

**ENERGY EFFICIENCY
AS THE CENTER OF AN ELECTRIC UTILITY'S
CORPORATE MARKETING PLAN**

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ABSTRACT

In this increasingly competitive environment many utilities are questioning their commitment to conservation. With cogeneration bypass and strong pressure from natural gas companies, many in the industry believe conservation will only further decrease electric utility revenues and weaken their financial condition. As a result, some utilities are abandoning their conservation programs and beginning aggressive marketing efforts to sell more electricity.

But other utilities are making energy efficiency a central part of their response to these competitive challenges. This paper overviews the changes in the industry and examines how and why one utility, Puget Sound Power & Light, made energy efficiency the center of its new marketing plan.

In 1987 Puget Power completed an integrated resource plan, Demand and Resource Evaluation (DARE) that indicated that the utility needed to maintain a fine balance between encouraging electricity use and promoting conservation to achieve the lowest possible impact on rates. To help turn this balancing act into an operating reality, the utility developed a marketing plan.

In choosing its four goals Puget Power chose energy efficiency to be the center of its plan. The goals that were chosen include:

- 1. Energy Efficiency is Central to All Products and Services**
- 2. Puget Power is the Energy Supplier of Choice.**
- 3. Strong Revenues are the Key to Stable Rates.**
- 4. Excellent Customer Service Is the Cornerstone of Puget Power.**

¹ The views expressed are the authors' and do not represent those of their companies or its employees.

INTRODUCTION

In this increasingly competitive environment many utilities are questioning their commitment to conservation. With cogeneration bypass and strong pressure from natural gas companies, many in the industry believe conservation will only further decrease electric utility revenues and weaken their financial condition. As a result, some utilities are abandoning their conservation programs and beginning aggressive marketing efforts to sell more electricity.

But other utilities are making energy efficiency a central part of their response to these competitive challenges. This paper overviews the changes in the industry and examines how and why one utility, Puget Sound Power & Light, made energy efficiency the center of its new marketing plan.

OVERVIEW OF INDUSTRY CHANGES

In the late 1970's, the escalating costs of conventional power plant construction and the soaring costs of fossil fuel-fired generation, caused electric utilities throughout the nation to begin investing in conservation as a resource. Many electric utilities began to consider conservation as a way of narrowing the projected gap between projected loads and resources. They realized the benefits of managing their demand, not just their supply.

Some outstanding conservation savings were achieved. Many believed that the corporate culture of utilities was changing to accept demand-side management as an important component of their corporate strategic plan. But then in the 80's things began to change.

1. *Long Delayed Power Plants Were Finished*

Construction of many conventional power plants, delayed in the 1970's, was completed. Operating licenses were obtained. New electric power plants (central station generation) came on line. Many utilities that had been deficit now had surpluses of electricity. ² For example, Alabama Power and Georgia Power have constructed six nuclear units, over the last decade which are supplying far more electricity than the current demand from within their service territories. ³ PG&E's Diablo Canyon Nuclear Plant, which began low power testing the month before the Three Mile Island accident, was granted a full power operating license in 1985. ⁴

² From 1973-83, utilities cancelled more than 150 plants but still increased generating capacity by 50% over a period when demand grew by only 20%. R. Munson, The Power Makers, ⁵ (1985).

³ Alabama Power operates Farley Nuclear Plant. Unit #1 went on-line on December 1, 1977. Unit #2 went on-line on July 30, 1981. Georgia Power operates two nuclear power plants. The first, Vogtle Nuclear Plant Unit #1, went on-line on May 31, 1987, while Unit #2 is scheduled to go on-line during the summer of 1989. The second, Hatch Nuclear Plant, Unit #1 went on-line on December 31, 1975, while Unit #2 went on-line September 5, 1979.

⁴ The Diablo Canyon Nuclear Plant run by PG&E, was granted their commercial licenses/full power operation (DOCKET # 50-275) May of 1985 for Unit #1, and March of 1986 for Unit #2 (DOCKET # 50-323).

2. *Oil and Gas Prices Plummet*

By the early to mid-1980's, oil and gas prices began to plummet and many gas companies initiated major new marketing campaigns. Capitalizing on the price advantage, they actively encouraged people to switch from electricity to gas and install gas in new construction. For some utilities that supplied both gas and electricity, the drop in oil prices may not have a problem. These utilities could continue to sell energy to the customer. For some fuel-based utilities these price breaks on fuel sources were even welcomed, and helped reduce the fuel adjustment portion of their rates. For others however, and even some combination utilities, concern about the loss of electric revenues.

Lower gas and oil prices also put pressure on wholesale electric sales. This was keenly felt in the Pacific Northwest. Oil is the marginal fuel for California utilities that buy surplus electricity from the Northwest in the spring through the fall. When oil and gas prices decline, so does the spot market for electricity; Pacific Northwest utilities watched wholesale prices drop by 40%.

The impact of this drop was significant, because many of these utilities relied heavily on these secondary sales to offset costs. At the Bonneville Power Administration, for example, sales outside the Northwest brought in \$314 million (10% of their revenue requirements) in 1984.⁵ By 1987 these sales had dropped \$172 million, a loss of over \$142 million annually. As a result of this and other factors, the Northwest suddenly had 30% more electricity than it could sell. Similar situations were occurring in other parts of the country.

3. *Alternative Power Suppliers Emerge As a Major Force*

Encouraged by the Public Utilities Regulatory Policy Act (PURPA), many large industrial customers began to generate their own power. In 1987 112 cogeneration units in PG & E's service territory displaced 617 MW's of the utility's electric load.⁶ Some of these customer-owned power plants were as large as conventional utility facilities. Dow Chemical in Houston, for example, built one new plant and modified two others to generate approximately 1000 MW (megawatts) specifically supplying its own requirements and selling the surplus to Houston Lighting & Power.⁷

The utility's avoided cost and the tax credits/deductions in some areas of the country made building alternative power facilities so attractive that suddenly some utilities

5 "Generation and Sales Statistics, Bonneville Power Administration." The Fiscal Year 1984 Report listed that kwh sales outside the Northwest produced \$314,429,173. The Fiscal Year 1987 listed \$172,971,179.

6 Pacific Gas & Electric's 1987 Annual Report, page 5.

7 Dow Chemical decided to generate their own power, not buying electricity from any other sources. They built one new plant which started up in August of 1982. Dow Chemical had existing powerhouses which they modified, being completed in March 1984. In addition, they operated one other plant which had no alterations performed to it. The total of these four sources generated approximately 1000 MW of power.

were being offered more power under purchase contracts than they needed. Entrepreneurs built thousands of power plants and the utilities were required to purchase the output whether they needed it or not.

In summary, many utilities were becoming very concerned about revenues and being forced to purchase resources they suddenly did not need at costs substantially above the average for their systems.

The drop in fossil fuel prices, combined with the large number of customers and entrepreneurs requesting power purchase contracts under PURPA, prompted utilities in California to ask the Public Utilities Commission to revise the utilities' avoided costs. The purchase price for QF's from PG&E dropped by over 50% from 1984 to 1987.⁸ And since avoided cost is the same criteria used to determine the cost-effectiveness of utility investments in conservation the conservation investment that could be justified by the utility declined substantially.

4. *Customers Became More Efficient*

People and businesses had embraced conservation, investing millions to make their homes and offices more efficient. Utility conservation programs, new building innovations, and customers' own initiatives were making the nation more energy efficient, and reducing kilowatt hour sales. Higher electricity rates suppressed demand further.

While not all of these changes in the industry affected individual utilities. The effect for most was a need to reconsider their plans and actions.

UTILITY RESPONSES

These factors resulted in surpluses of electricity for many utilities and some began reconsidering their commitment to conservation and energy efficiency. This was particularly true of utilities in the West.

Bonneville Power Administration cut its conservation budget by 32% in 1986 and 1987.⁹ PG&E cut its conservation budget by 26%, with the commercial/industrial sector receiving the largest reduction.¹⁰ Conservation departments were renamed Energy Services, Energy Management or Marketing, and many energy efficiency programs were phased out.

⁸ In 1984 PG&E's purchase price for energy from qualifying facilities was \$.689/kWh. By 1987, this had dropped to \$.289. See PG&E Cogeneration & Small Power Production Quarterly Report, Fourth Quarter, 1987.

⁹ This corresponds to total program dollars for energy conservation (loaded) as specified in the Congress and Budget Documents years 1985, 1986, and 1987. These numbers are actual and include overhead. The Conservation Budget also dropped by 70% from 1983-1987, going from \$223,878,000 in 1983 to \$65,878,000 in 1987.⁴

¹⁰ The California Public Utilities Commission Decision #D8612095 authorized 26% less for conservation expenditures in the electric department than originally requested by PG&E in its General Rate Case. Application #85-12-050.

In other parts of the country, such as the Northeast, growth continued to be high and many utilities had to buy power outside their system to meet the demand. Some utilities, such as those in Wisconsin, did not reduce their demand-side management initiatives but rather strengthened them.

Responding to the new competitive challenges by increased marketing was the new emphasis in most U.S. utilities. Many people wondered whether or not energy efficiency would fit in this new utility environment.

Puget Sound Power & Light (Puget Power) was experiencing many of these same pressures and undertook a project to develop a new marketing plan. The next section of this paper explores the development of this plan and the ways in which Puget Power chose to incorporate energy efficiency into its new marketing thrust.

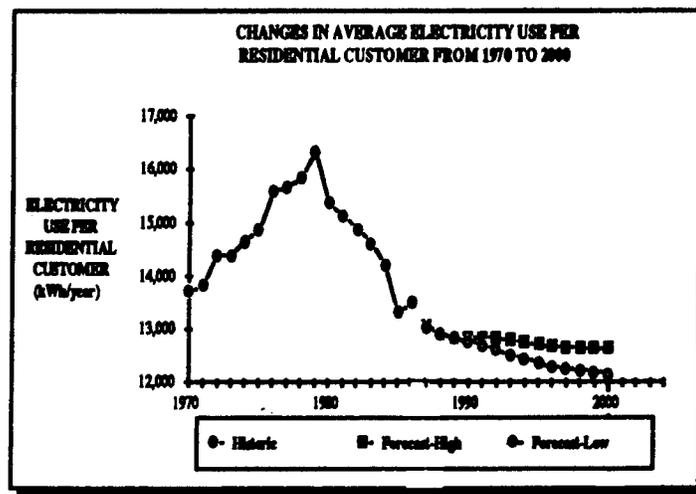
CASE STUDY

Background

Puget Sound Power & Light is an investor-owned utility operating in the State of Washington. It has approximately 660,000 customers with sales of more than 15 million kWhs in 1987. The residential sector accounted for 89% of the customers and 49% of the sales. Thirty-one percent of the electric sales were in the commercial sector, which has 10% of the utility's customers. The industrial sector captured 19% of the sales with only 1% of the customers.

The utility predicts electric sales to rise between .5% and 3.5% annually over the next ten years. Customer growth is strong with approximately 15,000 new customers added each year. As shown in Figure 1, consumption per customer in the residential sector is expected to continue to decline. This is primarily due to increased efficiency, energy-use modification, more usage of gas and wood, and a trend toward smaller household size. Commercial and industrial growth per customer is expected to remain stable or rise slightly.

FIGURE 1



(DARE), analyzed the costs and benefits of alternative demand and supply options.¹¹ Completed in 1987, the analysis indicated that the traditional definition of least cost planning does not meet the current conditions. Least-cost planning usually examines each utility individually rather than the regions in which it operates. For example, although a deficit utility, Puget Power is more like a surplus utility, because they are a buyer in a buyer's market while the regional surplus lasts. Although promoting efficiency has and will continue to be essential to Puget Power and its customers, due to the increasingly competitive operating environment, marketing only conservation will result in a substantial loss of revenues and increase in rates.

Therefore, the DARE analysis indicated the utility needed to maintain a fine balance between encouraging electricity use and promoting conservation to achieve the lowest possible impacts on rates. To help turn this balancing act into an operating reality, the project recommended that the utility develop an internal strategic marketing effort to lay out a detailed action plan and to communicate the new direction to employees.

DARE suggested that the emphasis in the plan be placed on retaining market share of selected end uses and encouraged the Company to continue to emphasize efficiency improvements in its marketing efforts. It also recommended that conservation efforts for the next few years should concentrate on areas of lost opportunity, primarily new construction. DARE also helped to redefine the concept of pure conservation (using less electricity) to efficiency (using electricity efficiently). In this way, Puget Power could maximize activities that best meet the needs of both its customers and shareholders.

Development of the Marketing Plan

A cross section of utility staff were assembled to provide guidance and input to the marketing plan as it was developed. Other utility marketing plans were examined for their relevance to Puget Power's situation. A small group of staff, along with a consultant, drafted a plan that was refined after extensive review by many areas in the company.

An important starting point for development of any marketing plan is to examine the context in which the competitive strategy is being formulated. A variety of techniques for examining the company and the marketplace in which it operates have been developed. Puget Power chose to conduct a SWOT (Strengths, Weaknesses, Opportunities & Threats) analysis. This type of analysis was developed by Andrews, Christensen and others in the Policy Group at the Harvard Business School. It has also been used in Michael Porter's work on competitive strategy and analysis.¹²

SWOT analysis involves the analysis of four key factors. The first two, strengths and weaknesses, are factors internal to the company. A comparison is made between the company and its competitors on the basis of financial condition, proprietary technology, age of the facilities, competitive/cost advantages, management capabilities, innovation abilities and other factors.

The external factors that place limits on the company's ability to complete successfully are characterized as opportunities or threats. Examples include entry of new

¹¹ Securing Future Opportunities: The Demand and Resource Evaluation Project, November 1987.

¹² Michael E. Porter, Competitive Strategy: Techniques for Analyzing Industries and Competitors, xvi-xx (1980).

competitors, market growth, integration, government policies and changing buyer needs and tastes.

The results of the SWOT analysis proved helpful in developing a realistic assessment of the marketplace and providing the foundation for determining a marketing mission, goals and strategies.

During development of the plan, a key strategic issue emerged. What was the utility's marketing mission? Many utilities had chosen to focus their marketing mission on kilowatt-hour sales. But Puget Power knew that it could not return to the days of aggressive selling of kWh's and that the situation today required a much more sophisticated approach. Indiscriminate load-building, often the result of a total emphasis on sales, was not wanted nor was it believed that it would win regulatory or customer approval. They wanted to focus on maximizing customer value.

This concept of maximizing customer value is really the core of Puget Power's business. Customers do not buy units of kilowatt hours, they buy warm houses, televisions automatically responding to the flick of the switch, and the reliable operation of their factory machinery. Puget Power decided that it was in the business of maximizing the amenities received from the utility. Customer value as a central theme, rather than just selling kilowatt hours, naturally incorporated efficiency. For example, an insulated home provides more heating value per dollar to the customer than an uninsulated one.

Through this evaluation of customer needs and by looking at models outside of the industry, Puget Power decided its marketing mission was:

To provide services and products that improve our customers' lives and make their businesses more profitable.

The company believed that if its employees concentrated on these two things that strong revenues would follow. Encouraging its employees to look for ways to make their customers' businesses more profitable would create a loyal customer and identify new ways for the customers to use electricity efficiently. An analogy in another industry that underwent major changes in the early part of this century was the horse and buggy companies, an extremely strong industry until the car came along. If a carriage manufacturer had defined its business as a transportation company, as did the Fisher Manufacturing Company, it would look for opportunities to manufacture bodies for the new cars, rather than watch the demand for its primary product dwindle as the marketplace changed.

The marketing mission Puget Power chose could apply to many other industries. But the Company's corporate mission, one which had been developed previously, placed the marketing mission in its appropriate context. The corporate mission is:

Puget Sound Power & Light Company is an investor-owned public service company committed to being financially sound and responsive to our customers' needs by providing electric power and related services in an increasingly competitive environment. We fulfill this mission through teamwork, with pride in our performance and integrity.

Puget Power decided that a major goal of marketing for them was not just selling more of a product. It was making Puget Power the energy-provider of choice. In its marketing plan Puget Power said it would succeed only by:

- **Putting the customer first.**
- **Being responsive to consumer changes.**
- **Being active and innovative.**
- **Being results-oriented.**
- **Maintaining stable rates.**
- **Setting- and meeting- goals that are consistent with long-term objectives.**

Puget Power adopted the following four marketing goals:

- 1. Energy Efficiency is Central to All Products and Services**
- 2. Puget Power is the Energy Supplier of Choice.**
- 3. Strong Revenues are the Key to Stable Rates.**
- 4. Excellent Customer Service Is the Cornerstone of Puget Power.**

Each of the marketing goals were stated in the present tense to encourage employees to adopt them as their own *personal* marketing statements. Each goal also had measurable targets, or success indicators, to strive toward. Identifying what constituted success upfront integrated evaluation into the program tracking.

Energy efficiency was the first goal, thus it would now be central to all the Company's products and services.

Why did Puget Power Make Energy Efficiency Central?

In setting its marketing goals, Puget Power decided that while there was only so much they could do about the price advantage the gas companies enjoyed, energy efficiency could help provide a competitive advantage. Unlike other utilities that were moving away from the emphasis on conservation, Puget Power decided to make it the cornerstone of its marketing program.

By helping customers reduce their electric bill the Company would reduce the effect of the price differential with gas. It would also create good will. The gas companies were not promoting efficiency improvements or stronger codes because they wanted to encourage their customers to use more gas. Making energy efficiency the central theme would allow Puget Power to enjoy the strong public support for conservation and make its product more competitive.

Emphasis on efficiency could also promote sales where it helped businesses become more competitive in their markets, strengthening their business and freeing up capital for expansion. In the past, this "takeback effect", where customers use their reduced bills to increase the temperature setting in their home or run their machinery longer, has often

been viewed as negative. In this new era of marketing the takeback would be viewed as positive.

An additional benefit of making efficiency the cornerstone of a utility's marketing plan in the 1980s is that it avoids sending mixed signals to its customers. During the utility push for conservation in the late 1970s and early 1980s, many customers resented that they had bought inefficient electric appliances and homes and now seemed to be penalized for it through high rates and inverted rate structures. The utility that promotes indiscriminate load-building runs the risk of a skeptical and angry public, particularly when the supply situation changes again and so does the utility message.

On the other hand, if a utility really does promote energy efficiency and encourages its customers to use electricity when it is appropriate, it will build long-term trust and loyalty with its customers. Efficiency, like quality, makes sense whether a utility is strategically load-building or needing to reduce demand.

Beyond the "soft" benefits from the change in customer behavior and increase of their benefits, promoting efficiency makes sense for a utility from a hard financial point of view. First, as long as the utility pays less than marginal cost for efficiency improvements, it is lowering its overall costs. This is true even if the utility is in a surplus situation where its marginal costs are lower than its average costs. Secondly, efficiency does not always lessen utility revenues through less kwh sales. For example, if a utility is in a competitive situation, customer efficiency improvements can actually increase kwh sales by providing less incentive to convert from electricity to wood, natural gas, or oil.

If a utility is not in this type of competitive situation, revenues might be lowered as a result of efficiency programs. This could create the need to spread the needed revenues to cover the large amount of fixed costs to other customers. But even in this situation not investing in efficiency programs for its customers can be very short-sighted. Helping make its customers' products more competitive in national or world markets, will stabilize and even improve loads, providing important long-term benefits to the utility. Also, customers are expecting more service with the products they buy today and companies which don't provide added value run the risk of their products becoming a commodity. In a commodity marketplace, profit margins drop dramatically and it will be increasingly difficult for a utility to remain the least-cost supplier. Energy efficiency programs are an important tool that utilities have to provide value added service.

But this broader concept of efficiency for Puget Power went beyond just giving away conservation which the utility had done over the past decade.

Why did Puget Power Decide to Market More Than Conservation?

Puget Power has been aggressively marketing efficiency since the late 1970's through its conservation programs. Why did the utility decide to expand its efforts beyond conservation?

As described earlier, Puget Power decided that customer value was what it was truly delivering to customers. While value includes lowering a customer's cost for the same amount of benefits through efficiency, it also includes providing customers with additional benefits - in the form of additional comfort or appliances - when they want it. For example, if a customer wants an electrically heated hot tub, Puget Power should help the customer to get the maximum enjoyment, for the least operating cost, from the hot tub through efficiency.

Puget Power's current advertising theme, "*Now its more efficient than ever to use electricity*", is communicating this idea to customers. It contains the dual messages of efficiency and using electricity, once thought to be contradictory. This perception is a change from the conservation theme which could be interpreted as - use less, even if it means less comfort. From the customer's point of view these are not conflicting messages.

In addition, Puget Power is operating in an intensely competitive environment. The TV and radio waves are constantly sending the message, "*Gas saves you money, gas saves you money*", to an appealing jingle. Without additional information, customers will believe, "Gas always saves you money, and always will." In many cases, electricity, not gas, is the best choice for a customer, depending on the use and his/her need. Part of Puget's marketing campaign is to give customers additional information to help them make a more informed decision. This helps to create a more economically efficient market.

Some would argue that marketing anything to customers beyond conservation is not consistent with least-cost planning. Puget Power believes that its market is determined by customer choice. The goal is to provide the requested output demanded by the customer at the lowest cost possible, and to provide customers with additional choices. This does not mean Puget power should strive to achieve lowest total kwh. On the contrary, this equation the goal is to maximize customer value through minimizing utility costs for any level of service and by providing (and promoting) services where the value to the customer exceed costs.

LESSONS LEARNED

- **Utilities must become more market-driven to succeed.**

It is not possible for utilities to react passively to market changes. Competition and changing customer desires necessitate that utilities become more market-driven. They must analyze their customers, disaggregating each of the sectors into appropriate markets, and develop programs and services specifically tailored to each. For example, instead of thinking about the commercial sector as a whole, utilities should realize the commercial sector is really an amalgamation of an electric motor market, an office HVAC market, a retail strip market, etc. Niche marketing catering to specific customer needs is a marketing strategy that may very well characterize the successful utilities in the late 1980's and into the 1990's.

Niche pricing should also be considered by utilities, although this will be more complicated and could be more controversial. If the utility can develop new pricing options that benefit the shareholders, participating and non-participating customers alike, regulators could be expected to be supportive.

In order to successfully develop niche markets and prices, utilities will need to begin collecting market information on an on-going basis and develop methods to utilize more fully the information they routinely collect. This increased market sensitivity and awareness will allow the utility to identify emerging trends and new opportunities.

- **Utilities should concentrate on providing maximum customer value.**

Instead of concentrating principally on kilowatt hour sales, utilities should define their marketing objective more broadly. Utilities must concentrate on providing the greatest value to their customers.

- **Utilities and regulators need to look beyond pure "least cost."**

Least-cost planning is a method for determining the least expensive method of meeting a level of customer demand. But it is not, nor should it be, the utility's or the regulator's decision whether a customer uses electricity or gas or how much he/she uses. Electricity should be supplied and priced using the least-cost methodology but the customer should retain the final choice. The consumer will then, depending on the price, place the appropriate value on what is being bought.

- **Efficiency is always a marketing advantage for competitive utilities.**

Whether the utility has more electricity than it can sell or it is in a deficit situation, efficiency can be a major marketing advantage. If the utility has a surplus of electricity, efficiency can make the product more price competitive. The advantage of marketing efficiency when demand is high is that it allows the utility to meet customers' needs at the lowest cost.

- **Efficiency as a consistent theme builds long-term customer trust and loyalty.**

Nothing will destroy a utility's credibility quicker than if customers perceive that the story changes everyday. Telling customers to use as much as they can one year, conserve the next, and the following year tell them it's all right to splurge again, will only create confusion and make customers feel manipulated. Customers have remarkably long memories, and the flack some utilities are getting over their previous indiscriminate load building programs are a testament to those memories. Promoting efficiency will make the customer believe that his/her interests come first and will be a key method of building long-term trust and loyalty.

- **New approaches to conservation will have dramatic implications for evaluation.**

The "takeback effect" which has served to reduce the utility cost-effectiveness of acquiring the conservation resource has been difficult to quantify for evaluation purposes. When the "takeback effect" becomes the desired outcome of an efficiency program, new evaluation techniques will need to be developed to assess the success or failure of the program.

- **Utilities should develop positive mechanisms for evaluation and increased accountability.**

As many U.S. industries have painfully discovered, a competitive marketplace allows less and less room for mispriced products and services or ones that aren't desired by the customers. As competition in the utility industry heightens, the successful company will be one that tracks its activities closely, always looking for ways to improve its products and services.

But with this tracking and emphasis on continual improvement there will be increased employee accountability. In order that this strengthens organizations rather than destroys them, utilities need to develop positive mechanisms for evaluation and accountability. In Puget Power's marketing plan the evaluation criteria are named "success indicators." The successful utility will create a work environment that celebrates success and goes about solving the problems that are getting in the way of even more success.

The successful utility will be the one that recognizes the long-term benefits of making efficiency central to all its marketing efforts.