers. The program will continue to provide market stimulus through a well-designed and coordinated outreach campaign that will include an even broader array of marketing activities throughout 1999. Evaluation activities are continuing during 1998 and 1999 which will allow WashWise to continue to provide well founded arguments for pushing the U.S. Department of Energy toward a significantly improved national clothes washer standard. Back at home, WashWise will monitor the effect of a state supported tax credit in Oregon, and will be ready to compare the effects of a significant rebate and market stimulus on market penetration.

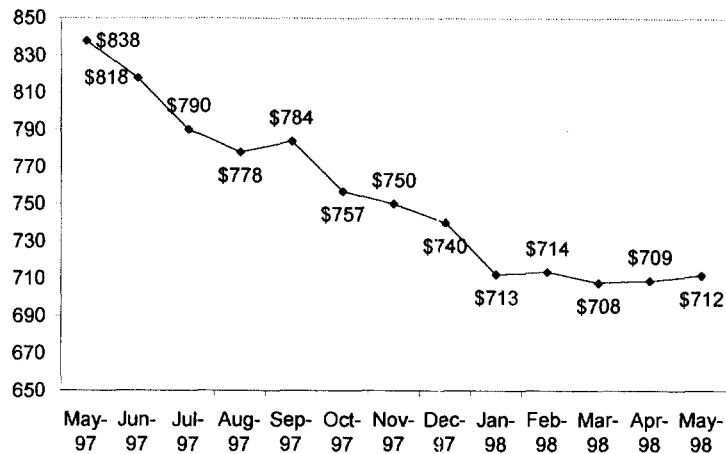


Figure 5. Decrease in Average Machine Price for Major U.S. Manufacturer

The partnerships that WashWise has established will lend to the success of the RECW market well after the program ends. Several states throughout the country, including California and many in the Northeast Energy Efficiency Partnership, are in the process of developing programs that are modeled after WashWise. The ENERGY STAR[®] program coupled with the efforts of CEE will provide a platform for ongoing market coordination and support during the interval prior to implementation of the new clothes washer standard. Manufacturers have expressed enthusiasm for the future of the technology, and WashWise has proven what can happen in a competitive market.

References

- Consortium for Energy Efficiency (CEE). 1996. *Consortium for Energy Efficiency High Efficiency Clothes Washer Initiative Program Description*.
- Northwest Energy Efficiency Alliance. 1998. *Market Progress Evaluation Report WashWise Program*. Report #E98-003. Prepared by Pacific Energy Associates.
- EPRI Retail Market Services. 1995 and 1996. *THELMA – The High Efficiency Laundry Metering and market Analysis*.
- Northwest Energy Efficiency Alliance. 1997. *WashWise: A Market Transformation Venture*. Request for Proposals.