

Product Concept and Field Test of Green Marketing Programs

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This paper reports findings from product concept tests and field tests of potential green marketing programs intended to encourage voluntary customer support for wind generating resources. A quantitative concept test sampled 238 utility customers to evaluate seven green marketing product ideas. The ideas included a green rate, tax-free wind bonds, retail partners program, gift certificates, affinity credit card, affinity mutual funds, and affinity phone cards. None of the ideas generated strong customer interest. The green rate and tax-free bonds rated highest, followed closely by the affinity credit card and gift certificates. The remaining ideas generated little customer interest.

In parallel with the concept tests, two promising green marketing programs were field tested. The first program, conducted in partnership with a bank, tested an affinity Visa credit card, Visa debit card, and certificate of deposit on 21,000 residential customers. The second program piloted a bill "roundup" program on 2,000 residential customers. This program rounded participating customer electric bills to the nearest dollar, with the proceeds going to wind generation. The general response to the bank program was lackluster. Adjusted for customer awareness, 1.3% of aware customers requested the credit card, 0.8% requested the debit card, and 0.5% requested the certificate of deposit. The customer response to the bill roundup was very encouraging. Adjusting for customer product awareness, 4.37% of aware customers signed up for this product. This paper considers key issues utilities must face when setting up utility green marketing programs.

INTRODUCTION

Green marketing programs encourage customers to purchase a service that contributes funds for environmental causes. In the electric utility industry, green marketing programs provide funding to cover the incremental cost for renewable electric generating resources.

The phrase "green pricing" is often used synonymously with green marketing. The phrase green marketing was used here because certain product ideas tested in this research did not require customers to pay higher prices for the service they receive. In certain cases, manufacturers (i.e., General Electric), service providers (i.e., American Express credit cards), or retailers (i.e., The Body Shop) will contribute money to environmental causes if customers purchase that company's products or services.

Three primary benefits accrue to utilities from green marketing programs. First, these programs improve customer satisfaction by targeting the needs and wants of environmentally sensitive customers. In essence, customers vote for the resources they want the utility to acquire. Second, green marketing programs provide utilities a low risk means to cost effectively evaluate the viability of renewable resources. Finally, by covering the additional costs of renewable resources, these programs do not put upward pressure on rates.

Several utilities have experimented with green marketing programs. They include Detroit Edison (Energy Services Marketing Letter 1995), Florida Power & Light, Gulf Power Company (Smithers and Hoch 1995), Niagara Mohawk Power Corporation (The DSM Letter 1995), Massachusetts Electric Company (The Regulatory Assistance Project 1995), Public Service of Colorado (Smithers and Hoch 1995), Sacramento Municipal Utility District (Lamarre 1995), Southern California Edison, Traverse City Light and Power (The Energy Newsbrief 1995), and Wisconsin Public Service Company (Baugh et al. 1995). These utilities have focused on various mechanisms to charge a higher price to support renewable resources.

In this study, Portland General Electric explores various product concepts that both require customers to pay higher electricity rates (i.e., green pricing) and others that did not. This research identifies alternative product concepts, conducts customer research to evaluate promising concepts, and field tests two marketing programs. The goal is to identify one or more programs that support the acquisition of wind generation resources.

PRODUCT CONCEPT TESTS

A new product development process was used to first identify and then evaluate green marketing product ideas (Kotler 1994). An initial list of product ideas was generated through internal brainstorming sessions and from customer focus groups. From this initial list, the most promising product

ideas were further developed into brief one or two paragraph written product concepts.

PGE tested seven product concepts for the Share the WindSM program: green price, Oregon tax-free wind energy bonds, affinity credit card, wind energy certificates, retailer participation programs, affinity mutual funds, and affinity phone cards. Table 1 provides very brief descriptions of each of the tested product concepts.

Two hundred thirty-eight residential customers evaluated the product concepts. Each product concept, having a descriptive title and brief written description, were placed on separate display boards. The boards were randomly sorted and presented to each residential customer during a one-on-one interview conducted by an independent marketing research

firm. Each respondent was asked about how appealing each of the product concepts was (i.e., using a one to nine scale). They also selected their most preferred product concept and indicated their likelihood of purchase. Next, reasons for liking or disliking a concept were elicited. Demographic information about each respondent was also collected.

To develop market penetration estimates for each of the tested product concepts, the affinity credit card concept was included in both the quantitative concept test and a field test. Customer likelihood of purchasing the product was compared to the actual results obtained in the field test. This comparison provided the basis for estimating the market penetration of product concepts based on preference and likelihood-of-purchase data.

Table 1. Description of Product Concepts

Concept	Description
Lock-In Your Electric Rate	Now you have a chance to lock-in your electric rates with clean, renewable wind power. You pay a higher rate for wind power, but the rate is guaranteed for up to ten years. You can sign up for one year at a time. The program is transferrable, cancelable and renewable for up to ten years. And you can choose to have all or a portion of your energy needs from wind power.
Share the Wind VISA Card	US Bank will contribute 1% of every purchase you make with your Share the Wind VISA card to a fund dedicated to purchasing wind power for Oregon. The interest rate for the Share the Wind Visa Card is only 9.9% for the first six months. US Bank will also contribute 1% of every balance you transfer from another credit card to a Share the Wind VISA card.
Oregon Tax-Free Wind Energy Bonds	Oregon Tax-Free Wind Energy Bonds are dedicated exclusively to building wind power for Oregonians. Bonds are available in several denominations. Interest rates are between 6% and 6¼%, and are free from Oregon tax and federal tax.
Share the Wind Certificates (2 variations)	Share the Wind certificates are dedicated exclusively to building wind power for Oregonians. The certificate is priced at the current rate for clean, renewable wind power. Electricity from wind power is more expensive than regular electricity. Currently, \$25 worth of regular electricity costs \$33 when generated by windmills. You can apply the certificate to your monthly electric bill, or give it as a gift.
A Mutual Fund that Fuels Renewable Energy	You can purchase shares in a family of socially responsible mutual funds for as little as \$100 per month. For every dollar you invest, 1% is contributed to the Share the Wind Fund.
Share the Wind Retail Connection	Connect with businesses that share your concern for our energy future. Share the Wind Connection businesses purchase a portion of their electricity needs from clean, renewable wind power. Your membership in the Share the Wind Connection is a way for you to be introduced to these businesses, and receive a free gift or discount at their store. Your Share the Wind Connection annual membership fee is only \$20.
Share the Wind Phone Card	A \$10 Share the Wind Talk n' Toss phone card lets you make 30 minutes of long distance calls anywhere in the continental US.—24 hours a day, 7 days a week. And, at no cost to you, Talk n' Toss, Inc. will contribute \$1 to the Share the Wind Fund.

FINDINGS

None of the concepts generated strong customer interest. Table 2 presents summary results about each of the tested ideas. Lock-In Your Electric Rates (“Lock-In”) and Oregon tax-free wind energy bonds (“tax-free bonds”) each rated an average of 6.5 on the 9-point appeal scale. The next most preferred product, the Visa credit card (“credit card”), rated 6.0.

PGE customers exhibited less interest in the remaining product concepts. As a result, only Lock-In, tax-free bonds, and credit card will be discussed further.

Lock-in your electric rates

This concept provided customers the opportunity to lock-in their electric rates for up to ten years with clean, renewable wind power. Customers selected the percentage of their electric bill that went to support wind power. Approximately 26% of respondents said they were most interested in the Lock-In green pricing concept. Of those most interested, 45% said they were very likely to purchase. Respondents

Table 2. Customer Ratings of Concept Appeal

Concept	Appeal Rating (1–9)	Most Appealing (%)	Likelihood Purchase (%)
Oregon Tax-Free Wind Energy Bonds	6.5	27%	28%
Lock-In Your Electric Rates	6.5	26%	45%
Share the Wind Credit Card	6.0	16%	31%
Share the Wind \$25 Gift Certificate	5.8	13%	34%
Share the Wind Talk n’ Toss Phone Card	5.6	5%	66%
Share the Wind \$33 Gift Certificate	5.5	4%	61%
Share the Wind Retail Connections	5.3	3%	44%
Share the Wind Mutual Fund	5.2	5%	30%

interested in the Lock-In tend to be under 35, high school educated, environmentally active, with incomes less than \$50,000, and have no credit cards. Based on field test results reported later, a market penetration of 3.0% was estimated among those customers aware of the program. If an effective advertising campaign creates 65% awareness among the target audience, the net market penetration is estimated at 2.0%.

Customers identified several appealing aspects to the Lock-In concept. These include: (1) customers like the stability and consistency of long-term fixed rates; (2) customers like supporting cleaner energy sources; (3) it is not too expensive to participate; (4) customers like its flexibility (cancelable, renewable and transferable features); and (5) customers can choose how much goes to wind.

The following issues were raised by customers to make the Lock-In concept more appealing were also cited for *all* seven of the tested concepts. These issues, focusing on the wind resource, include: (1) customers want specifics on the plan (i.e., where the money is going, how many windmills will be built); (2) more information on wind power (i.e., why we need it, how it works, how it compares to other energy sources); (3) ways to reduce the negative environmental impacts on birds, and finally; (4) how to lower its cost (i.e., can’t afford it, prefer smaller payments).

Oregon tax-free wind energy bonds

Oregon tax-free wind energy bonds were dedicated exclusively to building wind power generation. Interest income from these bonds was free from both state tax and federal tax. Approximately 27% of respondents said they were most interested in the tax-free bond concept. Of those most interested, 28% suggested they were very likely to purchase. Respondents who are interested in the tax-free bond tend to be male, over 35, live in a household of three or more, college educated, with incomes more than \$50,000. Most respondents were interested in investing between \$1,000 and \$2,500 per year on Oregon tax-free wind energy bonds. Based on the field test results reported later, we estimate a market penetration of 2.0% among those customers aware of the program. If an effective advertising campaign can create 65% awareness among the target audience, the net penetration would be 1.3%.

There were several very appealing aspects to tax-free bonds. These include: (1) customers like supporting renewable energy sources; (2) you get something back (i.e., a return or profit); (3) it’s tax deductibility; (4) has a good interest rate; (5) it’s a low-risk investment; and (6) it’s not too expensive.

The major barrier to implementing tax-free bonds is obtaining approval from the legislature during a period of tight

state budgetary constraints. Also, tax-free bonds reduce the real-levelized cost of wind only modestly. Customer contributions must come from other sources to reduce the cost of wind to the utility's avoided cost.

Affinity Visa credit card

With this concept, the participating bank contributed 1% of every credit card purchase and 1% of every dollar transferred from another credit card balance to a fund dedicated to the purchase of wind power. Approximately 16% of respondents said they were most interested in this benchmark product, the credit card. Of those most interested, 31% suggested they were very likely to apply for a Share the Wind Visa credit card. Respondents who are interested in the credit card tend to be under 35, live in a household of three or more, have incomes less than \$50,000, are not environmental activists, and own less than two credit cards.

Customers identified several appealing aspects to the credit card. These include: (1) customers like supporting renewable energy sources; (2) it is not too expensive to participate; (3) everyone uses a credit card; (4) good interest rate; and (5) it is easy and simple to understand.

Just based on interest and likelihood-to-purchase responses, 5.0% of respondents would be expected to sign up (i.e., 16% interest \times 31% likelihood to purchase = 5.0% expected sign up response). The field test described in the next section of this report actually found 1.3% of aware respondents willing to sign up. Thus, only 26% of those expected to respond actually sign up for the program. Since likelihood-of-purchase data always overestimates actual market penetration, this same adjustment factor (i.e., 26%) was used with all other product concepts to estimate the actual market penetration of an offer in the field.

If an effective advertising campaign can create 65% product awareness among the target audience for the credit card, the net market penetration for the visa credit card will be 0.85%.

The remaining product concepts are not described further in this paper. Additional information is available from the authors.

FIELD TEST

In parallel with the product concept test, two promising green marketing programs were field tested. The first program, conducted in partnership with US Bank, tested an affinity Visa credit card, Visa debit card, and CD with 21,000 customers who prequalified for credit.

With the Share the WindSM Visa credit card, US Bank contributed 1% of the balance and 1% of every purchase you

make to the Share the WindSM Fund, a fund used to cover the incremental cost to purchase wind power. Additional features offered included a 9.9% interest rate for the first six months and no annual fee for the first year. With a \$1,000 or more transfer from another credit card to the Share the WindSM Visa Card, US Bank gives customers a \$50 US Savings Bond absolutely free.

The Share the WindSM Debit Card charged customers no monthly fee. US Bank contributed $\frac{1}{2}$ of 1% of every debit card purchase to the Share the WindSM Fund. The Debit Card was accepted anywhere a Visa Card is accepted.

With the Share the Wind MoneyBuilder[®] CD, US Bank contributed 1% of the opening balance for a CD to the Share the Wind Fund. A minimum opening balance of only \$25 encouraged gift giving. Monthly deposits for as little as \$25 were transferred from a US Bank checking account for as little as six or twelve months.

The second program piloted a bill "roundup" program on 2,000 residential customers. This program rounded up participating customers' monthly electric bill to the nearest dollar, with the proceeds going to the Share the WindSM Fund. This program automatically continued in effect month after month. The program was promoted under Penny JarSM.

A random sample of 200 recipients who received the direct mail evaluated customer awareness and attitudes toward the Share the WindSM program. A random sample of 50 recipients evaluated customer awareness and interest in the Penny JarSM bill roundup program.

Bank financial products

The customers' response to the US Bank financial products was disappointing. Unadjusted for customer awareness, the response to the credit card offer was only 0.22%. The response to the CD and debit card offers were less than 0.10%.

Overall reaction to the Share the WindSM bank products was lackluster, with an average rating of 5.5 on a 9-point appeal scale. Studying respondents' open-ended comments, however, suggest that a PGE-sponsored fund to promote wind power is regarded more positively than the 5.5 average rating would suggest. Reasons for liking the Share the WindSM program include "they're looking for new/renewable power sources," "wind power should be an inexpensive way to generate power," and "wind power is more ecologically sound than other sources."

Reasons for disliking the Share the WindSM program tended to center on the bank products, for example "I already have all the credit cards I need," and only secondarily on concerns

about the appearance of windmills or whether wind power is feasible. We suspect that the number of competing credit card offers in the mail have jaded or spoiled the market for affinity credit card offers.

The bill insert and direct mail pieces achieved reasonable awareness levels. However, customer understanding of the product offers was limited. The bill insert and direct mail achieved a 61% awareness level for the brand name Share the WindSM. However, only limited awareness was generated for each of the three US Bank products. Among respondents who were aware of the Share the WindSM program, 28% were aware of the Visa credit card offering, 8% were aware of the CD offer, and only 6% were aware of the Visa debit card offer. A majority, 69%, could not name any of the US Bank products. Only one-third understood that part of their purchase would go to fund wind power. The relative complex nature of the program likely contributed to poor product understanding.

Adjusting for customer product awareness, 1.3% of aware customers requested the Visa credit card; 0.8% requested the Visa debit card; and 0.5% requested the MoneyBuilder CD product. This is less than one-half the targeted goals of 3% for the credit card, 2.75% for the CD, and 1.5% for the debit card. The advertising campaign for the US Bank products would have to be substantially modified from the pilot to create improved product awareness levels.

Bill roundup program

The customers' response to the bill roundup program, at 1.42%, was encouraging. Approximately 1% of customers sign up if they received only the bill insert; approximately 2% sign up if they received both the bill insert and the direct mail packets.

The Penny JarSM brochure achieved a 45% awareness among recipients receiving both the bill insert and the direct mail. Adjusting for customer product awareness, 4.37% of respondents signed up. If an effective advertising campaign can create a 65% product awareness level, the net penetration for this product would be approximately 2.8%.

Customers like the Penny JarSM program. It is very easy to understand, the contribution level is painless, and customers prefer to pay "even dollar" electric bills. Customers were also asked if they would use the Penny JarSM approach for other types of program offers. Customers are very interested in using the Penny Jar program to support Oregon Heat, a low income energy assistance program.

The major barrier to setting up a Penny JarSM program for PGE is the cost of computer programming. The cost to

program Penny JarSM into the existing PGE billing system was estimated at between \$50,000 and \$100,000.

CONCLUSION AND RECOMMENDATIONS

Even combined, the top two or three product concepts will not provide large contributions for additional wind resources. At best, these products contribute a few additional MW's of wind power for the utility. For utilities, the primary benefits from green marketing programs are customer satisfaction, creation of a positive corporate image, and the experience gained from installing and operating renewable resources.

Both the concept research and the field test of the financial products identified that customers want more information about wind. Before customers will participate in green marketing programs like Share the WindSM, they want (1) more details about the program (i.e., where the money is going, how many windmills will be built), (2) more information on wind power (i.e., why we need it, how it works, how it compares to other energy sources), (3) more information on ways to reduce the negative environmental impacts on birds, and (4) proof of the reliability of wind power. A public relations campaign that addresses these issues is absolutely *critical* to the success of any green marketing program.

Green marketing product line

Utilities should explore developing and marketing a full line of green marketing products to encourage the installation of additional renewable resources, where different products reach different customer segments. The green lock-in price, tax-free bonds, bill roundup, and the affinity credit card are possible elements to consider in the product line.

Green lock-in price. The green lock-in price was the *primary* product wanted by customers who tended to be under 35, high school educated, environmentally active, with incomes under \$50,000. A net market penetration of approximately 2% was estimated for this market. The Lock-In will be the most significant source of incremental revenue to support any green marketing program. The key implementation problem faced by utilities may be the cost to modify their customer billing systems. The simplest and most basic form of the Lock-In concept should first be piloted by utilities to minimize program revision costs to the existing billing system.

Tax-free bonds. Customers showed interest in the Oregon tax-free wind bonds. Respondents interested in the tax-free bond tend to be male, over 35, live in a household of three or more, college educated, with incomes over \$50,000. How-

ever, tax-free bonds alone are not sufficient to cover the incremental cost of wind power. Utilities should consider tax-free bonds *along with* other product offers for both renewable resources and DSM investments.

Bill roundup program. Customers liked bill roundup programs. It was easy to understand, the contribution level is painless, and customers prefer to pay “even dollar” electric bills. A net market penetration of approximately 2.8% was estimated for this market. On average, about \$6 per year is contributed by each program participant. The major barrier to implementing a bill roundup program for PGE is the cost of modifying the customer billing system.

Affinity credit card. The concept test identified some customer interest in the Share the WindSM credit card. Respondents interested in the credit card tend to be under 35, live in households of three or more, have incomes less than \$50,000, are not environmental activists, and own less than two credit cards. On average, at a 1% contribution level, an affinity credit card would contribute \$25 per year to a wind energy fund. The affinity credit card, however, received a lukewarm response in pilot testing. With 65% program awareness, a net market penetration of approximately 0.85% was estimated for this market. The credit card performed significantly better than the other financial products, either the affinity debit card or the CD offer.

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