Capture The Wind™: How to Persuade Customers That Green Power is Worth a Premium Price

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ABSTRACT

What if electric utilities could offer customers the chance to pay more for their electricity and obtain rave reviews in doing so? During Earth Week in the spring of 1998, Moorhead Public Service (MPS), a community-owned utility located in northwestern Minnesota, did just that. MPS offered its 14,000 customers the chance to become Charter Members of the Capture The Wind™ program. Capture The Wind™ is an opportunity for Moorhead Public Service customers to buy clean, wind-generated electricity at a premium price. The utility needed 425 Charter Members to subscribe to the program in order to build a 750-kilowatt wind turbine. Within three weeks, more than the required number of customers committed to become Charter Members, with a waiting list clamoring to participate in the program.

This paper is a case study of how Moorhead Public Service successfully sold green power at a premium price, and how the program was used to enhance the image of the utility. It describes why MPS chose to offer its customers the option to purchase wind-generated electricity. It identifies the challenges faced when marketing a green-pricing program, and discusses the elements of program design and marketing used to overcome these challenges. In addition, the paper covers the results of marketing the program to customers and discusses the impact on the City of Moorhead, other local utilities, and power suppliers.

Introduction and Background

Moorhead Public Service (MPS) is a community-owned electric and water utility, serving more than 14,000 customers within a community of 32,000. MPS purchases 67% of its electricity as hydropower generated by the Western Area Power Administration (WAPA). All remaining power needs (33%) are purchased from Missouri River Energy Services (MRES), generated at a coal-fired power plant in Wheatland, Wyoming. [1]

According to a recent ESOURCE publication, nearly one-fourth of all energy users in the U.S. have access to green power (Komor & Hurley 1999). Information posted on the Department of Energy's Green Power Network confirms the prominence of green power programs. As of the writing of this paper, 41 utilities in the United States currently offer some form of green power program to their customers (DOE 2000).

A majority of utilities use green pricing to sell this new service. Green pricing allows the utility to package the green power using a premium price, enabling it to recover the incremental cost of the additional renewable energy.

[1] Missouri River Energy Services (MRES) is a joint-action agency with 57 members in Minnesota, North Dakota, South Dakota, and Iowa.

MPS followed the lead of two other municipal utilities, Traverse City Light and Power (Michigan) and City of Fort Collins Utilities (Colorado), in offering its customers the opportunity to purchase wind-generated electricity. In 1999, MPS erected a 750 kW wind turbine and began selling wind energy to its customers. Marketed as the Capture The Wind™ program, MPS offers its customers blocks of wind power bundled with hydropower for a very low premium of 0.005 cents/kWh ($5.00 per 1000 kWh block per month). The program is very popular and became fully subscribed in less than three weeks from the initial offering.

MPS pursued Capture The Wind™ for several different reasons. First, the program was an opportunity to enhance the image of the utility. While MPS has always maintained a strong environmental image—the utility has a history of delivering innovative services to its customers—developing renewable resources was a natural step for MPS to continue its forward-looking approach to resource planning.

Second, as a customer-owned utility, MPS strives to meet customer requests. Numerous customers made individual requests for MPS to investigate the feasibility of wind-generated electricity. In addition, MPS wanted to gain experience with a new technology that fit well with our geographic location.

Finally, MPS thought the project would differentiate the utility from other regional providers and allow customers to have an expanded choice of service options. The anticipation of retail competition in Minnesota has caused the MPS to explore service options that it would not have considered under a regulated environment. Capture The Wind™ was a direct reaction to competition as the utility brands itself as a company that offers the choice of non-polluting electricity to its customers.

Rising to the Challenge

In late 1997, MPS began developing of a green pricing program to bring wind-generated electricity to its customers. Based on the successes of the two other municipals that preceded MPS in developing wind, MPS knew it could also be successful. But the utility faced a number of challenges. The following section details several of these challenges and how MPS used marketing strategies to overcome them.

Target Market

A number of marketing studies have researched green markets, but identifying the green market can be elusive. While three-fourths of Americans think they should be doing more for the environment, the number of people "putting their money where their mouth is" has shrunk dramatically (Speer 1997). Who are the people willing to pay more for green power? Research shows they are the people who believe their purchases will make a difference. They see the green power premium as a form of donation to the environment. Other consumers who may participate include those who respond well to the appeal of status or peer pressure (Ottman 1997).

Contrary to standard marketing practices, MPS did not conduct research to determine how many customers might be interested in paying more for its green pricing program. Instead, the utility ventured the success of the program based on its knowledge of its

customer base, the strength of utility's image and the identity of the community. Moorhead is a community of 32,000 with a median age of 25.7 and median household income of $24,265. More than 20,000 students attend the three colleges in the area, and the two universities located in Moorhead are among its top employers. Based on the demographics of the community, MPS planned to focus its efforts on the college community and families, but to target all existing customers, especially residential and small commercial.

The City of Fort Collins Utilities recently conducted research to determine who subscribed to its Wind Power Pilot Program and why. Their results show that customers with higher income and education levels tend to be the subscribers. Subscribers were also more knowledgeable about wind power than non-subscribers (City of Fort Collins 1999).

Product Development

In its basic form, green power is no different than any other type of electricity sold by a utility—a generator creates electrons that run through a piece of wire and provide the power to operate electrical devices for the customer. Like the development of any other resource, it has its own set of challenges that need to be addressed by the utility.

There was little discussion at the management level on what type of renewable resource to offer our customers. Western Minnesota has tremendous wind resources and the price of wind-generated electricity is more competitive with traditional resources than any other type of renewable resource. Customers had been asking the utility to investigate wind-generated electricity for quite some time, and the region is becoming a primary spot for developers.

MPS conducted a wind resource assessment prior to program development to determine the size of the resource in our area. Data from the Moorhead site was analyzed and compared with long-term data from the National Weather Service to determine a long-term average wind speed. The averages were then entered into the power curves for different sizes of wind turbines to determine the average kWh output for the wind turbine. The results of the analysis showed MPS that a single 750 kW fixed-pitch turbine could produce between 1.6 and 2.1 million kWh per year and reduce billing demand units by 2,000 kW[2].

In addition to resource size, MPS also had questions about the technology. A number of old-fashioned, inoperable wind chargers dot the farming landscape surrounding Moorhead. A few small-scale 1980s vintage turbines stand silently on farmsteads near the outskirts of town. MPS not only had to answer questions about the technology for itself, but also knew its customers and neighbors would challenge the technology as well.

Wind technology has vastly improved since the first utility-scale models of the early 1980s. An indication of this is the fact that availability has increased from 60% in the early 1980s to more than 95% in the 1990s (Gipe, 1995)[3]. Before MPS was willing to invest three-quarter million dollars, the utility needed guarantees that the turbine would perform. MPS requested that the wind turbine manufacturer provide performance guarantees including minimum operating availability, minimum energy production (based on the power curve),

[2] MPS purchases demand units on a monthly basis.

[3] Availability is the wind industry's measure of reliability. It reflects the percentage of time the wind turbine is available to produce electricity.

and maximum noise levels. MPS also asked bidding wind developers to offer an extended warranty of equipment and systems, and to provide scheduled maintenance.

Despite the attractiveness of wind as a reliable technology that fit well with the resources in the area, challenges still remained with the joint-action agency which supplies power to Moorhead. If MPS planned to produce wind-generated electricity it would slightly reduce its purchases of coal-generated electricity from Missouri River Energy Services (MRES). Since MPS has an all-requirements contract with MRES, this posed a difficult problem. Prior to any authorization of funds for investigation into developing a green pricing program, MPS contacted MRES asking for a slight revision to the contract that would allow MPS to produce wind-generated electricity, sell it to MRES, buy it back, and sell it to MPS customers.

The arrangement with MRES proved to be a key step in the process of getting a green pricing program underway. MPS helped the power agency leap forward in the area of member services. MRES could now diversify its resources and gain experience with a renewable resource. It could offer its experience to other member utilities and potential new members.

Product Design

The main difficulty in selling a green pricing program is the fact that the core product is electricity—although it's "green", it's still electricity and no different from what every electric utility already offers. Many businesses mistakenly attempt to sell the product to the customer. However, the customer is interested in buying the benefits of a product. In its basic marketing strategy, MPS had to emphasize the feature benefits of the actual product and additional attributes of the service. Customers would only subscribe to the program if these benefits extended beyond their basic service. The main feature of the program was renewable energy. However, MPS thought it would need more than the draw of environmental benefits to sell the program. The package of features and attributes offered to the customer are covered in this and following sections.

The program structure followed the lead of other successful green pricing programs. MPS offered its customers a renewable, energy-based program in which customers purchased a portion or all their electric energy requirements from a combination of existing hydro and new wind generation. Residential customers could choose to purchase all of their electricity or a block of 1,000 kWh per month at the Capture The Wind™ rate. Commercial customers could also subscribe for all of their electricity or 1,500 kWh per month at the wind-power rate.

Additional program attributes include contracts and guarantees. MPS set the minimum contract period at three years for residential and commercial customers. The contracts are automatically renewed at the end of the first three years, unless the customer provides a 30-day written notice requesting that the contract not be renewed. Customers are guaranteed that the wind power premium won't increase as long as they subscribe to the program.

Price

Although a number of community members (not necessarily customers) proposed that MPS spread the rate for green power across the customer base, MPS did not think that the

green power should be mandated. After all, MPS did not need the additional power supply for growth, and it was more expensive than other power sources. MPS decided that the program needed to be market-driven. The utility believed that a market-driven program would expand the choices available to customers by offering an additional, optional service.

Aside from the kilowatt-hour production and the cost of the project, two other factors affected the premium for the Capture The Wind™ program. First, MPS wanted the program to be self-supportive—all costs for this program needed to be recovered through the premium charged to participants. Second, MPS was eligible for both Federal and State of Minnesota wind development incentives. MPS included the State of Minnesota incentive of $0.015/kWh for ten years of turbine operation, but did not include the Federal incentive because the Renewable Energy Production Incentive (REPI) requires an annual appropriation from Congress. MPS did not think it was prudent to design the premium on an incentive (REPI) that was not guaranteed. The lack of a guaranteed Federal incentive is of major concern to MPS for the next turbine because the State of Minnesota wind development incentive is no longer available. Without any State or Federal incentives, the premium of our program would effectively double.

Based on these cost factors, MPS calculated that the premium for 100% wind power would be $0.015/kWh. For an average non-electric heat customer consuming 1000 kWh per month, this equates to a premium of $15 per month—far above the amount MPS thought (and studies show) customers would be willing to pay. While MPS did not conduct its own market research on potential participation levels, it did consider the research performed by the National Renewable Energy Laboratory (NREL). According to NREL, 54% of customers are very likely or somewhat likely to pay more for electricity from renewable resources, with most respondents willing to pay an additional $5 a month.

To involve more customers at a lower premium, MPS devised a product composed of 33% new wind power and 67% hydropower. The hydroelectric power would continue to be provided by WAPA. The wind power would directly offset electricity coming from coal-fired generation purchased from MRES. Blending the rates together created a premium that was only $0.005/kWh above normal rates. An average non-electric heat customer would therefore pay ~$5 per month more for electricity.

MPS thought it was still missing two important target markets—electric heat customers and small commercial customers. Residential customers with electric heat average 2,500 to 4,000 kWh during winter months. Even a paltry $0.005/kWh could add $12.50 to $20.00 to their monthly winter bill. As mentioned previously, MPS allowed the design of the program to incorporate subscribers to purchase all electricity at the premium rate, or just 1000 kWh per month. The "block" option allowed MPS to capture the electric-heat target market, limiting their expenses to $5 per month. The "all-electricity" option allowed customers who use less than 1000 kWh per month to pay a premium based on their actual usage. Commercial customers were also asked to make a commitment to purchase all of their electricity or a block of 1500 kWh per month.

While most 100%, new-wind, green pricing programs average a $0.028/kWh surcharge, MPS's program simply replaces the coal-generation (33%) with new wind and costs a fifth of other programs (Komor & Hurley 1999). The results are just as effective as

the other programs—new renewable resources are built, and customers can participate at a reasonable cost. While MPS cannot claim that the product is "100% wind", the utility accomplished its goal to offer a non-polluting green pricing program.

Place

A common problem with selling green power is that the product is not tangible. Although subscribing customers will not actually be able to ascertain whether they are receiving "green electrons", they do need to feel the benefits of subscribing. The challenge is to differentiate the green electricity from the utility's basic products. This cannot be done through the distribution system, but it can be done through strategic siting of the renewable resource and other marketing mechanisms.

MPS considered a number of parameters when selecting the site for the wind turbine. The site needed to have a good wind resource (not too shielded), proximity to transmission lines, visibility from town and roads, freedom from risks of future development that could block winds, and the capability to accommodate more than one turbine in the future.

In a major marketing step, MPS located the wind turbine in the northeast limits of the City. The turbine is visible from many aspects of the City, as well as state and federal highways, due to the area's topography. Subscribers to the program can actually point out the turbine that they helped to build, and the benefits of the program are readily visible to those who might subscribe in the future.

Promotion

While MPS had determined the suitable target market, product, price, and place, the primary challenge still faced by the utility was how to promote the program. In order to begin the program, MPS needed 425 customers to agree to pay $0.005 more per kilowatt-hour (~$5 per month). How do you convince customers to pay more money for little green electrons that might not even end up in their home?

First, MPS developed an identity for our green pricing program. MPS selected Capture The Wind™ as the name for the program because it was easy to remember, clearly identified the product, and provided a variety of promotional opportunities. MPS developed a logo for the product and trademarked the name for legal purposes.

Before advertising the program, MPS established ties with environmental groups and reviewed the plans and marketing pieces for the Capture The Wind™ program with leaders of these groups prior to the start of the publicity campaign. In particular, MPS staff knew that Minnesotans for an Energy Efficient Economy (ME3) would have a keen interest in the program. MPS also approached the regional Clean Water Action chapter. The result of this coordination was very positive. ME3 and Clean Water Action contacted community leaders and expressed their support for the program. They sent a letter of support for the program to the local newspaper. ME3 included an article about Capture The Wind™ in its quarterly newsletter, and Clean Water Action agreed to do a direct mailing to their members to promote the program and to follow the mailing with telephone calls. Due to the overwhelming response to the program, this direct mailing and follow-up phone calls were never done.

The free advertising and endorsements from the environmental groups proved to be an essential component of program promotion. The advertisements reached an important

target audience—people belonging to environmental groups—and the endorsements helped improve the integrity of the program. MPS knew that claims of an "environmentally friendly" product could lead to skepticism among potential customers, especially since the Capture The Wind™ blended existing large hydro with wind. Having environmental groups endorse the program as "non-polluting" (versus 100% renewable) was an important step in addressing environmental questions about the product.

MPS developed a very simple, user-friendly agreement to enroll customers in the program. It consisted of a bi-fold direct mail brochure with information about the program. MPS tried to keep the description of the program as simple as possible. "Wind power is renewable and affordable. Wind turns the turbine rotors that spin the generator that makes electricity. No need to mine, burn, or dispose of anything." MPS did not want to intimidate any potential subscriber with the complexity of how the electricity would be generated.

MPS also advertised the environmental benefits of the program in the agreement. Using EPA estimates, MPS wrote, "By participating in Capture The Wind™, you'll save resources for future generations. An average customer who each month uses 1,000 kilowatt hours of electricity will stop 8,800 pounds of carbon dioxide from being emitted into the air, equivalent to the planting of 1.2 acres of trees, or removing a car from the road each year." The direct mail brochures were sent to all customers on April 20, 1998.

The Charter Member concept was also an important component of the promotion. MPS encouraged customers to sign on early to become a Charter Member (one of the 425 customers needed to build the wind turbine). "Be the first...to Capture The Wind" was the urgent message carried in the brochure. Charter Members received additional perks such as a t-shirt with the Capture The Wind™ logo with the words "Charter Member" emblazoned on the back. MPS also included Capture The Wind™ buttons, a newsletter subscription, and the name of the customer inscribed on a permanent plaque mounted on the tower of the first turbine. In addition to building the turbine at the edge of town, these added benefits made participation in the program even more tangible.

Finally, MPS presented the program to its 50 employees, encouraging them to sign up for the program and market it by word of mouth. This was a meaningful step in the process of marketing the program. More than 25 percent of utility employees subscribed.

If success in real estate is based on "location, location, location"—then the success of this program was based on the tenets of advertising, which include "frequency and reach." When the program was announced to the public at a news conference on April 20, 1998, MPS began a weeklong media blitz of newspaper feature stories, editorials and print ads, television coverage, radio coverage, live interviews, direct-mail pieces, and a speakers' bureau. At the news conference, MPS invited representatives of regional environmental groups to lend their support to the program. In addition, local community leaders spoke on behalf of the program encouraging Moorhead citizens to sign up. MPS recruited several supportive residential and commercial customers to sign up for the program in front of regional news crews. Much of the program's promotional success can be attributed to the heavy dosage of radio and TV coverage (news coverage, interviews) that the utility received for free. MPS also marketed the program at numerous events and meetings in the community. The media coverage and community meetings served as an excellent education and awareness-building tool. The only paid advertising MPS used in the program were six

newspaper ads to support the direct mail piece and to promote the dedication ceremonies inviting the community and Charter Members to view the turbine first-hand. The dedication celebration provided additional tangible benefits to subscribers, including wind-related prizes and a grand prize of a hot-air balloon ride. The dedication itself received television coverage from three network affiliates, including live news coverage from a local TV weatherman who joined as a Charter Member. Some promotional costs for the program were borne by the overall utility marketing budget to increase awareness of renewable energy and to enhance the overall general image of the utility.

Additionally, free publicity at every step of the process, from planning to implementation to construction phases of the project, resulted in the program's success. From discussion at governing board meetings during the planning process to a play-by-play of construction, all were crafted as media opportunities which received generous regional coverage. The importance of being the first visible commercial wind project in the region also fed into the program's success, as did the size of the community.

Results

Capture The Wind™ has been a resounding success for Moorhead Public Service. The promotional efforts enticed 425 customers to subscribe to the program in less than three weeks. More than 150 customers are on waiting list. The program was completed on time, on budget, and is meeting production expectations. It has brought great customer recognition and support to MPS, MRES, and the City of Moorhead.

The most frequent comment MPS receives about the turbine is, "When are you building the next one?" Customers and neighbors alike are interested in further development of wind energy. MPS plans a second turbine in 2002. The availability of the first turbine has been over 98% since October 1999. The turbine is producing as predicted (based on the guaranteed power curve).

The program has also positively impacted MRES, the power agency that lost a small portion of sales due to the success of Capture The Wind™. MRES now has several member utilities interested in pursuing wind-generated green pricing programs and the power provider is taking steps to meet member demands.

The City of Moorhead has been a big winner throughout the program. At 263-feet tall, the turbine has become a City landmark and is a source of pride among community members. It differentiates the City from other western Minnesota towns and adds a unique twist to marketing.

In short, MPS used grassroots organizing, coupled with effective program design and promotion to make wind power affordable, understandable and fun. Capture The Wind™ became an "easy sell," which resulted in environmental benefits, while enhancing the overall image of the utility and the community.

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